

The Implementation and Impact of Dialogic Teaching in Higher Education in Thailand

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Abstract

Drawing on sociocultural theories, a substantial body of research into dialogic teaching has been carried out in Western school settings. This study builds on the large-scale dialogic teaching intervention study carried out by Alexander, Hardman, and Hardman (2017) in UK primary schools. The current study replicates, with some adaptations, this UK study and applies it to higher education in the Eastern country of Thailand. It aimed to investigate the implementation and impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses.

The study involved three Thai university lecturers (Language Education, Law, and Fishery Science) who participated in a twelve-week professional development program consisting of two workshops and five cycles of individual video-based reflective coaching sessions. Quantitative and qualitative data were collected pre- and post-intervention using mixed methods: live classroom observations, transcripts of video-recorded teaching sessions, student questionnaires, and lecturer and student group interviews. The findings show that the dialogic teaching implementation was complex and influenced by teacher stance, classroom norms and students' perspectives. A positive impact of dialogic teaching post-intervention was evident in different ways and to varying degrees across the participating lecturers and their classes. In particular, there was an improvement in the classroom climate, lecturers' teaching and talk practices, quality of student talk, and lecturer-student relationships. The other perceived positive impact included improved student language articulation and communication skills and understanding of the course content.

The study contributes to understanding the dialogic teaching implementation in higher education in Thailand and its impact on classroom processes, thus extending the existing international body of literature on dialogic teaching.

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Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

Chapter 1 - Introduction

1. Introduction

This intervention study focused on investigating the impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses in higher education in Thailand and explored the perceptions of the approach among the Thai lecturers and students. This study, therefore, explored whether a twelve-week dialogic teaching intervention brought about any changes in teaching strategies, talk practices, and classroom interaction quality, and how the intervention affected the perceptions of the lecturers and students.

Classroom interaction is central to learning and it has continuously evolved from knowledge transmission to knowledge co-construction, that is, from teachers *telling* students what they need to know to students *talking* among themselves to construct knowledge for themselves. For the past few decades, more attention has been paid to how classroom talk contributes to students' learning and how teachers can better facilitate students' learning with talk.

Classroom interaction can be harnessed by dialogic teaching because dialogic teaching is a pedagogical approach that aims to elevate intellectual engagement and the communication skills of students through talk (Alexander, 2008, 2014, 2017, 2020). Informed by the influential sociocultural theoretical works of Vygotsky (1962), Bruner (1983, 1987, 1996), and Bakhtin (1986), the dialogic teaching approach draws upon the notion that language is a powerful tool in learning and development (Vygostky, 1978). However, it is not only about the quality of classroom discourse, but also about creating a welcoming nurturing culture and dialogic teaching ethos for all to become actively engaged in classroom dialogs and learning.

With a teaching goal of creating an inviting environment for talk and thinking, dialogic teaching intervention has been developed, and increasingly adopted and studied in many educational landscapes worldwide.

2. Rationale for this Research

Apart from my profound passion for teaching and teacher development, the most significant influences on this research were my struggling experience as a university lecturer back in Thailand, the country's longstanding outcome-based education system, the divergence of national education goals and current classroom practices, and a lack of effective professional development for Thai university lecturers.

Personal Experience

Based on my experience as a university lecturer of English at a Thai university for over five years, I struggled to encourage my students to participate actively in class activities. Despite being highly motivated, most of my students remained quiet and passive, simply waiting to be taught. This was particularly frustrating and challenging because as a foreign language teacher and learner myself, I realised the importance of practice in language learning and acquisition.

Outcome-based Education in Thailand

Thai students' passive learning behaviour might be the result of the longstanding outcome-based education system. Like many countries, the Thai education system still values high achievement measured by local and global standards like the National Test (NT), Programme for International Student Assessment (PISA), Test of English as a Foreign Language (TOEFL), and International English Language Testing System (IELTS). Therefore, teaching to high-stake tests and tutoring towards these standardised tests are exceedingly pervasive in all educational levels in Thailand. Unfortunately, the higher students go in Thai education, the more competitive it becomes, and the less room there is for their ideas and creativity to flourish.

A Discrepancy between Goals and Current Practices

There is a discrepancy between the National Scheme of Education 2017-2036 goals and the present classroom practices in higher education teaching in Thailand. One of the ultimate objectives of the scheme is to equip Thai graduates with knowledge, expertise, competencies, professional skills, and a creative and innovative mind ready to participate in today's extremely competitive world economy. However, according to Buasuwan (2018), the majority of Thai university lecturers have been trained and are only familiar with traditional teaching approaches. Teacher-dominant classrooms and passive student learning are pervasive in Thailand (Kaur et al., 2016). One possible contributing factor is the large class sizes of 40 to 50 students at public schools and universities. With this high number of students in one class, lecturing is commonly used as an approach to transmit knowledge from teacher to students in which students are not expected to engage, but to listen attentively and take notes (Leigh et al., 2012; Rattanavich, 2013).

A Lack of Professional Development for Thai Lecturers

Another challenge is lack of support in pre-service and continuing professional development for Thai university lecturers. Thai lecturers are pressured by the society, institutions, and government as they are required to fulfil multiple roles and responsibilities beyond teaching. Given these high expectations, there seems to be insufficient support and resources from their institutions and the government. With the minimum requirement of a master's degree, many become university lecturers with little or no prior pedagogical training or experience. More importantly, many barely have any opportunities to critically reflect upon this key role, that is, teaching, throughout their careers. Although the government and institutions have continuously supported Thai lecturers by providing pre- and on-the-job training, most professional development programs are short or generic and may not create a substantial, sustainable impact on lecturers' professional practices.

Given the personal motivation, a lack of professional development, the persistent learning outcome-focused system, and the discrepancy between the national educational goals and actual classroom practices in Thailand, it appears that a change or even a transformation in teaching and learning is necessary.

Therefore, conducting a dialogic teaching intervention study might shed some light on the implementation of dialogic teaching on classroom practices and continuing professional development in Thailand. It might also be an initial steppingstone for changes in teaching and learning in Thai education.

3. Research Background

With an underpinning of sociocultural theory developed by Western philosophers like Piaget (1932, 1967) and Vygotsky (1962, 1978), dialogic teaching has been increasingly implemented and researched around the world in several areas from its characteristics, effectiveness on students' learning outcomes in different educational contexts around the world, such as primary school science lessons (Mercer, Dawes and Staarman, 2009), high school science lessons (Ford and Forman in Resnick et al., 2015), and postgraduate seminar lessons (Engin, 2016; Poore, 2020), researchers in teacher education and professional development have also explored the impact of dialogic teaching intervention in pre- and in-service teacher education (e.g., Simpson, 2016) and dialogic teaching intervention studies in teacher education and continuing professional development (e.g., Hennessy et al., 2018;

Sedova, Sedlacek and Svaricek, 2016; Sedova, 2017; Wilkinson et al., 2017).

Despite the growing global research interest and empirical evidence, the understanding of dialogic teaching in Thailand, especially in the higher education context (e.g., Rungwaraphong, 2017, 2018, 2019), is insufficient to date. Therefore, this study presents an opportunity to contribute to the understanding of the implementation of dialogic teaching and its impact on classroom processes in higher education in Thailand and also extend the existing international body of literature in dialogic teaching and teacher professional development.

4. Research Aims

Theoretically, the current study aimed to experiment with whether the Western theory of learning and sociocultural theory works in an Eastern context. Particularly, through a dialogic teaching professional development program, this study's objectives were to investigate the impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses in Thailand. It also explored the lecturers and students' perceptions of the dialogic teaching approach. The guiding research questions were as follows:

1. How is dialogic teaching implemented and what is the impact of dialogic teaching on classroom processes in undergraduate university courses in Thailand?
2. What are lecturers' perceptions of dialogic teaching?
3. What are students' perceptions of dialogic teaching?

It is hoped that this intervention study contributes to the understanding of the impact of dialogic teaching in classroom processes particularly in higher education in Thailand. It also adds to the existing body of the literature regarding perceptions of dialogic teaching, teacher continuing professional development (CPD), and developing CPD models.

5. Organisation of the Thesis

This thesis is comprised of eight chapters.

Chapter 1 (Introduction) describes the rationale, the contextual background, the aims, the research questions, and the organisation of the thesis.

Chapter 2 (Literature Review) provides the theoretical background underpinning dialogic pedagogies, sociocultural theory, and the unique characteristics of classroom discourse. That

is followed by a critical review of dialogic pedagogies, influential factors affecting dialogic teaching implementation, teacher and student talk move analytical frameworks, sociocultural discourse analysis methodology, dialogic teaching studies, and teacher continuing professional development (CPD). The chapter concludes with a review of relevant studies in dialogic teaching intervention.

Chapter 3 (Methodology) describes and justifies the research design and the methodology employed in the study, including the research paradigm, the research design, the research approach, the data collection process, the pilot study, a description of the instruments, the methods of analysis, and trustworthiness and ethical issues.

Chapters 4–6 (Findings) present the findings of the three case studies: Orca (Fishery Science), Mary (Language Education) and Fiona (Law). Each findings chapter discusses the results of quantitative and qualitative analyses from pre- and post-intervention, including live classroom observations, transcripts of video-recorded teaching sessions, student questionnaires, and lecturer and student group interviews.

Chapter 7 (Discussion) discusses the research findings integrating triangulated data of the three participating lecturers and the relevant literature. It also presents the evaluation of the dialogic teaching (DT) intervention of the current study, influential factors affecting the DT implementation of all three lecturers, and possible models for dialogic teaching professional development for university lecturers in Thailand.

Chapter 8 (Conclusions) concludes the current DT intervention study. It presents a summary of the main findings, limitations of the study, the possible future research directions, and the pedagogical application and implications of the study.

Chapter 2: Literature Review

This chapter reviews the literature on sociocultural theory, classroom discourse, dialogic pedagogies, influential factors affecting dialogic teaching implementation, and teacher continuing professional development.

To understand how talk and culture are interrelated and their roles in classroom interaction, it is important to begin with an underpinning theory of sociocultural theory and how it is discussed.

1. Theoretical Background

Sociocultural Theory

The sociocultural theory posits that learning and understanding are profoundly social. According to Vygotsky (1978), “human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them” (p. 88). In other words, learning and development take place in socially and culturally shaped contexts, which are themselves constantly changing. Strategies and knowledge of the world and its cultures can be acquired when learners participate in joint activities and internalise collaborative work effects. This is commonplace and can be seen in interactions between individuals like mothers and children, teachers and students, and coaches and trainees. Furthermore, according to Vygotsky, cognition cannot be analysed in isolation. Rather, other factors like social, emotional, motivational, and identity processes should also be taken into account.

Vygotsky also introduced the construct of the zone of proximal development (ZPD), which they defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 85); this is a fundamentally new approach to the problem. According to Vygotsky, learning precedes development. However, it is crucial that the actual and the potential levels of development be distinguished and that children are developmentally ready at their actual developmental level.

According to Vygotsky (1962, 1978) language is a *cultural tool* that can be used for sharing

and developing knowledge among community members and a *psychological tool* to transform children's individual thinking. Therefore, sociocultural theory has been an influential underpinning for teaching and learning, and it highlights the role of classroom talk, not only between teachers and students, but also among students themselves.

Additionally, several scholars emphasise the importance of talk. Barnes (2010) posited that because talk is easy and temporary, one can test out ideas and change them as they speak. Alexander (2015) also recognised “the cognitive, social and cultural power of talk and its pivotal role in children's development, learning and understanding” (p. 431). Michaels and O'Connor (2012) stressed that talk helps teachers identify their students' understandings and misunderstandings, supports their learning and deeper reasoning, helps them become members of a community of practice, develops their social skills, and promotes risk-taking.

2. Classroom Discourse

It is crucial to understand classroom discourse and the problems it can present. As such, it is important to investigate the value and conversations around classroom interaction and discourse here.

Initiation-Response-Feedback (IRF) Sequence

Classroom discourse is a distinctive set of sequences found exclusively in the classroom setting. In their seminal work, Sinclair and Coulthard (1975) proposed a three-part prevalent fixed exchange structure in which a teacher asks a closed or display question (I) with a predetermined answer, a student, or students, answer with a few words or short sentences (R), which is then followed by a teacher's quick evaluative feedback (F). This is called the IRF Mehan's (1979) Initiation-Response-Evaluation (IRE) sequence.

For the past 50 years, research on classroom and teacher talk have acknowledged the teacher-dominant classroom interaction in which the students' role is to listen while teachers ask questions and take the lead in classroom talk (e.g., Barnes, 1976; Cazden, 1972, 2001; Wells, 1999). Nystrand and his colleagues (1997) found that IRF interactional pattern was by far the predominant mode of classroom discourse in most American secondary schools where teachers talk and students listen to choppy and incoherent classroom discourse. The classroom interactions were teacher-controlled and filled with short-circuits in the development of ideas. Moreover, Skidmore (2000) examined two types of teacher talk, namely, pedagogical dialogue and internally persuasive discourse in the UK primary schools.

He concluded that pedagogical dialogue, a more authoritative discourse, contains test questions and resembles an inauthentic task or recitations whereas internally persuasive discourse is comparable to authentic everyday conversation.

Against the sociocultural theory and children's learning and development, Barnes (1976) and Cazden (1972) argued that it is essential to understand and reconsider the role of classroom talk to better facilitate students' engagement and learning. Due to Vygotsky's influence, there is a growing body of research regarding student talk in joint activities with peers and teachers (e.g., Alexander, 2008; Gibbons, 2006; Hardman, 2019, 2020).

Problems with IRF/IRE

Education is currently deemed as knowledge formation through learners' involvement, engagement, and self-investigation. Learning is arguably in the learners' hands and their contributions account for their own learning (Barnes, 2010). This highlights classroom dialogue as central to students' learning and development (Khong et al., 2019) and is against the traditional belief that teacher talk was the power of teachers to "control" students and their learning (Lemke, 1990).

As a tool of the trade over the past 40 years, researchers have investigated classroom interaction through various aspects including interactional patterns, teacher talk, student participation and learning opportunities (e.g., Walsh, 2002; Walsh & Li 2013) and how classroom talk facilitates or hinders students' learning and development (e.g., Alexander et al., 2017; Kathard et al., 2015; Reznitskaya et al., 2009; Reznitskaya & Gregory, 2013; Simpson, 2016; Wells & Arauz, 2009).

More importantly, a number of classroom discourse studies report an imbalance between teacher talk and student talk with significantly more teacher talk. This means that teacher talk dominates knowledge transmission via three-part classroom dialogue or IRF and has been persistent in classroom interactions (e.g., Mercer, Dawes, and Staarman, 2009; Mortimer and Scott, 2003; Nystrand et al., 1997, 2003; Hardman et al., 2003; Resnick et al., 2015).

Therefore, some researchers recognise a need for both pre-service and in-service teacher professional development with an emphasis on classroom talk (e.g., Mercer et al., 2009; Mercer & Howe, 2012). This would allow teachers and practitioners to critically scrutinise and reflect on their pedagogical practices (e.g., Hassler et al., 2018; Hofmann and Ruthven, 2018; Reznitskaya, 2012; Rojas-Drummond et al., 2013).

The next section presents a review of dialogic pedagogies including dialogically organised instruction, exploratory talk, accountable talk, and dialogic teaching.

3. Talk Pedagogies

There are variations of dialogic pedagogies developed and implemented in different educational contexts from dialogic instruction (Nystrand et al., 1997), exploratory talk (Mercer and Dawes, 2008), and accountable talk (Michaels, O'Connor, and Resnick, 2008), to dialogic teaching (Alexander, 2008, 2014, 2017, 2020).

Dialogically Organised Instruction or Dialogic Instruction

First, dialogic instruction was proposed by Nystrand and his colleagues in 1997 with an objective to improve students' interpretive framework through their own elaboration as a means of achieving an in-depth understanding of a particular topic. Nystrand and his colleagues profoundly believed that the quality of classroom talk significantly affects the quality of student learning. Crucially, knowledge is not transmitted from teachers to students. Rather, it is a product of understanding from interactions among learners themselves.

With respect to classroom discourse patterns, the dialogic instruction interactions are reciprocal as teachers and students share control over the discourse. However, dialogic instruction can begin with the teacher asking authentic questions to stimulate students' individual interpretations and invite them to engage in the conversation. Not only teachers, but also students, are encouraged to initiate talk, ask questions, and comment on one another's contributions. Student talk and individual interpretation are highly valued. Unlike monologic recitation scripts, students' responses to teacher talk are longer and more elaborate. Teachers are encouraged to use students' *uptake*, which according to Nystrand et al. (1997, 2001), is a situation in which the teacher takes a student contribution to expand or build on such as:

T: How do you feel when you receive praise from your teacher?

S: Confident?

T: Confident and then what are you going to do?

S: Pay more attention.

Unique high-level evaluations are also encouraged. This type of evaluation consists of two elements, the teacher's certification of the response and the teacher's uptake. It incorporates

students' thinking into the classroom discourse to encourage and promote deeper, high-level thinking in a form of elaboration or follow-up questions.

Exploratory Talk

Another dialogic pedagogy is exploratory talk, developed by Mercer and Dawes (2008) while working collaboratively with primary school teachers to develop a practical teaching program called "Talk Lessons" (Mercer, 2000). It is defined as follows:

Exploratory talk is that in which partners engage critically but constructively with each other's ideas. Relevant information is offered for joint consideration. Proposal may be challenged and counter-challenged, but if so, reasons are given and alternatives are offered. Agreement is sought as a basis for joint progress. Knowledge is made publicly accountable and reasoning is visible in the talk (Mercer, 2000, p. 98).

Mercer emphasises that the success of "Talk Lessons" depends on teachers. They should aim to create a community of enquiry and implement activities to build a shared communicative space known as an "intermental development zone" (IDZ). This is similar to Vygotsky's (1978) zone of proximal development (ZPD), but it focuses primarily on "how a learner progresses under guidance in an activity, but in a way which is more clearly related to the variable contributions of both teacher and learner" (Mercer, 2000, p. 141) while ZPD focuses more on evaluating individual learners. Also, Mercer posited that teachers talk explicitly with children about the goals of classroom activities and work collaboratively with students to create a shared communicative space to use talk and share joint activities. Teachers' roles are to organise and lead activities, provide children with information and guidance, and help them to recognise and reflect on what they have learned.

Accountable Talk

Initially introduced by Resnick and Hall (1998) and Resnick (1999), accountable talk is a teaching approach that focuses on the role of thinking in the curriculum core and highlights the eminent role of talk to promote thinking. Michaels, O'Connor, and Resnick's (2008) accountable talk is a type of academically productive classroom talk to promote learning that is attached to three broad dimensions—accountability to community, knowledge, and standard of reasoning. To fully develop students' learning through the use of talk, it is fundamental that all three aspects work together.

Considering each dimension of accountable talk, the simplest is accountability to the learning community. This is talk in which all interactants listen carefully to others, build on their ideas, and ask meaningful, clarifying, and propositioning questions. To achieve this, teachers may employ a range of different talk moves such as conversation openers or extenders to promote appropriate talk in class. Following are examples adopted from Michaels and O'Connor (2012):

- Who can put what Judy said in their own words?
- Would anyone else like to add on?
- I haven't heard from you yet, Watts.
- Go on.
- Take your time, we can wait.
- Can you explain what you mean by that?
- Hold on. Let Pond finish his thought first.

By using these strategies, teachers can tap into students' thinking knowledge and reasoning competencies.

The second dimension is accountability to the standard of reasoning, which emphasises coherent connections and reaching rational conclusions involving elaboration and self-correction. It also includes searching for propositions rather than simply supporting or attacking conclusions.

The last, and most challenging, dimension is accountability to knowledge. This is talk that is in accordance with publicly available proven facts that all community members have access to. If a student raises a point that their peers are sceptical about, such as when evidence is inadequate or absent, they can challenge that presented knowledge.

Further to these points, accountable talk encourages teachers to implement a variety of talk strategies including, but not limited to, lectures, recitation, whole-group discussion, and a mix of different talk strategies. More importantly, teachers should strategically utilise both monologic and dialogic discourse effectively.

Michaels, O'Connor and Resnick (2008) argued that the most difficult challenge that indicates the success level of accountable talk implementation is discourse norms that vastly differ from those in students' homes and communities.

Dialogic Teaching

One of the key theoretical foundations of dialogic teaching is social constructivism, which posits that learning is socially situated and knowledge is constructed through interaction with others. This theory suggests that dialogue is essential for knowledge acquisition and that it facilitates the co-construction of knowledge between students and teachers. Additionally, dialogic teaching draws on the theory of scaffolding, which proposes that learners can work at higher levels of thinking and solve problems with the help of a more knowledgeable other.

Alexander (2001, 2008, 2014, 2017, 2020) proposed dialogic teaching as a general pedagogical approach and pursued a distinguished type of interactive experience that utilises the power of talk to promote student engagement, stimulate their thinking, and elevate their learning and understanding. Alexander emphasised the role of talk and argued that students, in fact, learn mainly through talk and by talking while education places a strong emphasis on writing and considers writing as a valid form of assessment.

Dialogic teaching was originally developed based upon a large-scale macro-micro comparative study of culture, policy, and pedagogy in five countries: England, France, India, Russia, and the United States. It was informed by the sociocultural theoretical works of Vygotsky (1962, 1978), Bruner (1983, 1987), and Bakhtin (1981, 1986). The ultimate goal of dialogic teaching is to move beyond the monologic teacher-fronted talk and the dominance of the persistent three-part IRF interactions. By drawing upon the notion that language is a powerful tool in learning and development (Vygostky, 1978), an environment for talk and think is better encouraged. That is, people collaboratively work to form, create, and build on each other's ideas and develop cumulative knowledge (Mercer, 2000) through communication. Therefore, dialogic teaching focuses on the quality of teacher talk, learner talk, and the agency of others. In other words, it attends to the quality of discourse produced by not only teachers but also students and how students are actively engaged in class.

According to Alexander (2008), dialogic teaching harnesses the power of talk to engage students, stimulate and extend their thinking, and advance their learning and understanding. The approach is based upon its five key principles as follows:

1. *Collective*: Teachers and students address learning tasks together, whether as a group or as a class, rather than in isolation.

2. *Reciprocal*: Teachers and students listen to each other, share ideas, and consider alternative viewpoints.
3. *Supportive*: Students articulate their ideas freely, without fear of embarrassment over “wrong” answers; they help each other to reach common understandings.
4. *Cumulative*: Teachers and students build on their own and each other’s ideas and chain them into a coherent line of thinking and enquiry.
5. *Purposeful*: Teachers plan and facilitate dialogic teaching with particular educational goals in view. (Alexander, 2008, p. 28)

Furthermore, dialogic teaching highlights safe, open, collaborative, cumulative, and extended classroom interactions. Among all key principles, the cumulative principle is potentially the most challenging to achieve. To implement it successfully, it is crucial that teachers understand the ongoing interaction thoroughly, recognise the desired outcome, and use talk to scaffold students’ thinking towards the outcome.

In addition, the dialogic teaching principles are reflected in classroom discourse between teacher and students (Alexander, 2014, 2017, 2020). Of the 61 total indicators, key indicators include teacher-student interactions in which questions are structured to stimulate students’ thoughtful answers, answers provoking more questions, turns being shared rather than strictly managed by teachers, interactions chained into a coherent line of thinking, and an appropriate balance between social and cognitive purposes of talk. Moreover, questioning in dialogic interaction is grounded in the context and the content, builds on students’ background knowledge, balances between the routine and the probing, balances between open and closed questions, stimulates thinking and evidence provision, minimises cued elicitation and leading questions, and provides students with time to think. Also, in dialogic discourse, feedback evaluates and promotes deeper thinking, and talk is extended and expansive.

Dialogic teaching proposes that teachers develop and draw upon a wide talk repertoire consisting of different teaching strategies and talk practices, employ them effectively, and develop their students’ talk repertoires and capabilities.

There are six dialogic teaching repertoires (Alexander, 2017) as follows:

Repertoire 1: *Interactive settings* or forms of organisation that include whole class (teacher-student), group work (teacher-student, teacher-led), group work (student-student, student-

led), one-to-one (teacher-student), and one-to-one (student-student in pairs). Each type of organisational setting presents different opportunities and limitations.

Repertoire 2: *Everyday talk* is the most basic form of talk and includes transactional, expository, interrogatory, exploratory, expressive, and evaluative. It is essential that teachers master, model, and utilise the different types effectively so that students acquire, become skilful, and can use them effectively for their everyday life.

Repertoire 3: *Learning talk* includes narrating, explaining, speculating, imagining, exploring, analysing, evaluating, questioning, justifying, discussing, and arguing. To take full advantage of these learning talk repertoires, students should develop four conditions or comply with “ground rules for talk” (Michaels, O’Connor, and Resnick, 2008; Michaels and O’Connor, 2015; Mercer and Littleton, 2007). These rules include listening attentively, thinking about what is heard, giving others time to think, and respecting different views.

Repertoire 4: *Teaching talk* includes rote, recitation, instruction, exposition, discussion, and dialogue. Even though dialogic teaching comprises traditional classroom talk like rote repetition and recitation, it encourages *discussion* (the exchange of ideas with a goal to share information and solve problems), and *dialogue* (reaching a shared understanding through structured and cumulative questioning and discussion).

Repertoire 5: *Questioning* includes character (test or display question and authentic), response cue (student bidding and nominating a particular student), participation cue (quick rotation and extension), wait time (immediate and considered or lengthened), feedback (formative and evaluative), purpose (elicit, recall, develop, probe, and manage), and structure (closed, open, leading, and narrow).

Repertoire 6: *Extending* consists of nine talk moves that can be used to extend discussion. Initially developed by Michaels and O’Connor (2012), this talk repertoire is composed of sharing, expanding and clarifying thinking, listening carefully to one another, deepening reasoning, and thinking with others (see also Michaels and O’Connor, 2012).

Although these dialogic pedagogies promote supportive and sufficient opportunities for students to engage in thinking and learning using talk, dialogic teaching differs in its core of knowledge and knowing (Wells, 2006). That is, dialogic teaching takes students foreknowledge into account and teachers and students make collaborative efforts to create a

safe, welcoming dialogic space for all to engage in intellectual talk-based activities stimulating students to draw upon their background knowledge to engage and co-construct new knowledge.

The next section will explore different factors influencing dialogic teaching implementation.

4. Dialogic Teaching Implementation

Dialogic teaching has been gradually adopted and studied globally in different disciplinary areas. This section presents a selection of studies related to factors contributing to dialogic teaching implementation including teachers' beliefs, self-perception, classroom norms, and students' readiness and perspectives on teacher, peers, teaching and learning.

Teachers' Beliefs, Self-perception and Cultural Expectations

The literature suggests that lack of training, teacher belief, self-perception, cultural expectation and understanding of dialogic teaching influence dialogic teaching implementation. Mercer, Dawes, and Staarman (2009) investigated English science teachers who expressed their interests in dialogic teaching. It was found that most teachers did not understand how talk works as the main tool in teaching. Only a few have been trained to use specific strategies such as talking points (Dawes, 2008a, 2008b) to the best effect. Consequently, most of their talk remained traditional. Teo (2013) also highlighted that a teacher's self-perception influences dialogic teaching implementation. That is, even though teachers had sufficient understanding of dialogic teaching and were willing to modify their pedagogical practice, it was challenging for them to implement it and maintain their role as a teacher to meet the cultural expectations simultaneously. Consequently, despite some dialogic teaching discourse evidence, some teachers maintained their dominating teacher role.

Simpson (2016) conducted an observational study using a discussion-based pedagogic strategy called Literature Circles. This strategy was employed to help reframe critical understanding of fictional texts and prompt meta-awareness of dialogic teaching. This study involved three groups of participants: a final year cohort of Bachelor of Education (primary) students, the primary students who were taught by the education students, and the primary school teachers who were involved in reviewing the Literature Circles teaching of the education students. It was found that the in-service teachers recognised the importance of dialogic teaching. In addition to monologic talk, the students participating in Literature

Circles were more engaged and supported to expand their understanding of the text through talk for learning. Particularly, the pre-service undergraduate students recognised the impact of dialogue in their learning and the potential of the dialogic pedagogy. Furthermore, the learning outcomes of the primary students and the pre-service teachers improved opportunities to reflect upon their learning through talk.

Students' Readiness

Student readiness is also key to dialogic teaching implementation success. Ford and Forman (2015) investigated a discussion of scientific discourse, authority, and learning in a high school evolutionary biology course in the US. It was found that students had to be taught productive dialogue in order for scientific discussion to occur. It was also suggested that clear instructions be given and be explicit to all. Moreover, Engin (2017) examined student contributions during seminar sessions in a UK postgraduate degree course and identified four factors contributing to students' participation and silence which were: linguistic knowledge, content knowledge, expectations of processes and roles, and nature of tasks. That is, the students were likely to participate when they felt linguistically prepared or familiar with the content being discussed. Furthermore, some students were uncomfortable with their changing roles (from passive to active), which was in contrast with their previous learning experience. Therefore, to support students to become more participatory, it is suggested that tutors should increase learners' confidence by selecting appropriate tasks that learners are familiar with, providing linguistic support, giving sufficient preparation time, being explicit regarding their expectations of learners' contributions, and exposing learners to various types of dialogic interactions.

In addition to student's readiness, Hardman (2016) argued that it is essential to create dialogic space and an open classroom environment for learners to engage in high-quality classroom talk to develop their active learning, especially in language learning. To achieve such classroom talk, teachers and tutors should engage students as much as possible and balance their use of teacher-dominated recitations and learner-focused interactions. Teachers' effective use of questions and formative feedback will consequently lead to learners' classroom interactional competence (CIC) (Walsh, 2011) development.

Understandings of Dialogic Teaching

Rungwaraphong (2018) conducted a dialogic teaching study proposing and evaluating a teaching framework for an undergraduate English reading course in Thailand. Following Alexander's dialogic teaching framework, a teaching model consisting of four stages: pre-, while-, post-, and beyond, was proposed. According to Rungwaraphong, the innovation was effective as the students' learning outcomes (test scores) and course evaluation scores improved from the previous academic year. Nevertheless, it is important to note that this study focused more on the proposed rigid teaching model rather than on creating a safe classroom environment conducive to dialogic teaching talk or classroom interaction which are fundamental to dialogic teaching. Similarly, Jocuns (2021) conducted a study on dialogic teaching implementation in a low-proficiency EFL class in Thailand and found that dialogic teaching was effective as it helped improve classroom instructional design and classroom environment. Despite the positive findings, this study focused more on talk in one classroom activity as opposed to creating a safe environment for everyone involved to participate. Although the five key principles were used as the main theoretical framework, similar to the work conducted by Rungwaraphong (2018), the principles appear to have not been thoroughly understood and the findings were ultimately more of a one-shot discussion as opposed to the dialogues as Alexander suggests. Given the complex nature of dialogic teaching approach implementation, it can be challenging to focus on classroom interactions and less on creating a dialogic ethos for dialogues to expand teacher and student talk repertoires. More importantly, Jocuns also constantly refers to dialogic teaching as a method or methodology.

It is therefore questionable whether these studies of dialogic teaching in Thailand contribute to the understanding of dialogic teaching implementation and impact in the research context.

It is suggested that professional development programs incorporate how to use talk for learning effectively. These findings concur with Reznitskaya and Gregory (2013) that insufficient understanding of dialogic teaching inhibits successful implementation. Therefore, it is crucial for teachers to not only learn about principles of the approach but also to how to apply them into their pedagogical practices.

To conclude, the previous studies suggest that it is crucially important for teachers to recognise the importance of classroom discourse, have sufficient understanding about the dialogic teaching approach, and be able to apply it in their teaching context.

The next section will review the professional development for teachers which will inform the current study in terms of factors affecting dialogic teaching implementation success.

5. Influential Factors Affecting Dialogic Teaching Implementation

Given a growing body of research on dialogic teaching, there are several influential factors which have been established including culture, educational context, and students' language proficiency. This study aims to investigate dialogic teaching implementation and its impact on teaching and learning in Thai higher education focusing primarily on classroom interaction, participation in lecturers, and students' perception of the approach. Therefore, this section discusses three primary factors influencing dialogic teaching implementation in this context including teacher stance, classroom norms, and student perspective on teacher, peers, teaching and learning.

Teacher Stance

Teachers' pedagogical behaviours are governed by teacher stance. Teacher stance refers to the attitudes and beliefs that teachers hold about the nature of teaching and learning, their perceptions of their roles as teachers, and their relationships with students. According to Boyd and Markarian (2011, 2015), there are two instructional stances, *monologic* and *dialogic* which is evident in talk patterns, talk subject (who is in control of the topic selection and has authority), and illocutionary force (the extent to which speaker's intention is accepted in interaction). *Monologic teachers* expect their students to listen carefully to them as knowledge is being transmitted from teachers to students through talk. Once their teacher talk ends, students are expected to have obtained the procedural knowledge and be able to retain and apply it. On the other hand, teachers who adopt a dialogic stance create a more collaborative learning environment that supports students' development of critical thinking and problem-solving skills. They encourage students to develop deeper understandings by asking open-ended questions and actively listening to student responses so that they can identify how much background knowledge students have and then find ways to exploit, scaffold, and support their students effectively. They also use feedback to build on students' prior knowledge and to draw on their lived experiences in class discussions and dialogues.

Against this background, dialogic space is collaboratively created by both teachers and students. A range of talk teacher talk repertoire is drawn upon to provide students with opportunities to co-construct knowledge.

Therefore, teachers with a dialogic stance are more likely to implement dialogic teaching techniques effectively and support students' engagement in rich and meaningful conversations, promoting their learning and development.

Classroom Norms

Another influential factor in dialogic teaching is classroom norms. Classroom norms refers to the unwritten rules and expectations that guide behaviour and interactions in the classroom setting. For instance, a teachers' predominant role is to dominate class time by talking to and instructing students while students listen and follow instructions carefully. Establishing clear classroom norms has been found to improve classroom management, student behaviour, and academic achievement. It is important for educators to understand the role of classroom norms and incorporate them into their teaching practices to create a positive and inclusive learning environment.

However, in dialogic classrooms, new classroom norms and expected behaviours differ quite drastically (Michaels et al., 2008; Michaels & O'Connor, 2015). The classroom norms in dialogic teaching class include teachers talking explicitly with students about the goals of activities, organising and leading activities, providing students with information and guidance, and helping them to recognise and reflect on what they have learned. Expected student behaviours include listening attentively, thinking about what is heard, giving others time to think, and respecting different views.

To establish dialogic classroom norms successfully, ground rules and collective effort are critical. Mercer (2000) proposed that ground rules be developed, made explicit, apparent, and complied with from the early stage of teaching. As for students, they should comply with the ground rules for talk (Michaels, O'Connor, and Resnick, 2008; Michaels and O'Connor, 2015; Mercer and Littleton, 2007). Rule compliance is in line with the collectivist culture (Embalzado & Sajampun, 2020; Tao et al., 2022). Learners in a collectivist culture, which Thais included, are likely to be interdependent within groups, prioritise shared objectives, follow cultural norms, and be concerned with relationships (Triandis, 2001). For this reason,

in order for dialogic classroom norms to be successfully established in Thai classrooms, it is likely that Thai students will benefit from ground rules for talk being explicit and apparent. By setting clear, expected behaviours using ground rules for talk among Thai students, students will be more capable of transitioning from passive to active participants in class.

Students' Perspective on Teacher, Peers, Teaching and Learning

Thai students' perspectives on teachers, peers, and teaching and learning play a significant role in dialogic teaching implementation. A study of Rungwarapong (2019) found that Thai university students regard lecturers' supportive talk, clear task aims and expectations, internet-based activities, safe classroom climate, and good relationships among students as encouraging factors of dialogic teaching implementation. It was also found that there were four obstructive factors hindering dialogic instructions including students' fear of losing face, their belief that lecturers are responsible to transmit the knowledge to students, their reliance on lecturers as the only source of knowledge, and the traditional teacher-fronted classroom layout.

6. Teacher Professional Development (PD)

The professional development (PD) of teachers is defined as the process by which educators participate in activities that enhance their knowledge, skills, and professionalism to improve student outcomes (Guskey, 2003). Since student learning is essentially reliant on teachers' pedagogical practice, it is important that teachers constantly seek ways to explore, reflect upon, and improve their professional practice. The primary purpose of PD is to support teachers in keeping up to date with the latest research, strategies, and developments in their field, allowing them to better support student learning. PD programs can take many forms including workshops, seminars, online courses, coaching and mentoring, and self-directed learning.

This section of the literature review aims to discuss the various concepts of teacher PD and how they ultimately relate to teacher and student performance in classrooms.

PD and Student Learning Outcomes

Several studies have investigated the relationship between teacher PD and student achievement. For example, Desimone (2009) found that teacher participation in PD programs has a positive effect on student achievement in mathematics. Similarly, a study conducted by

Darling-Hammond et al. (2009) found that effective PD programs can lead to measurable improvements in student learning outcomes.

U-shape Model of Professional Development Growth in Education

According to Mevarech (1991), “Professional growth in education is considered as a process of change in teachers’ mental models, beliefs, and perceptions regarding children’s minds and learning” (p. 152). Dwyer et al. (1991) proposed a five-stage U-shape model of professional development growth in education at which each teacher may encounter while taking part in PD.

The first stage, *survival*, is when teachers start to implement a new method or approach or move to an unfamiliar learning environment. At this stage, experienced teachers can feel like they are novices again. In other words, once they gain knowledge through professional development and apply it into their practice, there are effects on their mental models, beliefs, and perceptions. The fundamental second stage is *exploration and bridging*. This is when teachers survive the initial stage, develop a positive view towards the innovation, and tend to employ it regularly. *Adaptation* is the third stage when the innovation has become integrated in teachers’ everyday pedagogical practice. It is recognised by teachers being confident to discuss difficulties with others. At this stage, their pedagogical teaching incorporating the innovation may result in improved student learning outcomes such as increased test scores or more involvement in their learning. The fourth stage is the *conceptual change* phase. The most profound change at this stage is teachers becoming more reflective and critical about their own teaching practices, questioning their old approaches, and inspecting the reasons for observable changes in students’ behaviours and learning outcomes. *Invention* is the final stage of the professional development growth. Most teachers fail to reach this phase where they apply their reconstructed pedagogical knowledge to their teaching and test with unfamiliar materials, assessment, and teaching.

Effective Features of Professional Development

The effectiveness of PD programs is dependent on several factors, including the program features, length, location, teachers, and sufficient support. One of the most crucial factors is the quality of the program itself. First, Darling-Hammond and colleagues (2009) found that the most effective PD programs were those that provided teachers with ongoing, job-embedded support, including mentoring and coaching. The content and delivery of the PD

program should also be well-designed, engaging, and relevant to the teacher's needs and classroom context.

Another essential factor is the teacher's participation and engagement. Several studies have found that teacher engagement is positively related to program effectiveness (Desimone, 2009; Guskey, 2003).

Particularly, dialogic teaching intervention studies have proposed several effective features of professional development. Hofmann, Vrikki, and Evagorou (2021) posited three essential mechanisms of learning for teachers and students. First, there should be tools that help teachers to investigate and tackle their pedagogical practice and challenges systematically. With these mechanisms and through the conversations they generate, teachers can reflect upon their teaching practices and better understand their context-specific challenges. Also, dialogic teaching PD should promote teachers' self-efficacy and understanding of their students' abilities. This is because the greater self-efficacy teachers have, the more likely they are to commit to and persevere with the change. Dialogic teaching PD should also address the role of classroom norms. It is crucial that the different dimensions of ground rules for talk are addressed and made visible.

Additionally, since there is an important link between theory and practice, dialogic teaching PD should be based within the teachers' teaching context (Sedova et al., 2016). This encourages a more effective transfer from learned knowledge to implementation. Finally, dialogic teaching PD should encourage teacher reflection (Sedova et al., 2016), such as reflective interviews (Sedova, 2017), individual appropriate pace of change (e.g., Hofmann & Ruthven, 2018; Ruthven et al., 2017; Sedlacek & Sedova, 2017), and sustained support and engagement from the system and school.

In conclusion, the literature indicates that teacher PD is an essential component in improving the quality of education for all students. Effective PD programs can positively impact teacher knowledge and skills, teacher engagement, and ultimately improve student learning outcomes. However, the success of PD programs depends on several factors, including the length, location, and quality of the program, teachers' understanding, participation, engagement and self-efficacy, explicit address of the role of classroom norms, and adequate support for implementation.

The final literature review section presents a selection of dialogic teaching intervention studies that inform the current study.

7. Dialogic Teaching Intervention Studies

Dialogic teaching and teacher professional development research have gained increasing attention in recent years. Dialogic teaching intervention studies vary vastly in length, frequency, and nature, and have been conducted with teachers worldwide. Among these, this section presents a selection of studies with research-informed intervention programs and rigorous research design in different educational contexts. These studies focus on teachers' beliefs, their dialogic teaching implementation, and comparisons of student talk before and after the intervention.

Teachers' Epistemological Beliefs and Dialogic Teaching Implementation

Wilkinson, Reznitskaya, Bourdage, Oyler, Glina, Drewry, Kim and Kathryn Nelson (2017) conducted a longitudinal dialogic teaching intervention study in two elementary schools in the United States to investigate the impact of a professional development program on teacher's epistemological beliefs and their implementation of inquiry dialogue which aimed to collectively find "the most reasonable answer to the contestable, 'big' questions" (Wilkinson et al., 2017, p.66). The seven-month intervention program developed by the researcher included workshops, study group meetings, focus group meetings, and private coaching sessions. It aimed to mentor in-service language arts teachers to move towards a more dialogic teaching approach, and to support the teachers to conduct classroom text-based discussions to promote students' argument literacy in language arts classrooms. The findings were measured by an assessment tool, the Argumentation Rating Tool (ART) (Reznitskaya et al., 2016), which measures the quality of teacher facilitative talk and student argumentative talk. Results suggested a significant development in teachers' facilitation of inquiry dialogue and in the quality of students' argumentative skills. Nonetheless, the teachers' epistemological beliefs remained rather constant between before and after the intervention.

DT Intervention and Students' Talk with Reasoning Enhancement

Sedova et al. (2016) conducted a rigorously designed intervention for PD to introduce dialogic teaching to eight experienced Czech lower secondary school teachers of Czech civics. The goal was to achieve a classroom discourse transformation leading to enhanced student talk with a specific focus on student talk with reasoning along with three dialogic

teaching indicators: teacher questions, teacher uptake, and open discussion. This one-year PD program was comprised of four workshops with collaborative discussions, nine classroom video-recordings, and five reflective interviews. The video data was collected and analysed to determine whether changes occurred between pre- and post-intervention. The findings indicated significant growth in student talk with reasoning in seven of eight classes. That is, following the intervention, students participated more in the joint conversations in which they co-constructed knowledge by thinking and sharing their thoughts publicly with others. All dialogic teaching indicators (student talk with reasoning, teachers' open questions of high cognitive demand, teacher uptake, and open discussion) were found significantly improved. These findings also reaffirmed that student talk was shaped by communicative patterns their teacher employed.

To investigate the process of gradual change in teachers' pedagogic practices and the role of reflective interview as an element in this PD program, Sedova (2017) carried out a follow-up in-depth case study of one of the eight teachers who participated in the 2016 study. The data were collected through videos from the reflective interview sessions. As a representative case of all teachers in the same PD program, it was found that changes in teacher's pedagogic practice were complex and unpredictable. That is, a transfer of the knowledge from the program to the teacher's workplace occurred. However, a new challenge arose as the teacher had acquired new knowledge which demanded a modification to the teaching from the initial plan. Thus, actual changes are likely to occur on different levels and elements simultaneously. Some regression stages were also identified and could be due to conflicts among the dialogic teaching elements due to its complex epistemic stance.

The DIALLS Professional Development Program

Hofmann, Vrikki, and Evagorou (2021) reported a UK-Cyprus professional development dialogic pedagogy study. It was part of an extensive seven European countries project where Dialogue and Argumentation for Cultural Literacy Learning in Schools (DIALLS) professional development program was developed as a part of the Cultural Literacy Learning Program (CLLP) implementation. The CLLP program aimed to promote the cultural literacy of students within three groups—pre-primary, primary, and secondary - whereas the DIALLS professional development program aimed to develop PD that allowed reflective practices for the teachers, improve the students' sense of community, and promote students' agency and

inquiry. For this part of the project, the training included five two-hour sessions, three full-day in-person sessions, and a part-day online workshop.

A content analysis of the teachers' qualitative comments indicated that teachers in both countries recognised the improvements of dialogic and argumentative ethos in their practices and their students' learning, particularly in dialogue and argumentation skills.

The authors also emphasised the value of the research-based tool *The People, Talk, Ideas Tool* (Hofmann and Ilie, 2019) to support teachers in rethinking their practices and classroom dialogues. This tool encourages teachers to be kind, respect and listen to others (*people*), use talk to share their own thinking and respond to ideas of others and seek an agreement when ideas diverge (*talk*), and consider ideas thoroughly with reasonings and supporting evidence (*ideas*).

Effective Principled Improvement in STEM Education Project

Another relevant study to highlight is the Effective Principled Improvement in STEM Education (epiSTEMe) project by the University of Cambridge researchers. This umbrella project consists of several studies alongside researchers such as Hofmann and Mercer (2016), Ruthven, Mercer, Taber, Guardia, Hofmann, Ilie, Luthman, and Riga (2017), and Hofmann and Ruthven (2018). Providing professional development opportunities for teachers and school leaders, this project focused on developing effective practices in inquiry-based learning and integrating STEM subjects in early secondary school physical science and mathematics education. Based upon the notion of exploratory dialogic talk (Mercer, 2004), this project employed an experimental design focusing on small-group and whole-class discussion in maths and science secondary education. The professional development consisted of two training apparatuses: a short introductory model and topic models developed specifically for this project. This line of research brought about profound contributions to the literature on dialogic teaching intervention. A key insight from this project was discovering teacher non-authoritative and non-evaluative intervention strategies were sufficient to help students to re-engage with small-group or whole-class tasks after students encountered problems. It is more important to encourage students to engage more critically rather than giving them correct or plausible answers.

EEF Project: The Original Study

Another recent large-scale randomised control trial study was "Classroom Talk, Social

Disadvantage and Educational Attainment: Raising Standards, Closing the Gap” (CPRT/UoY Dialogic Teaching Project), (Alexander, Hardman, and Hardman, 2017; EEF, 2018). It was a joint project of the Cambridge Primary Review Trust and the University of York funded by the Education Endowment Foundation (EEF). It was conducted from 2014–2017 in primary schools in the United Kingdom with the following aims (Jay et al., 2017, p. 6):

- to maximise the quality and educational impact of classroom talk, building on prior work on dialogic teaching and international evidence;
- to encourage a classroom culture that engages pupils for the task in hand and retains their attention and interest;
- to meet, but also go beyond, the requirements for spoken language in the national curriculum, giving particular attention to those kinds of talk through which pupils learn to reason, explain, justify, argue, speculate, evaluate, and in other ways, think for themselves;
- to advance this higher-order talk across the curriculum, but devote particular attention to it in the teaching of English, mathematics, and science; and
- to raise pupils’ standards of attainment in literacy, numeracy, and science above the levels that teaching without such an intervention is likely to achieve.

The participants were year 5 students from eligible free-meal schools, year 5 teachers, nominated school mentors, and the headteachers.

The dialogic teaching intervention program consisted of direct induction, training, and plenary sessions given and led by the project’s delivery team to support and boost the project’s effectiveness. The trainings were as follows:

- an induction day for the teachers, mentors, and school heads in July 2015,
- a mentor training day in September 2015,
- a plenary day for mentors in December 2015, and
- a plenary day for the teachers, mentors, and school heads in May 2016.

The participating schools were also given various training resources for the training and support of the intervention program. In addition to training materials, every school received the audio-video recording equipment essential for the program. All teachers, mentors, and school heads also received training materials including:

- the project handbook providing them with all important project information (aims, rationale, and strategies, and training materials including lesson transcripts);
- the accompanying planning/review booklet to be completed in each cycle for progress tracking;
- Alexander, R. J. (2015) *Towards Dialogic Teaching: Rethinking Classroom Talk*, (4th edition, 2015 reprint), York: Dialogos.;
- Michaels, S. and O'Connor, C. (2012) *Talk Science Primer*, Boston MA: TERC.; and
- Alexander, R. J. (2015) "Dialogic Teaching Repertoires" a laminated summary of the previous two publications.

In addition to the training packet, all participating teachers, mentors, and school heads could access the project website on which supplementary publications and videos used at the induction sessions were available.

The intervention was piloted in ten schools in Barking and Dagenham in 2014–2015 and was trialled in schools in Bradford, Birmingham, and Leeds in the autumn 2015 and the spring 2016 terms.

The intervention was 20 weeks consisting of 11 cycles of planning, review, and refocusing. Particularly, there were six cycles in Phase 1: Expanding repertoires in the autumn 2015 term, and five cycles in Phase 2: Advancing dialogue in the spring 2016 term. While Phase 1 focused on developing various types of teacher talk and student talk, the objective for Phase 2 was for teachers to apply the talk repertoires into a six-week program in four subjects: English, mathematics, science, and a non-core subject.

The participating schools were required to audio-video record live teaching sessions of the teachers before and after the intervention. These video data were used as the main materials for mentoring sessions and later for future development.

In this project, the mentors and teachers worked closely as they were intended to mutually learn from each other. Through open and welcoming discussions, the mentors organised meetings where teachers attended and worked together with them on reviewing and discussing their live classroom video records and planning for the following sessions.

The project evaluation conducted by Jay et al. (2017) indicates that the CPRT/UoY Dialogic Teaching Project impact was extremely positive. With respect to changes in classroom practices, the evaluation indicated the following results:

- The intervention students' learning outcomes improved statistically in science as well as tangible increases in English and maths.
- The participants reported that they implemented dialogic teaching across all three main subjects equally, their confidence increased, and their pedagogy improved.
- The student talk quality improved considerably.
- The classroom climate became safer, more secure, and conducive to open discussion and challenge of alternative viewpoints.

Important changes in classroom talk were also evident in the following areas:

- The intervention teachers made greater use of wait time, teacher open initiation questions, and follow-up moves than the control group.
- The intervention teachers employed discussion/dialogic activities more frequently than those of the control group.
- Student engagement improved and the students made better cognitive gains.
- Brief student talk decreased, whereas extended student talk increased following the intervention.
- Several developments were apparent in teachers' professional understanding and skill regarding classroom talk, classroom discourse quality, student engagement and learning, and students' academic attainment in all disciplinary areas.

However, the participants reported that the only drawback of the intervention was the difficulties in time management during the intervention.

To conclude, the findings indicate an extremely positive impact of the CPRT/UoY Dialogic Teaching Project to varying degrees across English, science, and maths students. Particularly, several improvements were evident in intervention teachers' pedagogy, understanding and skill for classroom talk, classroom talk quality, student engagement and learning, and students' academic attainments.

In summary, dialogic teaching is an effective pedagogy that helps elevate students' intellectual engagement and improve their communication skills and learning outcomes.

Influenced by a range of factors (teacher stance, beliefs, and self-perception, intervention program features, classroom norms, students' perspectives on themselves, teachers, peers, teaching, and learning), dialogic teaching implementation is complex and challenging.

8. A Research Gap and This Study

Given the growing promise of empirical evidence in dialogic teaching intervention studies worldwide, the personal motivations of the researcher, and persistent problems with education in Thailand, along with the rarity of dialogic teaching intervention studies in the Thai higher education context, this study represents an attempt to address the research gap by investigating the implementation and impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses in an East Asian country. Built upon the large-scale dialogic teaching intervention study by Alexander, Hardman, and Hardman (2017), this study replicated, with some adaptations to the UK study, and applied it to a new educational context in Thailand. Three main and six sub-research questions that guided the investigation are as follows:

1. How is dialogic teaching implemented, and what is the impact of dialogic teaching on classroom processes in undergraduate university courses in Thailand?
 - 1.1 Are there any observed changes in lecturers' teaching strategies and talk practices between before and after dialogic teaching implementation?
 - 1.2 Are there any observed changes in student talk practices and quality in whole-class discussions between before and after dialogic teaching implementation?
2. What are lecturers' perceptions of dialogic teaching?
 - 2.1 What do the lecturers think of the effects of dialogic teaching on their teaching strategies and talk practices?
 - 2.2 What challenges did the lecturers face during the implementation of dialogic teaching?
3. What are students' perceptions of dialogic teaching?
 - 3.1 What do the students think of the effects of dialogic teaching on their learning experiences?
 - 3.2 What challenges did the students face during the implementation of dialogic teaching?

It is hoped that the findings of a study such as this will contribute to the understanding of the implementation and impact of dialogic teaching on classroom processes in higher education

in Thailand, not only in terms of its effectiveness and suitability but also for the participants' perceptions. This study will particularly shed light on students' perception of dialogic teaching, for which literature is presently scarce and extend the existing international body of dialogic teaching and teacher professional development literature. Lastly, It might also be an initial steppingstone for changes in teaching and learning in Thai education.

Chapter 3 - Methodology

This chapter describes the methodology of the dialogic teaching intervention study as well as the methods of data collection and analysis.

1. Aims

The study aimed to investigate the implementation and impact of dialogic teaching on classroom processes in multidisciplinary courses in higher education in Thailand and to explore the lecturers' and students' perceptions of the pedagogical approach.

2. Research Design

To best address the research questions, the intervention research design was selected with a twelve-week professional development (PD) program. This research design was selected because not only did it allow the researcher to observe the actual professional practice (baseline) and to support in a systematic manner during the professional development program (intervention), but also to track any changes or progress emerging as dialogic teaching was adopted. With respect to data collection methods, this study employed a parallel mixed methods design. Quantitative and qualitative data were collected pre- and post-intervention using the following methods: live classroom observations, transcripts of video-recorded teaching sessions, student questionnaires, lecturer and student group interviews.

3. Location of the Research

The study was conducted at two higher education institutes, University A and University B (pseudonyms) in southern Thailand. Both are public universities with over 12,000 students pursuing undergraduate and postgraduate degrees.

4. Participant Selection and Sampling

This study first employed non-probability sampling using a purposive sampling technique due to its location and specific participant criteria of profession, teaching experience, and disciplinary area. The sample size included three lecturers and one of their undergraduate classes of approximately 20 to 25 students each.

Given the research aims and questions, the initial criteria for participating lecturers were those who were involved in pre-service English language teacher education. The first

participant recruitment took place in December 2018 at University A. A group of potential participants were contacted by the researcher via phone. The researcher discussed the project with the Dean of the Faculty of Education at University A and received permission to conduct a study with the faculty members there. In February 2019, all lecturers in the Language Education Program were invited to an in-person meeting. The lecturers were informed about the research, and they were encouraged to ask as many questions as necessary. As a result, three lecturers verbally agreed to participate. Soon after that, baseline (pre-intervention) data was collected for two classes for each participating. Nevertheless, due to their workloads and personal commitments, only one participant remained before the intervention began in June 2019.

The second participant recruitment took place in late June 2019. Several attempts were made to invite four other lecturers from the English Program, Faculty of Education, University A because they met all the selection criteria. However, all attempts were unsuccessful. Therefore, it was necessary for the researcher to take a contingent action by broadening the research scope and modifying one key selection criteria from university lecturers of English who were involved in pre-service teacher education to university lecturers who were involved in undergraduate teaching in any discipline. More personal contacts and invitations were made to faculty members at University A. More invitations were made to the lecturers at University A and those of a neighbouring institute, University B. With the tight research timeline, the individual meetings between the researcher and potential participants from the two universities were arranged. Table 3.1 summarises the lecturer participant criteria in both recruitment rounds.

Table 3.1

The participant recruitment criteria in rounds 1 and 2

Criteria	Recruitment Phase 1 (December 2018)	Recruitment Phase 2 (June 2019)
Profession	University lecturer	University lecturer
Discipline	Pre-service English teacher education	Any disciplinary area
Language of instruction	English (preferred)	English, Thai, or both
Others	Teach pre-service language education teachers at least once a week during the intervention	Teach university undergraduate students at least once a week during the intervention

5. Participants

There were two groups of participants in the intervention study: three university lecturers and three classes of undergraduate students. Despite the difference in their disciplinary areas, the lecturers were experienced and highly motivated with a profound interest in professional and personal development. None of the lecturers was aware of dialogic teaching, and none had previously participated in an intervention study.

The following is a summary of the three participating lecturers. To comply with the University of York's research ethics, their personal information has been anonymised or pseudonymised where possible.

Mary (Language Education, University A)

Mary is a female Thai lecturer in the English Program, Faculty of Education, University A. She had been teaching at the university for over ten years at the time of data collection. After careful consideration, Mary selected her fourth-year English major students from the Faculty of Education who were enrolled in an English Teaching Methods course to participate in the study. This class consisted of 24 students who had previously taken courses with her. Although Thai was Mary's and the students' mother tongue (L1), it was agreed upon by both Mary and her students that English would be the primary language of instruction.

Fiona (Law, University A)

Fiona is a female lecturer who has been teaching in the Faculty of Law, University A for over six years. Prior to teaching in higher education, Fiona taught at a small public primary school. For this study, Fiona selected a required general education course called *Way of Life* consisting of 22 second-year law students. Her students had never taken any courses with her. The language of instruction was Thai. It should be noted that Fiona's class experienced numerous student dropouts during the study due to academic and personal reasons unrelated to her. The result was that less than half of the students remained at the end of the study.

Orca (Fishery Science, University B)

Orca is the only male lecturer in this study. He holds a PhD in Fishery Sciences and has been teaching at University B for over seven years. His class consisted of 23 third-year Fishery Resources students enrolled in an elective course called *Endangered Species Conservation Management*. Although it was agreed upon at the beginning of the semester that Thai would

be the main language of instruction, the students were allowed and encouraged to use the Thai southern dialect, which is the lecturer and students' mother tongue, in class if they felt more comfortable.

Additionally, all students were invited to participate in the study after they were informed about its structure and purpose. Their main participation included completing two questionnaires (pre- and post-intervention) and being observed and video-recorded in six classes during the twelve-week intervention. Furthermore, twelve students (four from each class) were randomly selected and invited to participate in pre- and post-intervention student group interviews conducted on the same days as the questionnaires were administered. Table 3.2 below summarises the student participants information.

Table 3.2

A summary of lecturer and student participants' information

Lecturer	Year of Study, Discipline	Institution	Number of Students	
			Pre-intervention	Post-intervention
Mary	4 th year, Language Education	University A	24	24
Fiona	2 nd year, Law	University A	22	10
Orca	3 rd year, Fishery Science	University B	23	23

To ensure that all participating students had an equal chance of being selected for the pre- and post-intervention student group interviews, a random sampling technique was employed. In each group, all student identification numbers were written individually on a small piece of paper, folded, and placed in a bowl; four were drawn randomly. In total, twelve students were invited to the pre-intervention group interviews in addition to completing the pre-intervention student questionnaires.

The same students were invited for the post-intervention group interview with only one exception in Fiona's class. Since two of the four students participating in the pre-intervention student group interview unexpectedly discontinued their study during semester, two more students were randomly selected and invited to the post-intervention interview. An additional selection criterion was attending class regularly so that they were familiar enough with Fiona's teaching to provide insightful input.

6. Ethical Considerations

To conform to the University of York's ethical guidelines, the study first gained approval through the University of York Education Ethics Committee and several actions were taken throughout the research. Prior to the study, potential participants were contacted and informed about the study and their rights both verbally and in writing (see Appendices A and B). They were also given adequate time to consider and have their questions answered before deciding to participate. The consent forms were provided to the potential participants (see Appendices C and D) and their consent was obtained before the data collection began. More importantly, all participants had the right to withdraw from the study until the end of data collection and their personal information was and has been fully protected.

All collected data were treated confidentially and were shared on a need-to-know basis only. Attempts were made to anonymise or pseudonymise to protect every participant's identity wherever possible. Furthermore, the collected data has been stored in secure filing cabinets and on a password-protected computer to protect participants' personal data and special category data. Data will be kept for the duration of the research project until the final submission deadline in July 2022, after which time any personal identifiable data will be destroyed. Nonetheless, anonymised data may be kept, used for future analysis, and shared for research purposes for up to ten years, but participants and the institution will not be identified.

7. Duration and Procedure

As soon as the research proposal and ethics application were approved, the preparation for this study commenced. Overall, it took about one year from the research instrument development until the completion of data collection. From October 2018 to May 2019, the research instruments were developed, piloted, and modified. Even though this research design builds upon the research of Alexander et al. (2017), several research instruments were adapted and devised specifically for the study.

The data collection and the intervention program did not start until late June 2019 and was completed in late October 2019. This took much longer than the initial data collection plan partly because Universities A and B operate on two different academic calendars, which were four weeks apart. While the first semester of University A was from 7 July–11 November 2019, University B was from 5 August–30 November 2019.

8. Professional Development Program: Training Features

Informed by the large-scale randomised control trial study conducted by Alexander et al. (2017) in primary schools in the United Kingdom, the professional development program was adapted to suit the higher education context in Thailand. Not only this professional development program aimed to introduce dialogic teaching to the university lecturers in Thailand but also to provide them with an opportunity to examine their own practice (e.g., Mercer, Dawes, and Staarman, 2009; Reznitskaya, 2012; Wilkinson, Murphy, and Binici in Resnick et al., 2015) and personalised supportive training in a safe and friendly environment.

The twelve-week dialogic teaching intervention was divided into six cycles each of which lasted one to two weeks and focused on different areas. In Cycle 1, following the baseline data collection, each lecturer had an individual meeting with the researcher to set their personal goals for the professional development program and undertake the necessary task of scheduling subsequent recording and stimulated-recall sessions. Cycle 2 focused on talking about talk, or the ways to establish with students the conditions and ground rules. This was also when all lecturers were encouraged to begin to incorporate dialogic teaching elements in their teaching. The focus of Cycle 3 was for the lecturers to map and start to refine and extend their talk repertoires specifically in whole-class teaching. Then, in Cycles 4 and 5, the emphases were on maximising and diversifying student contribution using teacher follow-up moves. Cycle 6 was an opportunity for self-reflection for all lecturers. In this cycle, each lecturer reviewed, assessed, and reflected upon their own teaching strategies and talk practices from the beginning to the end of the dialogic teaching intervention. Table 3 below summarises all cycles' directed foci.

Table 3.3

All cycles' length and directed foci

Cycle	Length (weeks)	Directed Focus
1	1	Goal-setting meeting
2	2	Talking about talk
3	2	Whole class interaction: Refining repertoires
4	2	Whole class interaction: Maximising student contribution (1)
5	2	Whole class interaction: Maximising student contribution (2)
6	1	Self-reflection meeting

There were three main training elements in the dialogic teaching intervention program: a one-day dialogic teaching workshop, a two-hour individual workshop, and four individual video-based reflective coaching sessions.

1. One-day dialogic teaching workshop

At the beginning of the intervention, all lecturers attended a mandatory one-day dialogic teaching workshop. This workshop aimed to raise the awareness of the central role of classroom talk as a tool for teaching and learning, to introduce dialogic teaching, and to understand the lecturers' thinking about the potential implications and applications of talk and dialogic teaching in their teaching contexts. It focused exclusively on the development of a safe classroom culture of talk, and the use of open-ended and follow-up questions, especially ones that incorporate students' contributions. The concepts, key principles, and indicators of dialogic teaching were introduced. Also, sample videos of dialogic teaching, empirical evidence in both teaching and learning, and professional development were presented. The roles of the lecturers attending the workshop was an active one. They were involved in hands-on activities, especially pair work and group discussions.

In this study, there were two one-day workshops. The first was conducted by Professor Jan Hardman and translated and assisted by the researcher. Another was held by the researcher who was trained and supervised by Professor Jan Hardman. Due to the lecturer participant dropouts, both workshops were held *before* the pre-intervention session data were collected.

At the one-day workshops, all three lecturers received a training packet including a dialogic teaching handbook and other references they would need for the following training sessions throughout the professional development program. Following the main study of Alexander et al. (2017), the packet consisting of 1) Alexander's (2008) *Towards dialogic teaching: Rethinking classroom talk*; 2) Michaels and O'connor's (2012) *Talk Science Primer*; 3) the PowerPoint slides covering the key dialogic teaching concepts presented during the workshop; and 4) Alexander's (2015) *Dialogic Teaching Repertoires*, a laminated document summarising two core publications regarding talk repertoires.

Unlike the original study, the participants in this study did not have online access to additional materials. Instead, they had access to their personal Google Drive shared between them and the researcher. In their individual folder, each lecturer had access to all teaching

session recordings, and the coaching session videos. Their folders were regularly updated by the researcher and available for their reference.

2. Two-hour individual workshop

All three participating lecturers also attended an individual two-hour workshop with the researcher. The main goals of the workshop were to discuss the dialogic teaching intervention in more detail, including their roles and structures of each cycle meeting, to discuss their personal goals of the intervention, and to agree on dates of data collection and meetings in each cycle.

The Planning and Review Form Handbook adopted and modified from the main study was given to the lecturers.

3. Video-based reflective coaching sessions

The individual video-based reflective coaching was another vital training element. It aimed to provide the lecturers with an opportunity to reflect upon, investigate their own teaching strategies and talk practices, and seek ways to improve their practice by themselves and with help of the researcher (e.g., Nind et al., 2015; Reznitskaya, 2012; Skidmore, 2006; Walsh, 2002).

Each lecturer was observed, and video recorded during their teaching sessions six times during the intervention. All recorded sessions were reviewed together with systematic observation schedules and field notes. Then several learning episodes were chosen according to each cycle and individual lecturer's focus. They were then used in the individual video-based coaching session.

Following the original study, the coaching sessions were conducted in the form of stimulated recall interviews. In each coaching session from Cycles 2–5, the lecturers were given a supplementary handout with additional information about dialogic teaching and discussion questions (see Appendices E-H). All sessions were conducted in five steps as follows:

1. **Recap.** The lecturer was verbally prompted to talk about their immediate previous session's instructional goals and how the session went.
2. **Reflect.** The review progress began as pre-selected video recording segments were played a stimulus, and the lecturer was encouraged to stop the video at any

time to talk about their recollection and thoughts on any teaching moment.

3. **Focused Reflect.** After each video segment was played, the lecturer was further prompted by the researcher. These questions were developed based upon their individual teaching practice and in accordance with each cycle's directed and responsive foci. Therefore, while all cycles' directed foci were the same with all lecturers, their questions varied.
4. **Coach.** Once the reflection was complete, the coaching began. In this step, a handout specifically designed for the intervention was given to the lecturer. First, the lecturer studied the handout on their own. It was followed by a discussion between the lecturer and the researcher considering ways in which the lecturer could embed or utilise the focused talk move(s) and/or expand their talk repertoires in the following teaching session.
5. **Plan.** Finally, the lecturer planned their following teaching session using the prompts in Planning and Review Forms Handbook as guidelines.

Figure 3.1

Five stages of the stimulated recall interview procedure



At the end of the program, all participants received approximately 16.5 hours of training: 5.5 hours of dialogic teaching workshop, 2 hours of individual workshop, and 9 hours of individual video-based reflective coaching sessions. It should be noted that the video-based coaching sessions were initially planned to be 45 minutes to an hour long, but they frequently lasted from 1–1.5 hours per session. This could be due to a longer class time in Thai higher education of 2 to 3 hours and thus, there were several video segments of lesson episodes included in each session.

The next section will discuss all the research methods used in this study.

9. Data Collection

Following the sociocultural discourse and with research aims and questions in mind, a combination of quantitative and qualitative data collection methods were deployed. Once permission and consent from all participants were secured, data collection commenced.

Data were collected for two purposes: to answer the research questions and for training purposes. Field notes, systematic observation schedule, and video data were collected a total of six times. The first two teaching sessions were pre-intervention sessions and the final, Cycle 5, were post-intervention session. The data from these sessions were analysed and compared, and the impact of the dialogic teaching approach in classroom processes was identified. Another set of field notes, systematic observation, and video collected in Cycles 2–4 was used for training purposes. Moreover, the interview and questionnaire data were collected pre- and post-intervention to gain the participants' perceptions of dialogic teaching, which were the aims of research questions 2 and 3. Table 3.4 summarises the research questions and the data collection methods.

Table 3.4

A summary of research questions and data collection methods

Research Questions	Research Methods					
	Live Classroom Observations		Video Recording (Transcript)	Interviews		Questionnaires
	Field Notes	Systematic Observation Schedule		Lecturer	Students	
1. How is dialogic teaching implemented, and what is the impact of dialogic teaching on classroom processes in undergraduate university courses in Thailand?	✓	✓	✓			
1.1. Are there any observed changes in lecturers' teaching strategies and talk practices after the intervention?	✓	✓	✓			
1.2. Are there any observed changes in student talk practices and quality in whole-class discussions after the intervention?	✓	✓	✓			
1.3. Are there any changes in the interactional features in whole-class discussions after the intervention?	✓	✓	✓			

2. What are lecturers' perceptions of dialogic teaching?				✓		
2.1. What do the lecturers think of the effects of dialogic teaching on their teaching strategies and talk practices?				✓		
2.2 What challenges did the lecturers face during the implementation of dialogic teaching?				✓		
3. What are students' perceptions of dialogic teaching?					✓	✓
3.1 What do the students think of the effects of dialogic teaching on their learning experiences?					✓	✓
3.2 What challenges did the students face during the implementation of dialogic teaching?					✓	✓

Live Classroom Observations

Classroom interaction data were collected qualitatively and quantitatively by means of field notes, systematic observation, and video recording.

1. Field Notes

The main objectives of the field notes were to collect data of classroom setting, layout, activity, climate, language, teacher and student talk, turn management, and teacher-student and student-student relationships. As a non-participant observer, the researcher was positioned at the back of the classroom to observe the class and take notes. This method was employed to complement the quantitative data of systematic observation schedule.

2. Systematic Observation Schedule

Systematic observation is a robust systematic approach for quantitative data collection and is one of the best ways to develop an understanding of research context that may not be discovered by video recording or interviews (Savin-Baden & Major, 2013). To complement the research aims, this study employed structured observation that produced numerical observational data.

With sociocultural theory as a background, classroom interaction can be analysed and understood in several ways, the two well received coding schemes of classroom discourse were reviewed and developed for this study.

Scheme of Educational Dialogue Analysis (SEDA)

First, the Scheme of Educational Dialogue Analysis (SEDA) was co-developed by UK and Mexican research teams as a part of the Cam-UNAM Scheme in a three-year British Academy study (Hennessy et al., 2016). With a goal to assess the level of dialogicity and to identify the nature and progress of classroom discourse, the SEDA was devised using the Ethnography of Communication tools. There are three hierarchical and nested levels analysis: Communication Acts (CA), Communication Events (CE), and Communication Situation (CS). While at the micro level, Communication Acts are contributions defined by their interactional functions, Communication Events are concerned with interlocutor structure, purpose, task, orientation, and topic. At the highest hierarchical level, the Communication Situation is the context within which the interaction takes place.

There are eight clusters and 33 subcodes in the SEDA. Regardless of the speaker role as teacher or student, each turn of talk is assigned one or more codes depending on its function (see Hennessy et al., 2016). For example, one teacher question of 45 words can be divided into two parts and coded with two codes. According to the authors, one CA can be assigned to as many as three codes. With proven high inter-rater reliability, the SEDA is an effective tool for systematic dialogic discourse. Once the interaction (in learning episode, topic, or class level) is finished, quantitative analysis of codes and qualitative analysis of how dialogic the interaction was, conclusions can be drawn.

An important advantage of this analytical framework is that it enables researchers to zoom in to the smallest granularity level of the CA and zoom out to the larger picture of the context. Doing so allows the researcher to develop the lesson narrative and answer a range of questions, such as how the lesson is dialogic, which part is the most dialogic, and whether teacher and students contribute equally to the interaction. However, this coding scheme does not consider the affective dimensions of the interaction and contextual clues like gaze, tone, and gestures.

Hardman's Coding Schemes

Another analytical framework is Hardman (2016, 2019, 2020). Unlike the SEDA, this sociocultural theory-based coding scheme is devised according to Sinclair and Coulthard's (1975) IRF structure. That is, classroom interaction at the level of talk moves or acts are

bound to the speaker—either teacher or student. According to Hardman, two coding systems of teacher talk and student talk can be deployed to investigate the types of talk moves in classroom interactions and to identify any changes that occur following a dialogic teaching intervention.

Teacher talk move and student talk move systems are based upon different levels. Hardman's (2020) dialogic model of classroom discourse is presented in the following chart.

Figure 3.2

Dialogic model of classroom discourse

Lesson				
Transaction				
T Initiation Move (I)	S Response Move (R)	T Feedback/ Evaluation Move (F/E)	T Follow-up Move (F-up)	S Response Move (R)
Act	Act	Act	Act	

As can be seen in Figure 3.2, there are four levels of classroom discourse ranked from the highest to the lowest. First, *lesson* is a series of transactions, followed by a *transaction* which is a combination of exchanges, *exchange* consists of one or more moves, *move* (one or more acts), and *act*. The teacher talk system is analysed at the move level while the student talk system is analysed at the act level.

Like Hennessy et al. (2016), Hardman's (2016, 2019, 2020) classroom interactions are coded according to their function rather than their linguistic forms. The teacher and student talk moves can be classified into four main categories (initiation questions, feedback/evaluation talk moves, follow up talk moves, and student talk moves), and there are 13 codes in total. Hardman's coding systems of teacher talk and student talk moves are summarised in the following table.

Table 3.5

Coding system of teacher and student talk moves

Teacher Talk Moves	Description
Initiation Questions	

T closed question	Teacher asks a closed/test questions – allow one possible response.
T open question	Teacher asks an open/authentic question – allows various responses.
Feedback/ Evaluation Talk Moves	
T acknowledgement/ reject	Teacher simply accepts or rejects a student’s contribution.
T praise	Teacher praises a student’s contribution.
T comment	Teacher remarks, summarises, reformulates, builds on and/or transforms a student’s contribution.
Follow Up Talk Moves	
T add on question	Teacher asks students to add onto another student’s contribution.
T agree/disagree question	Teacher asks if a student or students agree or disagree with another student’s contribution.
T expand question	Teacher stays with the same student and asks him/her to say more.
T revoice question	Teacher asks a student to repeat or reformulate his/her own or another students’ contribution.
T why question	Teacher stays with the same student and asks for evidence or reasoning.
T challenge	Teacher provides a challenge or a counterexample.
Student Talk Moves	
Brief student contribution	Student provides pre-specified, brief information without any development – expressed in a word or simple sentence.
Extended student contribution	Student provides non-specified information and thinking. The contribution is developed to some extent through, for example, explanation, expansion, evaluation, justification, argumentation, and/or speculation.

Again, similar to Hennessy et al.’s (2016) coding scheme, the coded data can be analysed quantitatively using frequency of occurrence. Particularly, to investigate or evaluate the impact of a dialogic teaching intervention program, the frequencies of teacher initiation questions (closed and open), teacher follow up talk moves, and student contributions before and after the dialogic teaching intervention could be compared. Doing so can enable researchers to identify whether a teacher’s talk repertoire has been broadened or expanded following the intervention.

From the literature discussed and taking into account the baseline data, Hardman’s (2019) coding scheme was selected because it focuses on whole-class teaching interactions between lecturers and students, which aligned with the research objectives.

From the selected coding scheme, the systematic observation schedule (see Appendix I) was developed and piloted. For this study, a talk turn is defined by the minimum number of

utterances or actions needed to reflect its function. It can be broken down into several sentences. If needed, a single sentence can be further divided into phrases or words, applying two or more codes in sequence within a contribution depending on the functions rather than forms of the utterances. For example, when someone asks, “*Anything to add?*”, this turn is considered an utterance. Even though it is a closed question grammatically, it is coded as an open-ended question because of its function according to the underpinned sociocultural theory.

To ensure that data were collected systematically, a pilot was necessary as it allowed the researcher to practice using the coding system, evaluate the observational tools, and modify them. The pilot was carried out with the video data collected from a class at a Thai university with a similar teaching context and conditions.

3. Video Recording

Video recording is an effective method to collect rich visual and audio data of naturally occurring classroom discourse data that other research methods like interview, questionnaire, or stimulated recall may not be able to capture. With advanced technology, video recording has been continuously developed and has become more affordable and user-friendly than ever before (Kilburn, 2014). Another benefit of the data collected using this method is that they can be used and replayed several times. For these reasons, video recording has been extensively used in educational research.

In this study, classroom interaction data were collected from all classes using two video cameras, a video camera as lecturer camera (LC) and an action camcorder as student camera (SC). The goal was to capture the interactions occurring in the teaching and learning *in situ*. Furthermore, to minimise the possible burden on participant participation, observation and video and audio recording occurred concurrently. Altogether, six sessions per each group throughout the intervention were recorded. The estimated total video data is 15–18 hours per lecturer, or 45–54 hours for all three participating lecturers.

Despite all attempts to record the pre-intervention classroom data *before* the one-day dialogic teaching workshop took place, it was not possible all case studies. As a result, the pre-intervention sessions were recorded soon after the dialogic teaching workshop at the beginning of the intervention. For Mary’s Language Education students collected from the previous semester, she did not teach the same group of the students and thus it would be

challenging to compare her pedagogical practices from two different courses and groups of students. In the cases Fiona (Law) and Orca (Fishery Science), this was because they were invited to the workshop first and decided to participate in the study, and it was not possible to collect the pedagogical practice data before the workshop. Table 3.5 illustrates the live classroom observation schedule.

Table 3.6

Live classroom observation schedule for all lecturers

Weeks	Notes
Before the semester started	Dialogic teaching workshop
1 – 2	Pre-intervention sessions
3 – 13	Data for training
14 – 15	Post-intervention session

After each session, the video recording data were immediately transferred to a password-protected computer. They were then uploaded to the individual Google Drive folders shared only with the lecturers.

Semi-structured Interviews

To obtain participants' views towards dialogic teaching, interviews were conducted. Semi-structured interview method was selected as it is structured and flexible (Cohen et al., 2017) enabling the researcher to probe or ask the interviewees more follow-up in-depth questions in addition to the interview schedule. Two individual interviews were carried out with all three participating lecturers and the same happened for all three groups of randomly selected students. All interviews were conducted in Thai.

1. Lecturer Interviews

The pre-intervention lecturer interview aimed to elicit their perception of pedagogical practice prior to the professional development program and addressed their anticipated challenges when implementing dialogic teaching. One interview schedule was initially devised, and some minor modifications were made so that it could be used for both pre- and post-intervention lecturer interviews (see Appendix J). The lecturers were asked to review

and reflect upon their pedagogical practices, experience, and challenges they encountered implementing dialogic teaching.

2. Student Group Interviews

In the same vein, the student group interviews were conducted twice for each group of randomly selected students, along with pre- and post-intervention questionnaires.

While the pre-intervention group interviews aimed to obtain their perceptions of teaching and learning, previous experience with the lecturer, classroom environment, and their learning and communicative skills, the post-intervention interviews aimed to obtain the participants' perceptions of their learning experience and communication skills, and challenges they faced during the intervention.

All interviews were conducted in Thai. Only the pre-intervention interviews with both the lecturers and students were audio-recorded using a digital voice recorder. However, all post-intervention interviews were also video recorded with an action video camera, which was added to help the researcher identify the speaker in the student group intervention interviews. Like all digital data, the interview data were transferred to a computer with a secured password and were uploaded to the individual Google Drive folders shared between each lecturer and the researcher for review and data analysis later.

Questionnaires

The questionnaire is one of the most common research tools, and it has been widely used in both small- and large-scale educational research. Dornyei (2007) posits that professional or well-designed questionnaires predominantly consist of closed-ended question items limiting their respondents' free writing, which is difficult to code. In other words, selected options from closed-ended questions can be numerically coded and easily added into computer database.

The student questionnaire was designed to obtain participants' perceptions of the importance of talk in dialogic teaching and its implementation with respect to their participation, thinking, confidence, relationships among peers and with their teachers, and importance of talk and expressing ideas and opinions with peers.

The pre- and post-intervention student questionnaires were slightly different. While the pre-intervention questionnaire aimed to gain the students' perception of studying experience in general or with the lecturer if any, while the post-intervention questionnaire focused on students' perceptions of the course based upon their experiences attending the classes taught by the lecturer during the professional development program. There were a range of question types including factual, ranked, open-ended, and five-point Likert scaled questions (see Appendix K). More importantly, in this study to facilitate the ease of answering, printed questionnaires were used to ensure that the students would be able to fully understand each question and thus, the accuracy of their perception could successfully be obtained. The questionnaire was translated from English to Thai.

For tracking purposes, the students were required to write the last four digits of the student identification number (ID) at the top right corner on the first page of the questionnaires. They were informed not to provide their names or any identifiable personal information.

All questionnaire data were scanned, saved in PDF format, transferred to a computer with a secure password, and uploaded on Google Drive. The actual paper questionnaires were stored in a locked cabinet only accessible by the researcher.

The collected questionnaire data were reviewed, categorised, and analysed both qualitatively and quantitatively.

Piloting Research Instruments

Since this study was built upon the large-scale dialogic teaching intervention study done by Alexander, Hardman, and Hardman (2017) in UK primary schools, a pilot took place with three research instruments: student questionnaire, lecturer and student group interviews, and a systematic observation schedule using Hardman's (2019) coding scheme.

1. Systematic Observation Schedule

First, the classroom data collected from a university in Thailand was used for piloting the observation schedule. It was found that the chosen coding system was effective, and it matched the study's aims and therefore the systematic observation schedule could be used. It is important to note that after the pre-intervention sessions were observed, there were a significant number of student questions occurring in Mary (LE) and Orca's (FS) classes. Therefore, a talk move called "student questions" was added as a code to the initial

observation schedule. The updated schedule was used throughout the data collection (Appendix I).

2. Interview Schedule

There was one interview schedule in this study for the pre- and post-intervention lecturer interviews because the student group interview questions were derived from the student questionnaire. It was developed by the researcher under the supervision of the academic supervisor. Once it was approved, the interview schedule was translated from English to Thai. To ensure that accuracy of the translation, it was proofread by a bilingual linguist. Translation mistakes and linguistic errors were identified and corrected. The interview schedule was piloted by means of a simulated interview with an experienced Thai university lecturer similar to the potential research participants. Feedback and suggestions on both language and interview protocols were received. The interview schedule and protocol were revised accordingly. (See Appendix J for the post-intervention lecturer interview schedule.)

3. Student Questionnaire

Finally, the student questionnaire was proofread by a Thai-English bilingual linguist to ensure the equivalence between the original English questionnaire and its Thai-translated counterpart. Like the lecturer interview schedule, feedback on translation mistakes and linguistics errors were given by the bilingual expert. The revised student questionnaire was piloted with a group of Thai students, and the questionnaire was revised according to the feedback and suggestions received. (See Appendix K for the post-intervention student questionnaire questions.)

10. Data Storage and Management

After every data collection session, the digital data were transferred to a password-protected Google Drive and documents were stored in secure filing cabinets. Attempts were made to anonymise or pseudonymise to protect participants' identity wherever possible. All collected data have been treated confidentially and have been and will be shared on a need-to-know basis only. The data have been organised in three main folders, one for each lecturer participant. Within a folder, the collected data have been saved in accordance with the data type.

11. Data Analysis

The current study followed the sociocultural discourse analysis methodology (Mercer, 2005) based on the sociocultural perspective regarding the nature and functions of language, thinking, and social interaction. Influenced by different research disciplines, the methodology focuses primarily on the functions of talk or spoken classroom discourse as a tool for collective thinking. To be more specific, it has been used to study how people pursue joint educational activities in interactions between teacher and student(s) and among students themselves.

Sociocultural discourse analysis methodology takes advantages of both quantitative and qualitative data as they complement each other's strengths and weaknesses. The methodology takes advantage of qualitative analyses like ethnography, sociolinguistic, and conversation analysis. The micro, detailed analysis of transcript data enables researchers to see the process of joint construction of knowledge unfold. It is challenging and time-consuming, though, to collect, process, and analyse a large amount of qualitative data. The large numerical data collected by means of systematic observation and survey can be analysed and compared, and changes in interactions over time can be identified.

To evaluate the impact of dialogic teaching on classroom processes, the field notes, systematic observation, and video data were analysed qualitatively and quantitatively.

1. Field Notes

The field note data before and after the intervention were reviewed and underwent a qualitative analysis. Similarities and differences in the following categories were identified:

- physical classroom setting
- class time and activities
- classroom layout
- classroom climate
- classroom language(s)
- instruction
- teacher talk
- student talk
- student self-nomination
- teacher-student relationship

- student-student relationship

2. Systematic Observation Schedule

For the quantitative analysis of changes or improvements in teacher talk and student talk practices before and after dialogic teaching, the systematic observation schedule data in terms of frequencies were compared. The analysis covered the differences between pre- and post-intervention in the following areas:

- teacher talk to student talk ratio
- teacher open- and closed-ended questions
- teacher follow-up moves
- student brief and extended contributions and questions

3. Video Recording

The pre- and post-intervention classroom video data of all lecturers were reviewed, and learning episodes of whole-class discussions were selected and transcribed for qualitative transcript analysis.

As the transcript analysis of this study aimed to compare the interaction before and after the dialogic teaching implementation, all video data were carefully reviewed, and a handful of learning episodes were selected to be included in the analysis. The selection criteria were the learning episodes that 1) contained whole-class discussion activities, 2) involved several speakers not just one lecturer and one student, 3) highlighted teacher talk, student talk, and turn management strategies, and 4) represented student engagement and agency. After the initial selection, learning episodes were analysed, comparisons of the same topic were made according to the current study' research questions.

For transcripts, this study adopted the conversation analysis transcript convention with some adaptations to match the languages of instruction (i.e., Thai and English). From an exhaustive list of conversation analysis conventions, only key selected signs were used and included in transcribing and transcript analysis as follows:

- | | |
|---|-----------------|
| 1. prolonging of sound | so:: |
| 2. stress | <u>emphatic</u> |
| 3. length of silence in seconds | (1.0) |
| 4. micro pause about (0.2 second or less) | (.) |

5. simultaneous speech [
6. abrupt cut-off -
7. action or non-linguistic feature (())
8. non word utterances are also included because they function in English language classes in Thailand.

Following the original study by Alexander et al. (2017), the transcript analysis focused on differences between before and after dialogic teaching in the following areas:

- teacher talk moves
- student brief and extended contribution
- student questions
- turn management
- similarities and differences in teacher talk and student talks.

Next, to understand the participants'—both lecturers and students—perceptions of the dialogic teaching approach, quantitative and qualitative data from interviews and questionnaires were analysed.

4. Questionnaires

Student pre-and post-intervention questionnaire quantitative data were reviewed and calculated following simple descriptive statistic principles like means and standard deviation. The means in the before and after questionnaires in three categories were compared: student understanding of the course content, classroom climate, and students' communication skills. The means were compared and similarities and differences in students' perceptions were identified.

5. Student Group Interviews

To better understand the students' perceptions of their learning experience before and after the dialogic teaching intervention, audio and video interview data were reviewed, transcribed, and analysed qualitatively. The analysis focused on the following areas:

- benefits of talk on students' understanding of the course content
- benefits of listening to peers on students' understandings of the course content
- classroom climate
- students' communication skills

- challenges students faced during the intervention.

6. Lecturer Interviews

Despite the different foci, the lecturer interview data analysis followed the similar procedure. The pre- and post-intervention lecturer interview data were reviewed, transcribed, and analysed qualitatively in the following areas:

- Lecturer's teaching:
 - teacher talk practices and classroom interaction
 - wait time
 - teacher-student relationship
 - students' opportunities to talk
 - lecturer talk to student talk ratio
- Student talk practices:
 - student contributions
 - student questions
 - student nomination
- Challenges faced during the intervention

Unlike the original study by Alexander et al. (2017), the current study did not intend to compare the learning outcomes. This was largely due to the much smaller research scale of only three case studies from three disciplinary areas, and the research length spanning only one academic semester.

To conclude, this chapter discussed the methodology undertaken for the current study from following the underpinning sociocultural theory and the original study. The process of planning, instrument development, data collection, data management, and data analysis of sociocultural discourse analysis were considered. The following chapters will present the findings of three case studies: Orca (Fishery Science), Mary (Language Education), and Fiona (Law).

Chapter 4 - Case Study 1: Fishery Science – Orca

This chapter presents the findings from quantitative and qualitative data analyses relating to Lecturer Orca before and after the dialogic teaching intervention. Orca is an experienced lecturer in Fishery Science (FS) at University B in Thailand. Since his doctoral degree completion, he has been teaching at the university for more than seven years. Orca is known among his students as a friendly, approachable lecturer. In this study, his class consisted of 23 third-year Fishery Resources students enrolled in an elective course entitled *Endangered Species Conservation Management*.

Overall, the results of field notes, transcripts, interviews, questionnaires, and systematic observation schedule analyses suggest that the dialogic teaching professional development program positively impacted Orca's pedagogical practice; his personal and the students' perceptions of the approach were very positive.

1. Observations from the Field Notes

This section presents the findings of Orca's field note data analysis, which aimed to identify changes in the lecturer's teaching pedagogy, lecturer and student talk practices, and interactional features after the dialogic teaching intervention. Overall, the field note analysis findings suggest a positive effect on Orca's pedagogical practice following dialogic teaching; changes were found in his teaching strategies, talk practices, teacher-student relationships, and student talk.

Pre-intervention Session

1. Physical Classroom Settings

The classroom was arranged conventionally with a lecturer desk and a large projector screen in front of the room and about 70 individual student desks arranged in rows facing the front with an aisle in the middle. The classroom was equipped with typical educational technology including a projector screen, a projector, a visualiser, a desktop computer, a microphone, and speakers. The internet was available but unstable at times during the baseline data collection period.

2. Class Time and Activities

This course was scheduled to meet weekly on Friday afternoon during a sixteen-week academic semester. In the baseline session, there were four classroom activities in two hours: a lecture, collaborative group work, student group presentations, and a whole-class discussion. First, after the attendance check, Orca lectured for eight minutes and included a teacher monologue and a teacher-led interactive whole-class discussion. The next 50 minutes was allocated to the main activity, collaborative group work. In this activity, the lecturer introduced a group presentation activity, then randomly assigned the students into three groups of six and seven. The task was for the students to prepare a ten-minute group presentation of a randomly assigned sea animal case study in 30 minutes. The lecturer provided all groups with a list of topics, a large plain poster, and some markers. During this activity, the students were encouraged to use their mobile devices as a main tool to research online, use their own knowledge, and make logical judgments on other topics if specific information was unavailable.

As soon as the preparation ended, three groups took turns presenting their case studies. All presentations took about 30 minutes. The students first presented their poster to the class followed by a whole-class teacher-led question-and-answer discussion. During this activity, the lecturer encouraged the student audience to listen attentively and raise relevant questions as they arose. The teacher feedback was given collectively at the end of the activity.

The class concluded with a 15-minute lecture to review and consolidate the information discussed in the session. Like the first lecture, this activity was a combination of teacher monologue and a teacher-led interactive whole-class discussion.

3. Classroom Layout

As observed in the pre-intervention session, there were a few changes in classroom layout to facilitate different classroom activities. First, during the attendance check, the layout remained the way classroom was initially arranged. The lecturer stood at his desk and the students sat in rows facing the front of the class as seen in the following image.

Image 4.1

Orca's classroom layout during the attendance check in the pre-intervention session



Next, when the collaborative group work began, the students were asked to sit in small groups wherever they preferred—at their desks or on the floor, as shown in Image 4.2. During this activity, Orca walked amongst the groups and spent some time monitoring their collaborative work and answering their questions.

Image 4.2

Orca's classroom layout during the collaborative group work activity in the pre-intervention session



The classroom layout was changed again before the group presentations began. As can be seen in Image 4.3, the students sat in groups facing the front of the class where the presenters stood. Orca sat alone on the right side of the classroom.

Image 4.3

Orca's classroom layout during the group presentation activity in the pre-intervention session



4. Classroom Climate

A safe and secure classroom climate makes students feel welcome and can boost their confidence. It is important for students to feel comfortable in their learning space. In Orca's baseline session, the classroom climate was relaxed and extremely friendly. For instance, there was a moment where a student raised his voice excitedly when the topic of presentation was about to be announced. That student yelled out "Hope" (one of the three sea mammal case studies), loud enough to be heard by everyone. What followed was everyone, including the lecturer, looking at that student and giggling.

Throughout the baseline session, Orca was aware of his own talk, body language, and physical stance. He listened to students actively and rarely interrupted their talk. More importantly, there were many times when Orca took students' contributions and turned them into follow-up questions called "uptake," or "incorporation of a previous answer into a subsequent question" (Nystrand et al., 1997, p. 37) to expand and extend the class discussion. This clearly indicated that he was paying close attention to student talk and valued it. No student contributions were judged or labelled as wrong or unsound. He also carefully positioned himself in the classroom. For example, during the group presentation, he sat at a distance so that he could see everyone clearly and that helped him with talk and classroom management. He often used gestures and body language to help express his ideas.

Moreover, everyone was active in the class activities. It was evident that when a group presented, not only did the students listen to their classmates, they also raised relevant questions and built on each other's ideas quite extensively.

In conclusion, Orca's baseline session was safe, friendly, and welcoming, and the students participated actively.

5. Classroom Language

While standard Thai was used as the main language of instruction, English and southern Thai dialects were also evident in the baseline data as expected in professional settings including schools and universities. Orca also used English particularly to explain some key technical terms. What was unusual was that not only did Orca speak a southern Thai dialect himself, he also encouraged the students to do so whenever they felt more comfortable. For instance, when a female student made a minor mistake by mispronouncing some words, Orca replied in his southern dialect in a teasing manner. Apparently, the students took his playful response as a joke as they laughed, even the student who made the mistake. For some students, their home (or first) language was a southern Thai dialect, and they always used it to complete their everyday transactions while standard Thai was only used in formal settings including education. Therefore, some students found it challenging and may not have been as confident to communicate entirely in standard Thai.

In conclusion, by accepting their home language in the classroom, Orca eliminated the language barrier, allowing the students to fully express themselves and elaborate their ideas without worrying about language accuracy.

6. Instructions

Although dialogic pedagogy values are expressed through adequate lesson introductions, the baseline field note analysis found Orca's instructions to be brief and somewhat unclear. During the group presentation activity, Orca displayed a list of topics on the screen about which the students were to find the information and include in their group presentation. He verbally explained the task to the class and asked them to start preparing their presentation right away. One student raised a question regarding the expected presentation length. Following that question, other students asked for clarification regarding the task details.

7. Teacher Talk

Teacher talk is one of the most important tools for teaching and learning because it can facilitate learning and aid the student development if used carefully and strategically. Orca's talk was unique, encouraging, extremely friendly, and facilitative.

First, despite being academically formal and professional, Orca used an unconventional reference term when calling on students. From the first class, he called everyone *Pi* (pronounced as *pee*) followed by their nickname. *Pi* is directly translated as elder brother or sister such as *Pi Pentor* (or *elder brother Pentor*). In contrast, a common practice in Thai higher education is a teacher calling a student by their first name such as *Pakpoom* or *Mr. Pakpoom*. In fact, in Thai culture the term *Pi* followed by a person's first or nickname is commonly used regardless of their relation by blood. When used to address someone younger, it is a way to show the respect of the speaker to the addressee. At the time of data collection in 2019, the students were 20-year-old third-year undergraduate students, and Orca was in his late 30s. Therefore, it is likely that Orca strategically used *Pi* to show his respect to the students and he treated them as mature adults. Not only did this minimise the age gap, it created an intimate relationship like one between siblings or family members, and it also helped create a safe and friendly learning space.

Another of Orca's outstanding characteristics was his use of humour. Throughout the baseline session, he occasionally turned student talk into jokes, which helped him develop a close relationship with the students. For example, when a student talked to a classmate in their southern Thai dialect and the lecturer overheard the conversation, often he replied to them playfully in his own dialect, conveying the message that the southern dialects were acceptable, the lecturer and students spoke the same language, and promoted the sense of belonging among those who spoke similar local Thai varieties. Another example of Orca's humour occurred during a student group presentation. An outspoken female student stated, "*Payoon Mariam tai khuen*" (directly translated to "Dugong Mariam died") during her group presentation using the incorrect preposition *khuen* instead of *long*. Many students noticed the mistake but remained silent until Orca repeated her statement playfully. Then, several students including the presenter herself laughed, which suggests that the students may interpret his reaction as a joke rather than a mockery of her. Altogether, the lecturer's humour appeared to help ease the classroom climate, develop a positive lecturer-student relationship, and encourage student inclusivity.

Orca's students were given a rather short time to think before talking. When he asked question, he waited about five seconds or less for a response. When the class remained silent for longer, Orca repeated, reformulated, or changed the question so that the whole-class discussion activity continued.

Teacher positive feedback was given frequently in Orca's baseline session. For instance, when the first group presentation ended, another group nominated themselves as the next presenters, and Orca praised them explicitly saying, "*Excellent, excellent!*" This reflected that he valued their initiation and willingness to participate. He was also complimentary to all student group presentations at the end of the activity.

In summary, the analysis of baseline teacher talk reveals that Orca's talk before the dialogic teaching intervention was notably warm, casual, and supportive.

8. Student Talk

Student talk is a key component of classroom talk (e.g., Cazden, 1988; Lemke, 1979; Nystrand et al., 1997). Not only does it help teachers to identify the current knowledge and understanding students have, it also helps identify the gaps that need to be filled. From the baseline data collected in Orca's teaching session, student talk was apparent and progressively increased quantitatively.

Most students appeared comfortable and confident when talking in class. Although there were numerous student questions and self-nominations, most, if not all, of the student talk, followed teacher prompts rather than being initiated by the students themselves. For example, during the group presentation activity, Orca proposed a debate-like whole-class discussion activity in which the students asked questions or commented anytime; however, there was no evidence of students raising questions or making comments in that period until each presentation ended. Despite Orca's instructions, student questions and self-nominations were followed only by Orca's prompts or questions.

9. Student Self-nominations

Albeit not frequent, there was some times when students raised their hands before talking in the baseline data. However, it was more likely for them to start speaking when no one else was talking.

10. Teacher-student Relationship

The relationship between Orca and the students was friendly and respectful. Orca was open and treated his students with respect as they were adults. As mentioned, he addressed everyone as *Pi* followed by their nickname. For instance, during a group presentation preparation, Orca stated explicitly that having worked and researched on their case study, the students would be able to make informed, rational judgement on their own. They were encouraged to share their opinions related to the topics without fear of being judged by the lecturer. Altogether, this was how Orca deliberately showed his respect and that he valued the student contributions.

The following section will discuss the qualitative findings from the field notes focusing on changes in Orca's teaching strategies, talk practices, and classroom interactions following dialogic teaching.

Post-intervention

After the twelve-week intervention, Orca's class was observed, field notes were taken, and the data were analysed qualitatively and compared to the baseline data. The findings suggest several significant alterations in his pedagogical practice and dialogic teaching manifestation particularly in the classroom layout, language of instruction, teacher talk, student talk, and teacher-student relationship.

1. Physical Classroom Settings

The post-intervention class took place in a different room but with comparable, traditional conditions. There was a lecturer desk in the front and about 80 individual student desks arranged in rows. Similar educational technology devices including a screen projector and a desktop computer connected to the audio system and the Internet.

2. Class Time and Activities

Like the baseline session, the class met weekly on Friday afternoon. The post-intervention classroom data were collected in Week 12 of the same academic semester, which Orca had scheduled as the individual presentation activity, which was followed by whole-class question-and-answer discussion, and the entire session lasted two hours. To prepare, Orca had informed the students about the task, answered their questions in the previous sessions and gave them several weeks to prepare a presentation about a sea creature of their choice.

Their presentation consisted of two parts: the information about the sea animal and a conservation plan. The students were asked to create a handmade sea creature model like one illustrated in Image 4.4. The student presentation was evaluated against four criteria (10 points each): presentation, handmade sea creature model, conservation plan, and ability to answer questions.

Image 4.4

An example of a student's handmade model of a Humboldt squid



Nonetheless, at the beginning of the session, many students appeared not quite ready to present. They looked down at their own work while Orca introduced the activity and gave the instructions. Contingently, the lecturer decided to give the students some extra time to prepare and finalise their presentations. Thus, the first 19 minutes of the session was spent on three rounds of instructions and extra preparation time.

Each individual student presentation was comprised of two main elements: the student presentation and the whole-class question-and-answer discussion. The lecturer also informed the students that the discussion time was not restricted, meaning it could continue as long as there were questions for the presenters. There were five student presentations most of which were less than five minutes long, whereas the discussion ranged from 12 to 25 minutes. The session ended after the fifth student presentation, and it lasted about two hours total.

3. Classroom Layout

To facilitate the main student activity, the classroom was arranged in U-shape as illustrated in Images 4.5 and 4.6 before the session and remained unchanged for the entire session.

Image 4.5

Orca's classroom layout in the post-intervention session during the individual student presentation activity



Image 4.6

Orca's classroom layout in the post-intervention session taken from the front of the classroom



As seen in Images 4.5 and 4.6, the students sat on the sides while the lecturer located himself in the middle. This layout enabled everyone to be visible and audible from any part of the room. More importantly, this layout also allowed everyone to make eye contact with others, pay their full attention to the discussion, and know when and when not to talk or interrupt the presentation and the whole-class discussion.

4. Classroom Climate

Although the classroom climate in the post-intervention class was friendly, it was much more formal and professional than that in the baseline session. This could be due to the nature of the class discussion and presentation activity. Nevertheless, the classroom climate remained

very friendly and encouraging. For example, without any sole leader of the discussion, Orca and the students took turns raising questions and exchanging ideas and opinions and thus, the discussions were lengthened, and the topics were expanded greatly.

In addition, there was a marked difference between the pre- and post-intervention sessions in student self-nominations. Albeit not required, many students raised their hands to nominate themselves to speak as there were several students intending to speak simultaneously. Hand raising helped make their willingness to participate visible to others and thus increased their chance to be the next contributor.

In a nutshell, despite the difference in the level of familiarity, the class climate in the post-intervention session was comparable to that of the pre-intervention session. It was safe, welcoming, and more stimulating, which was a suitable ethos to foster dialogic teaching interactions.

5. Classroom Language

In the post-intervention session, the standard Thai language was the only language of instruction. However, southern Thai dialects were evident and used for different purposes such as jokes and small talk between presentations. In other words, two languages were used strategically to shift between formal and informal contexts. Therefore, it appears that following the dialogic teaching, two languages were used not only to communicate, but they also had social functions. Both Orca and the students seemed to be aware and were able to code-switch strategically.

6. Instructions

Orca's instructions were extended considerably compared to those in the pre-intervention session. First, he spent a significant amount of time on lesson introduction, that is, instructions and preparation for the main activity. In contrast to his pre-intervention teaching, the instructions to the activity were much longer and more repetitive. During the first 20 minutes of the session, the lecturer repeated the instructions three times. He explained the student roles as mentors or presenters, their expected behaviours, and the evaluative criteria to ensure that they were well understood. After the first round of activity setup, instead of rushing the students to start the presentations, he was observant and sensitive to the students' behaviours; most of them looked down at their desks working on their own presentation

preparation. He interpreted this as they were not yet ready and thus, he contingently decided to give them ten more minutes to work individually. In conclusion, Orca was more sensitive and flexible than he had been in the pre-intervention session, which prolonged the introduction.

7. Teacher Talk

Orca's talk during the post-intervention session was mindful, friendly, and professional. First, he was extremely careful and utilised his talk strategically. For instance, during the class discussion following the first student presentation, Orca invited the presenter, Belle, to a one-on-one lecturer-student interaction while everyone else observed quietly. In this three-minute exchange, Orca asked the presenter to talk about the work she carefully designed and created stating, "*Could you talk about your motivation and how did you create this piece?*" These questions invited the student to elaborate on the process from scratch to finish. Immediately after she finished her extended contribution, Orca gave her very detailed, personalised feedback saying, "*Did you mean that you paid attention to all the details including the teeth (of the fish)? It is exquisite!*" That was followed by several follow-up questions requiring Belle to elaborate more with questions like, "*How long did it take you to do it?*" and "*If you were to sell it, how much would you appraise this work?*" These questions seemed to highlight her effort and express Orca's appreciation of her work rather than more generic, stock feedback would have. All in all, Orca initiated this one-on-one interaction during the whole-class discussion activity to underscore his positive feedback on the student's work and presentation. This interaction reflects his appreciation of her work and sets an example for what questions should be asked and how feedback should be given.

Orca's language was formal, and his teacher talk was used as a tool to reflect the formality of the session. First, he called most of the students by their nickname without the title *Pi* as found in the baseline data. This change formalised the activity and the overall class atmosphere.

Additionally, Orca handled a problem occurring in class professionally. During the first student presentation, some students were not as participatory as they still worked on their own presentations. Having observed their behaviours for an extended period, he announced a non-judgmental observation stating, "*The class does not pay attention to the presenter,*" and it caught everyone's attention right away. Next, he asked the students sitting to his left to summarise the presentation and those to his right to ask questions to the presenter. Orca

remained calm and spoke softly but audibly to his students when reporting his observation and conveying the expected behaviours. The students' paid attention and changed their behaviours immediately. This could be due to the activity type and his decision to speak formally to set the professional tone of the presentation activity.

Orca remained friendly with his students. Unlike the baseline session, Orca's language was formal presumably due to a different activity type. That is, the students worked in groups on a collaborative project before presenting their work to the class in the pre-intervention session. In the post-intervention session, each student prepared their individual presentation, which would be a part of the course assessment. Orca mostly spoke standard Thai in this session; however, there were several times he switched to his southern Thai dialect to show his friendliness. For example, when one presentation and discussion ended, the lecturer played jokes in southern dialect while the following presenter was getting ready. This happened repeatedly during the entire post-intervention session.

In addition, his friendliness was well reflected in his word choice. The lecturer intentionally appointed the students as "mentors," which was a title borrowed from a popular Thai reality television show called *The Face Men Thailand*, during data collection in 2019. The students understood their new role immediately. Orca might have chosen this title purposefully to help them understand their role and expected behaviours using the term they were familiar with. This also showed that he spoke the same language and shared their subculture.

To conclude, Orca's talk during the post-intervention session altered relatively by being friendly, approachable, and yet professional. Following dialogic teaching, Orca appeared to be acutely aware of his teacher talk and used it strategically. The shift in the formality of Orca's teacher talk did not impede or hinder students' learning. On the contrary, the students were still encouraged to talk during the whole-class discussions.

8. Student Talk

In contrast to the baseline findings, student talk in the post-intervention class was greatly varied, unsolicited, and lengthened. First, the student contributions were more diverse. That is, the students asked questions, exchanged ideas, and co-constructed the knowledge with their classmates quite extensively. It was evident that the students raised a number of questions to their peer presenters during the whole-class Q&A discussions. For example, when a female student, Sam, presented the preservation plan for mud sea crabs, several

students asked some related questions regarding Thai people's high consumption of female mud crabs that could lead to its extinction. Together, the students explored different aspects of the problem in depth using their talk with occasional assistance from the lecturer. Five minutes later, they reached an agreed-upon solution based on their discussion and Orca's guidance.

Moreover, student talk in the post-intervention session was more voluntary. The students contributed and raised the questions without teacher prompt or elicitation, which was greatly different from the pre-intervention session. For instance, a male student, Nick, who was not eloquent in the first session, copied the lecturer's question to the first student presenter, "*Could you talk about your conservation plan again?*" and raised the same question as soon as the second and the fifth student presentations ended.

Finally, the student talk was lengthened. As their contributions were valued, accepted by Orca and their classmates, the students talked more extensively. When Sam, summarised the discussion following her presentation, her concluding remark was over two minutes long despite several pauses, self-repetition, and hesitation markers.

To conclude, the findings suggest that student talk in the post-intervention session became more varied, voluntary, and sustained than that of the pre-intervention session.

9. Student Self-nominations

Student self-nominations differed greatly between the pre- and post-intervention sessions. Hand raising was not common prior to the intervention, but it became distinctly more frequent even though it was neither required nor a ground rule. It was likely that whenever there was heavy traffic during the whole-class discussion, hand raising was a quick, useful tool to make a student's willingness to speak obvious to others and increased their opportunity to talk during whole-class discussions.

10. Teacher-student Relationship

The teacher-student relationship was similar to one between an expert and novice scientists. It was friendly, respectful, and professional. The power was shared by all rather than one person dominating the discussion. Interruptions and interventions during student talk in the whole-class discussion were less frequent when compared to the pre-intervention session.

The discussion resembled a business, a professional, or an academic conference. When one person presented, the rest participated actively, and when it was time for the discussion, it was done on a shared basis. The questions were equally initiated by both the lecturer and students. Nevertheless, the only time during the session that was led by the lecturer was the activity setup and instructions. As it was essential to make all the evaluative criteria and expected outcomes clear to everyone, Orca took the lead and explained them to the students.

Interim Summary

1. The field note analysis findings suggest a positive effect on Orca's pedagogical practice following dialogic teaching in instructional strategies, talk practices, teacher-student relationships, and student talk.
2. There were a few changes in classroom layout in the pre-intervention session to accommodate small group work. Following the intervention, the classroom was arranged in a U-shape for the student presentations and whole-class discussion activities. This change enabled everyone to be visible and audible from any part of the room so that everyone could pay full attention to the activities.
3. There were four classroom activities in two-hour baseline sessions: lecture, group work, student group presentation, and lecture, whereas the main activity in the post-intervention session was student individual presentations followed by whole-class question-and-answer discussion.
4. The class climate in the pre-intervention session was safe, friendly, and welcoming. The students actively participated in the class activities. The lecturer was aware of his own talk, body language, and physical stance. Following dialogic teaching, the classroom remained similar, although a bit more formal.
5. In the pre-intervention session, standard Thai was used as the main language of teaching, while English and southern Thai dialects were also evident. By accepting their home language in the classroom, Orca eliminated the language barrier, allowing the students to fully express themselves and elaborate on their ideas without worrying about language articulation.
6. In the post-intervention session, the standard Thai language was the only language of instruction while southern Thai dialects were spoken by Orca for social functions, particularly in short jokes and plays between two student presentations.

7. While the pre-intervention instructions were brief and somewhat unclear, Orca's post-intervention lesson introduction was prolonged with clear expected student outcomes conveyed.
8. Orca's pre-intervention teacher talk was unique, encouraging, extremely friendly, and facilitative. His post-intervention talk remained friendly but became more formal. He used the terms the students were familiar with to show that he and they shared the language and subculture.
9. Orca used an unconventional reference term, *Pi*, when addressing all students to show respect in the pre-intervention session. However, he called most students by their nicknames without the title *Pi* in the post-intervention session, which could be due to the formality of the activity.
10. Teacher positive feedback was given frequently before dialogic teaching. After the intervention, Orca's teacher feedback was much longer and more personalised.
11. From the pre- to post-intervention sessions, the student talk progressively increased in quantity. The student contributions also became more diverse, unsolicited, and lengthened in the post-intervention session.
12. Albeit not frequent, there was some evidence of students raising their hands before talking in the baseline data. This became distinctly more frequent in the post-intervention session as a quick, useful tool to express their willingness to speak, and it increased their opportunity to talk.
13. The relationship between Orca and the students was friendly and respectful before the intervention. Their teacher-student relationships were still friendly and respectful but more professional and more like expert-novice scientists in the post-intervention session.

2. Findings from Systematic Observation Schedule Analysis

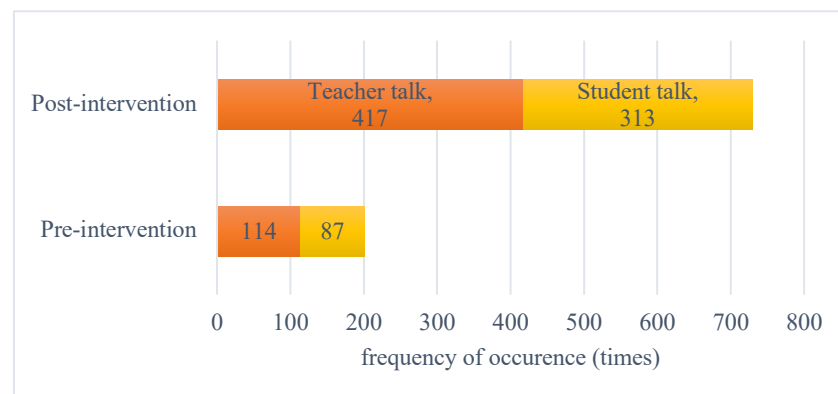
This section presents the findings of Orca’s systematic observation schedule data analysis. The purposes of the analysis were to compare the ratios of teacher talk to student talk, to explore teacher talk and student contributions before and after the intervention, and to indicate the extent to which the intervention affected the whole-class interactions. Overall, the quantitative analysis suggests a positive effect on Orca’s pedagogical practice in teacher talk to student talk ratios, teacher question and follow-up question techniques, and student talk following the intervention.

Teacher Talk to Student Talk Ratios

First, the ratios of teacher talk to student talk in Orca’s class remained relatively balanced, but both increased substantially after the intervention.

Figure 4.1

A comparison of teacher talk to student talk ratios in Orca’s pre- and post-intervention sessions



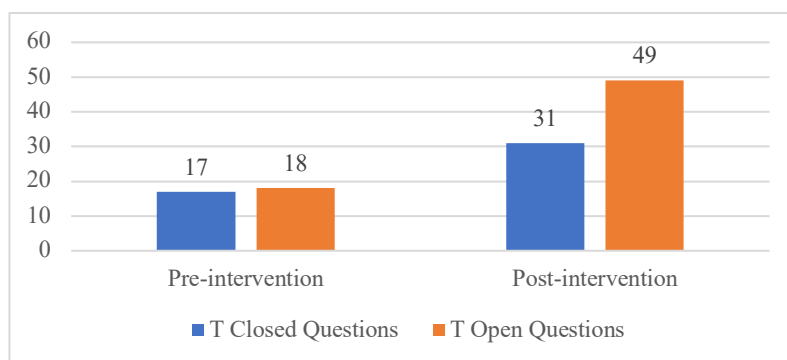
As seen in Figure 4.1, in both sessions, although the lecturer talked more in class, the ratios of teacher talk to student talk were four to three. The student contributions accounted for almost half of the classroom talk. Moreover, while 200 talk moves occurred during the pre-intervention class, that number tripled to more than 700 moves in the post-intervention session. Remarkably, both teacher and student talk increased over 250%. These significant surges in classroom interaction suggest an active and stimulating classroom environment.

Teacher Initiation Questions

The following analysis aimed at examining the teacher question types. Different teacher questions lead to various classroom interactions—brief or extended. An open or authentic question opens the classroom talk and encourages students to contribute and elaborate their views and opinions. On the other hand, when closed questions are deployed, student responses are likely to be limited to a handful of possible correct answers, and students are given less opportunities to think, reason, and explore a given topic extensively. The analysis revealed that while the numbers of open and closed questions were comparable before the dialogic teaching intervention, they differed later as shown in the following figure.

Figure 4.2

Change in the ratio of teacher closed and open questions in Orca's pre- and post-intervention sessions



As shown in Figure 4.2, the findings indicate that Orca initiated new topics with both closed- or open-ended question equally in the baseline session. Following the intervention, even though both the numbers of open and closed questions rose, open-ended questions were deployed more frequently. Following the intervention, open-ended questions were deployed more frequently; in fact, there were as many as two open questions in every three teacher questions. In summary, these findings suggest that Orca's questioning skills improved over the intervention session. His questions became more stimulating and thought-provoking rather than just a series of display questions followed by brief student answers.

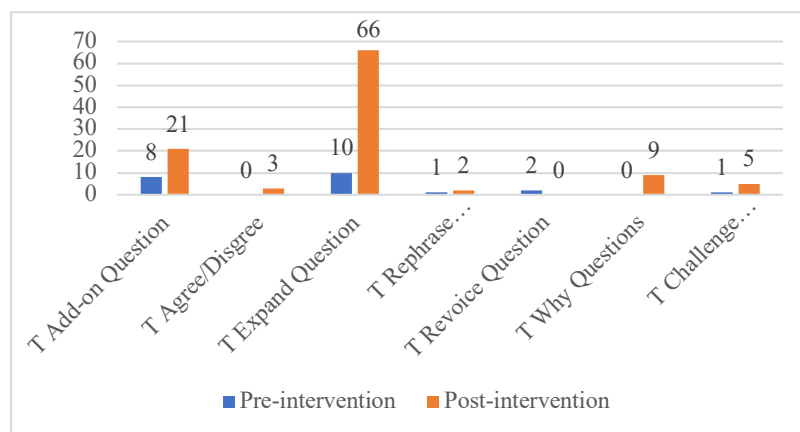
Teacher Follow-up Moves

The following findings aimed to determine the extent to which and ways in which Orca utilised follow-up questions to student responses and contributions. Through several

individual video-based reflective sessions, Orca was trained to employ a range of teacher follow-up moves to extend and expand classroom interaction and stimulate student thinking and articulating skills. The following graph summarises Orca's follow-up talk moves before and after the intervention.

Figure 4.3

Comparisons of Orca's follow-up talk moves during pre- and post-intervention sessions



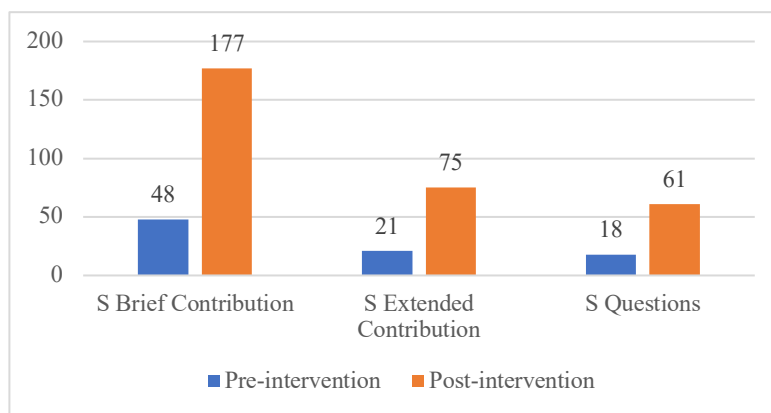
Changes in the frequency of the follow-up moves before and after the intervention were apparent. As seen in Figure 4.3, there were only 22 follow-up questions prior to the professional development program. However, that number rocketed by over 380% as Orca used follow-up questions over 100 times. Upon closer analysis, the three most frequently used question types were expand, add-on, and why questions, respectively. Particularly, the steep rise of teacher expand questions from 10 to 66 suggests that Orca was likely to extend the whole-class discussion by focusing on one student at a time rather than involving several students. He also opened the discussion to the entire class, asked the students to justify (why questions), and challenged them to consider alternative viewpoints (challenge questions) as well.

Student Talk Moves

Additionally, the systematic observation schedule data were analysed to determine the extent to which students expanded and extended their talk in response to teacher initiation and follow-up moves as seen in the chart below.

Figure 4.4

Comparisons of student talk moves in Orca's pre- and post-intervention sessions



As shown in Figure 4.4, the student contribution increased significantly in all three categories. The number of student talk moves was 87 times before the intervention and rose by 250% to 313 times after the intervention. Particularly, both student brief and extended contributions hiked by 260%. More importantly, even though Orca's students initially asked as many as 18 student questions in the baseline data, the number of student questions tripled after the intervention. These rises in all student talk types suggest greater and more intensive engagement and participation in whole-class discussion activities. These results profoundly correlated with the lecturer's use of open and follow-up questions.

Interim Summary

1. The ratios of teacher talk to student talk in Orca's class remained relatively balanced while both teacher and student talk increased substantially after the intervention.
2. While the numbers of open and closed questions were comparable before the intervention, they differed later. Orca initiated new topics with both closed- or open-ended questions equally in the pre-intervention session. Later, open-ended questions were deployed more frequently (as many as two open questions in every three teacher questions).
3. Teacher follow-up questions rocketed by over 380% from 22 to over 100 after the intervention. The three most frequently used question types were expanded, add-on, and why questions, respectively. The lecturer appeared to have extended the whole-class discussion by focusing on one student at a time rather than involving several students.

4. The student talk, brief and extended contributions, and questions, increased significantly after dialogic teaching. These rises suggest greater and more intensive engagement and participation in whole-class discussion activities. These results profoundly correlated with Orca's use of open and follow-up questions as reported above.
5. Following the intervention, the whole-class discussions became more extended, deeper, and sustained as the teacher talk to student talk proportions became more balanced, teacher talk more varied and stimulating, and student talk increased significantly.

3. Findings from Transcript Analysis

This section presents the findings of qualitative transcript analysis. The micro-level analysis of the transcripts aimed to investigate talk in whole-class discussions focusing on teacher talk and student talk in the pre- and post-intervention sessions. Four transcripts will be presented with the analyses to illustrate changes occurring in teacher talk, student talk, and turn management before and after the dialogic teaching intervention.

Teacher Talk, Student Talk, and Turn Management

Pre-intervention

The following transcript is taken from the baseline data for Orca (FS). In this class, the students were randomly divided into three groups and were assigned to prepare a group presentation on a topic. Immediately prior to the transcript, the first group of students has finished presenting their case study of Dugong Mariam, and the whole-class teacher-led discussion begins.

Transcript 4.1

A whole-class interaction in Orca's pre-intervention session: Does anyone have any questions?

Line	Name	
1	Orca	This is an interesting issue. (2.5) Do you have anything else to add? Does anyone have any questions (.) about the flipped chart that your friends just [presented?
2	Belle	[Any questions?
3	Orca	[Or is that everything? Is that everything? ((raises both hands))
4	Penny	That's everything.
5	Orca	Okay.
6	Penny	If you have any questions, please ask. ((smiles widely))
7	Orca	Right. ((playfully))
8		(3.0)
9	Orca	Does anyone have any questions? Right, raise your hand. Okay, one representative from each group, each group raises one question.
10	Some Ss	((laugh out loud))
11		(2.0)
12	Orca	Right, this group, Jamil group, ask a question. Since Jamil and Mariam were the same species, there might be similar issues or not different ones.
13	S1	((giggles))
14	Orca	£Pi Bob Pi Bob£
15		(4.0)

- 16 Orca Do you have any questions?
17 (7.0)
- 18 Orca Can can you all look at the flipped chart again. There is one topic that is very questionable. (1.0) uh the cause of death. Right, can you all read the cause of death once again and consider what happened.
- 19 Scott It caused by shock.
- 20 Penny It caused by shock and also there was some residue-
- 21 Orca - Right, let them, let them, let them read, let them read, let them read and question by themselves. I certainly have a question but I wanted you to come up with one by yourselves.
- 22 Many Ss ((read the poster and talk to the classmates next to them))
(14.0)
- 23 Arthur [Uh
- 24 Orca [Any questions?
There is one now.
- 25 Pete The dugong went into shock, what caused the shock?
- 26 Orca Ah, what caused the shock?
27 (2.0)
- 28 Orca Well, having read this though, there were several causes
- 29 Arthur - Right
- 30 Orca All of the sudden, the dugong went into shock, what caused the shock?
31 (3.0)
- 32 Penny In fact, when they first found her, because in her muscle there were ((looks closely at the poster)) there were some bruises in the muscle. When I first read the news, it was reported that it may be caused by another bigger dugong dashing against her and that caused the blood to clot underneath.

Orca controls the whole-class discussion activity. He decides when students can talk, and silence is not desirable. After the first group presentation ended, Orca initiates a discussion with two questions—one focusing on the presentation and another focusing on the flipped chart presented. His first attempt to get the students to talk in line 1 fails, and it is followed by four attempts in lines 9, 12, 14, and 16, respectively. Interestingly, after the first attempt, Orca initiates a brief interaction with the student presenters and resumes the whole-class discussion. This may be done purposefully to give the student audience some time to think. However, no one asks any questions and that leads to Orca asking for one representative from each group to raise a question (line 9) to which no one responds. With only two seconds of thinking time, Orca continues to urge the class to respond to his initiation. He specifically asks one group of students whose presentation topic is closely related to Dugong Mariam (line 12) and specifically nominates a student, Bob (line 14), who belongs to that group to raise a question. Yet no one asks or makes any further contributions. The fifth attempt is when the lecturer steps back to ask the entire class, “*Do you have any questions?*” (line 16)

and leaves a seven-second thinking time. After five attempts using different teacher-initiation strategies, no one initiates any student question in response to the lecturer initiations. Orca finally probes using a more directional question to the class, “*There is one topic that is very questionable. uh the cause of death.*” This question successfully elicits two student responses in lines 19 and 20. Altogether, it seems that Orca tries to control the discussion by filling up the silence with either student talk or his own teacher talk. Thus, he employs different initiation strategies from asking the entire class, asking the specific group of students, and addressing a question to a particular student.

Moreover, all student talk turns in this excerpt are preceded by teacher talk. Following Orca’s probing question in line 18, the student presenters Scott and Penny answer the question in lines 19 and 20, respectively. Similarly, all student talk by Pete, Arthur, and Penny (lines 25, 29, and 32) are preceded by teacher talk. Orca’s question in line 26, “*The dugong went into shock; what caused the shock?*” is almost identical to Pete’s student initiation in the immediately preceding turn. The same question is repeated in line 30 by Orca. This appears as if the question ownership is transferred from Pete to Orca after his second repeat.

In conclusion, the findings of this transcript suggest that silence is not desirable and is often filled with Orca’s teacher talk. Also, although the students were actively engaged in the activity, their participation was highly controlled by the lecturer in the pre-intervention session.

Post-intervention

The whole-class discussion after the intervention changed significantly as seen in the following excerpt. Prior to the excerpt, a female student, Sam, has just finished her individual presentation, and it is whole-class Q&A discussion time. Immediately before the excerpt, two students raised questions regarding mud crab reproduction to Sam.

Transcript 4.2

A whole-class interaction in Orca’s post-intervention session: Take it easy

Line	Name	
21	Orca	Alright, Pi Nick, Pi Nick, Pi Nick, here comes Pi Nick. Go ahead.
22	Sam	((laughs nervously and covers her face with her right hand))
23		(1.0)
24	Nick	Could you repeat the conservation plan again?
25	Sam	It’s- my conservation plan is ((opens her notes she is holding))

- 26 Orca Before, before moving on to Pi Nick's question (.) could you elaborate more on laying eggs?
- 27 Sam and some Ss ((giggle))
- 28 Sam Right, well, like
- 29 Some Ss (unintelligible)
- 30 Sam ((speaks in southern Thai dialect)) Oh, please don't rebuke me.
- 31 Orca Sh... Sam, repeat that again.
- 32 (1.5)
- 33 Orca Take it easy. Take it easy. No need to rush.
- 34 Sam Right. (2.5) Right. I think (2.0) crabs (1.5) crabs, crabs, crabs keep their eggs in their shell.
- 35 M student What's it called?
- 36 Sam Then when they-
- 37 F student -What's it called?
- 38 Arthur Shell.
- 39 Sam Abdomen.
- 40 Orca Alright, that's right. Then what's next?
- 41 Sam It's like a female crab keeps her larvae in her abdomen. When it's time, she will, she will k- r- release her larvae from it.
- 42 Orca Ah.. she removes the larvae.
- 43 Sam Right.
- 44 Orca She releases the larvae from her abdomen, the mature ones.
- 45 Sam Right. (3.0) Right. And like Nick said, uh, the conservation plan is like campaigning for fishermen not, not to catch them between August and December because it's their high recruitment time. Doing so will increase the ch- cha- chance of their reproduction. And uh (.) in addition, the government led by the Department of Fisheries uh (.) uh breeds mud crabs as another way to aid its reproduction.
- 46 (2.0)
- 47 Tess ((raises her right hand)) How many crablets are there in one batch of breeding?
- 48 (2.0)
- 49 Sam Well, about this, I don't know.
[I searched
- 50 Tess [Because
As far as I know, it's just (.) one per cent survival rate for breeding female mud crabs.
- 51 Arthur ((raises his right hand and looks at Sam))
Because according to what I have read, it says that if, if recruitment is done naturally, it would be better than breeding.
- 52 Faye (unintelligible)
- 53 Orca Take it easy. Take it easy. From Tess, from Arthur to Faye, ((opens his right palm towards Sam)) Sam, please address all questions one by one.
- 54 Sam Uh.. okay. ((smiles nervously and covers her face with her right hand))
- 55 (2.0)
- 56 Orca Take it easy. Take it easy. No one kills you.

- 57 Arthur She's about to cry.
- 58 Sam Right. ((laughs nervously)) (2.0) wait, wait.
- 59 Class (9.0) ((talk to their classmates))
- 60 Sam But, according to what I've researched, it talks about mud crab breeding for reproduction but doesn't state the exact survival rate. It only states that this can be done. (1.0) Uh.. well, ((looks at Arthur)) What's your question again?
(2.0)
- 61 Arthur Right, it's, it's then I wanted to support Pi Tess's question. In that case, we (.) in that case, we shouldn't, shouldn't like, shouldn't do it because it'll take a lot of budget, right?
- 63 Sam Yes.
- 64 Arthur - If so, should we let them be. If um, suppose that, suppose that a female crab carries an egg mass, we should take it to the crab bank and let her release her larvae and then we can take them to-
- 65 Sam -to release back to the sea, right? uh-
- 66 Arthur -Is it better than breeding and keeping them in the nursery?
(1.5)
- 67 Sam Uh, that's right. That's a better way just like Tess said that um uh breeding yields very low survival rate and sometimes letting them recruit naturally is probably a better solution. (1.0) Right.

The roles of both the lecturer and students were different in the post-intervention session. First, compared to Transcript 1 above, 14 of 32 lines belong to Orca while only 9 of 48 lines are teacher talk in Transcript 4.2. A decline in teacher talk suggests that Orca no longer dominated the discussion allowing the students to take the lead in their own learning.

Likewise, the student role in the post-intervention session changed considerably to a leading role in the whole-class discussion. Take Tess and Arthur as examples. In Transcript 4.2, these students take an initiative role by asking questions to the student presenter without any prompts or invitations from Orca. Unlike the pre-intervention student talk, Tess and Arthur's talk in lines 47, 51, 62, 64 and 66 are unsolicited. As soon as Sam finishes talking about her conservation plan, Tess raises a related question seemingly to challenge Sam's talk in line 45. During this part of the discussion, Tess and Arthur share what they know about mud crab breeding and propose new alternatives to the discussion. Even though teacher talk is evident in lines 53 and 56, it does not interfere with the ongoing discussion; rather, it helps to organise and lengthen it. Three active interactants, Sam, Tess, and Arthur take turns to further explore and consider newly proposed alternatives with justifications and without teacher intervention in lines 62 and 64. Towards the end, Sam is convinced and changes her mind to agree with Tess and Arthur based on their evidence and arguments. She states, "*Sometimes*

letting them recruit naturally is probably a better solution.” Evidently, the students reach an agreed-upon decision by themselves with minimal help and support from Orca. In other words, when the students are given a safe space to share their opinions and knowledge among themselves, they can take a leading role in their learning to successfully co-construct knowledge.

Also, Orca’s teacher talk functions changed considerably. Unlike the pre-intervention session, teacher talk, which was primarily used to control the discussion, Orca’s role in the post-intervention session was to help the discussion to sustain and extend smoothly and purposefully. For instance, Orca’s first two turns in Transcript 4.2 (lines 21 and 26) help the ongoing interaction to stay on track. While his first teacher initiation, *“Alright, Pi Nick, Pi Nick, Pi Nick, here comes Pi Nick. Go ahead.”* enables Nick to contribute to the discussion of how mud crabs lay eggs during the recruitment time, Nick takes the opportunity to initiate a new irrelevant topic that Sam addresses right away in line 25. Observing the discussion moving to a different topic before its completion, Orca decides to intervene abruptly during Sam’s talk and instruct her to elaborate more on the current topic rather than addressing Nick’s question right away. In the same vein, Orca’s talk in lines 53 and 56 does not control Sam or other students. He only intervenes to help the discussion flow and sustain the topic. Particularly, Orca’s talk, *“From Tess, from Arthur to Faye, Sam, please address all questions one by one”* (line 53), puts a pause on a heated discussion when three students direct questions to Sam. In addition to that, *“Take it easy. Take it easy. No one kills you,”* is a humorous turn to calm Sam down and help her feel less nervous and overwhelmed.

Furthermore, Orca’s teacher talk helps create a safe and secure environment for Sam. There are several signs suggesting that Sam is nervous during the whole-class question-and-answer discussion. It includes Sam switching from standard Thai to her mother tongue (a southern Thai dialect) in line 30 while elaborating on the mud crabs egg laying. To help Sam, Orca asks everyone to be quiet and listen to her. He also tries to calm her down by saying, *“Take it easy. Take it easy. No need to rush.”* Not only does this give Sam time to think, it also gives her a sense of safety and support. To further support and comfort Sam during her talk, Orca acknowledges her contribution, *“Alright, that’s right”* (line 40) and provides supplementary information without overshadowing her in lines 42 and 44. In fact, these talk moves validate Sam’s contributions and boost her confidence. As a result, Sam can complete her talk successfully and move on to elaborating on her conservation plan extensively in line 45.

Becoming More Dialogic

Pre-intervention

The following transcript is taken from the baseline data of Orca's class during a whole-class discussion after the first group presentation ended. Following Transcript 1 above, Transcript 4.3 is when the first group of students has finished presenting their case study of Dugong Mariam, and the class has been discussing the cause of her death. The following transcripts demonstrate how pre- and post-intervention interactions during the whole-class discussion differ in terms of teacher and student talk length and interactional pattern.

Transcript 4.3

A whole-class interaction in Orca's pre-intervention session: Plastic

Line	Name	
71	Orca	Oh, that's excellent. Wonderful. Anything else?
72	Arthur	Then, then what caused the pus in the lungs?
73	Penny	The pus in the lungs could be caused by shock? I'm not sure.
74	All	((laugh loudly))
75	Orca	£Since there was pus in her lungs, she went into shock. £ ((talks playfully))
76	Belle	We didn't really go that deep <u>but we-</u>
77	Penny	-Right
78	S6	[But we looked for its cause
79	Belle	[But we, we thought it was because her muscle-
80	S6	-was infected.
81	Belle	was infected.
82	Penny	Then came other conditions-
83	Pete	-Then the lungs were infected.
84	Belle	Right, they were infected.
85	Orca	You see? ((raises his right hand)) Let me conclude this topic first. Regarding possible causes of death, there were so many possibilities. But everyone started to question what really caused the death.
86	Pete	(unintelligible)
87	Orca	According to social media, Mariam's death was due to
88	Many Ss	[rubbish
89	Many Ss	[plastic
90	Orca	[rubbish, plastic. Well (1.0) the analysis of my close friend who is a veterinarian- I had a private discussion with him regarding why the plastic pieces stuck in Mariam's colon even though, based on what I see photographed, they were so tiny. The vet said that the plastic pieces were in fact covered by stools. They could have been defecated normally.
91	Some Ss	((talk to their classmates close to them))

- 92 Orca Therefore, is it true that Mariam died because of plastic?
- 93 Penny No, it's not.
- 94 Some Ss ((talk to their classmates close to them))
- 95 Orca If the plastic blocked up, it would have blocked up the entire colon causing constipation, gas and others. However, ((points at the poster)) as your classmates discussed, gas- okay, fine. But but it would have blocked up the colon causing constipation. But this vet stated that the stools covered all plastic pieces completely and they were found after a wash. In fact, Mariam could have defecated them normally. (1.5) Were the media trustworthy? (3.0)
- 96 Male Student Stir up some drama.
- 97 Orca Ah, someone said about stirring up some drama ((points to the student at the back)). Right.
- 98 S11 They wanted to make people aware of plastic use. ((speaks very softly))
- 100 Orca What was that? ((puts his left hand behind his left ear))
- 101 S11 They wanted to make people aware of the use of [plastic.
- 102 Orca [plastic right? ((nods twice)) Um.
- 103 Arthur It's like spreading the news.
- 104 Many Ss (unintelligible)
- 105 Orca Spreading the news.
- 106 Many Ss (unintelligible)
- 107 Pete Media ethics.
- 108 Orca Right, media ethics. (2.5) But, but do they still exist these days-
- 109 Pete -No.
- 110 All ((laugh out loudly))
- 111 Orca I don't know. Well, whatever could become drama, they just stirred up. When there were some plastic pieces, they just stirred up some drama about it, right?
- 112 Male S Right.
- 113 Orca Okay, are there any questions about other points?

Orca dominates the whole-class discussion with his lengthy teacher talk. Although the total student talk turns outnumber Orca's, the student talk is much shorter. For example, when Arthur raises a question regarding the case of the pus in Mariam's lungs, Penny, Belle, Pete, and Scot's exchange from lines 73-84 are only a few words or short sentences. More importantly, many of these student turns are incomplete or cut off prematurely by their classmates. Although this suggests that the students are actively engaged in the whole-class discussion activity, they do not listen actively and wait for others to finish talking.

Furthermore, Orca's talk in line 85 summarising the student interaction highlights his role as the sole discussion leader. He explicitly states, "*Let me conclude this topic first.*" This implies

that the exchange among the students contributes to their understanding of the course content, but it is important for him to conclude it again.

Moreover, teacher talk is mainly closed questions or merely repeats the brief student contributions, which does not provoke in-depth discussion or a higher level of student engagement. From lines 95–109, the interaction very much resembles an IRF sequence starting with a closed-ended question followed by several brief student contributions and teacher comment, feedback, or evaluation at the end. This reflects Orca's preference of having several students participating in the discussion and jumping quickly from one topic to another over a more sustained and deeper discussion on a given topic that encourages the students to articulate their ideas using teacher follow-up moves.

Post-intervention

On the contrary, the whole-class discussion in the post-intervention session manifested well the dialogic teaching principles. That is, the lecturer and students addressed the learning task together (collective), shared and listened to ideas (reciprocal), supported and helped each other to reach an agreement or shared understanding (supportive), and built on each other's and their own ideas (cumulative) using talk as the main tool to reach the specific instructional goal (purposeful) (Alexander, 2008, 2014, 2017, 2020). To illustrate, the following transcript is taken from the post-intervention whole-class discussion activity following Sam's individual presentation. In this excerpt, the class has been discussing the low survival rate of mud crab breeding and its cost-effectiveness.

Transcript 4.4

A whole-class interaction in Orca's post-intervention session: To this, what is the solution?

Line	Name	
102	Orca	Like many other species that spawn millions of offspring such as shrimp, (1.5) their particles when released from the egg mass (1.5) are considered as animal planktons (1.0) so many species have very low survival rate. Are there any other concerns, Pi Sam?
103		(6.0)
104	Sam	F-fishermen catch them, catch them a lot because, like previously mentioned, they are important for the economy and are imported. The rate, the survival rate is low. So (.) they are at risk.
105	Penny	Isn't it because they tend to catch female mud crabs?
106	Orca	What did you say, Pi Penny?

- 107 Penny Isn't it because they tend to catch female crabs with roes because people like to eat pickled crab roes?
- 108 (2.0)
- 109 Sam Yes?
- 110 Orca Pi Penny, could you explain loudly oh ask questions loudly?
- 111 Penny Like isn't it because people like to eat crab roes (.) pickled crab roes?
- 112 Sam Yes. That's the consumer preference. But if uh if we want to conserve them, we shouldn't, shouldn't eat those female crabs with roes.
- 113 Tess [No, it's ((raises her right hand))
- 114 Arthur [May I help Pi Sam?
- 115 Orca Uhhm-
- 116 Arthur - The roes, the pickled roes that Pi Penny was talking about is the internal roes not the external egg mass. Female mud crabs carry both internal roes and external egg mass, Pi Penny. That is, the external egg mass is located at the abdomen while the internal roes are inside the shell. That's the ones that people like, people favour. The external eggs aren't that popular because people think they're dirty because they're
[outside the shell.
- 117 Orca [exposed to mud and others-
- 118 Arthur Yes.
- 119 Penny No, if like, if people eat the internal roes and it's not- if they prefer eating female crabs with roes, they cannot spawn
[their offspring
- 120 Nick [They only eat female crabs?
- 121 Orca Right? Pi Nick said that people only eat female crabs.
- 122 (2.0)
- 123 Nick Imitated crab roes?
- 124 Some Ss ((laugh))
- 125 Orca Pi Nick. ((giggles))
- 126 Belle Ah, some make pickled eggs with chicken eggs and (unintelligible)
- 127 Arthur Ah yes.
- 128 Belle (unintelligible)
- 129 Orca This is very interesting. This issue is (1.5) when farmers breed and they're difficult to survive, and people like female mud crabs and eat only their roes and their survival rate is low. What can we do to cope with this problem? Like Arthur mentioned that people don't eat external eggs but how about their gender issue? If people eat female crabs
- 130 Arthur only female crabs (4.0) Uh Pi Nick, what do you think? ((points towards Nick))
- 131 Orca (3.0)
- 132 (3.0)
- 133 Orca To this, what is the solution?

- 134- (97 lines omitted)
230
- 231 Orca How can we solve this problem, Sam? Sam, could you synthesise, summarise what we have discussed and recap them for us all, please?
- 232 (4.0)
- 233 Orca You followed, followed the discussion, and thought along, didn't you?
- 234 Sam I did.
- 235 Orca Right.
- 236 Sam Like previously discussed by my classmates, consumers prefer crab roes, right sir? The way you suggested is that farmers only sell male crabs and save the females for reproduction. But uh but now it's, it's, it's, it's, it's female crabs with roes that consumers like. I think it's, it's, it's like, it's about, about individual people. It's about publicise- publicising, too. Like uh like my friend mentioned that celebrities post on their Facebook that they have crab roes or something like that. Suppose that they post something like, "Let's uh have, have, have male crabs more than female crabs so that we will have crab roes to eat all year round." And another way, like I said, like mud crabs spawn most frequently from August to December, right? But they can uh spawn all year round. I think we should refrain from catching fish, catching, catching crabs during that period because it's almost breeding season. Uh if we still want to catch them, we should do so at the beginning of the year.
- 237 (2.0)
- 238 Orca That's complete, isn't it?
- 239 Many Ss ((nod))

Following the collective and reciprocal principles, the students share and listen to each other, take the lead and address the learning task together in the post-intervention discussion. This transcript begins with an extended teacher talk in line 102; however, Orca's question "*Are there any other concerns, Sam?*" is directed to the current presenter, Sam, and puts her in the position of the expert as opposed to himself. What happens next is even more interesting. A student sitting close to Orca, Penny, self-initiates a question relevant to the current topic. In contrast to repeating the question by himself as evident in the baseline data in Transcripts 4.1 and 4.3, Orca asks Penny to repeat the question loudly twice (lines 106 and 111) so that everyone can hear it. Doing so is significant as, first, it indicates that the question still belongs to Penny and the discussion is not led by Orca. If the question was repeated by Orca, it would be deemed as teacher initiation and would consequently change the dynamic of this part of the whole-class discussion. Penny's question successfully invites other students to share, including Tess, Arthur, Nick, and Belle. The discussion is expansively explored,

deepened, sustained, and led by the students themselves with several student initiations (lines 119 and 123), and unsolicited student contributions (lines 114 and 126).

The cumulative principle is evident in the post-intervention whole-class discussion. Using talk as the main tool to navigate and explore the topic, the students exchange their ideas regarding mud crab roes, the difference between internal and external crab roes, consumers' preferences, dangers to mud crab reproduction, and imitation crab roes. These topics are all related to the preservation plan proposed by Sam and address Penny's question. As the discussion continues, more ideas cumulate gradually. The students build on each other and their own ideas and possible causes and solutions to the problem are explored. Each student contribution functions as a scaffold or a building block for the consequential student contribution. Therefore, the topic is sustained and extended by student talk.

To help the class focus and reach the instructional goal (purposeful principle), Orca incorporates accumulated ideas and morphs them into a provoking question, "*What can we do to cope with this problem?*" (line 129) and "*To this, what is the solution?*" (line 133). Unlike the previous question directed to Sam, this teacher question invites the entire class to share their ideas. That results in an extended discussion from several classmates, which Sam observes rather quietly.

Strikingly, Transcript 4.4 shows that in the post-intervention session, the power is transferred to the students, and knowledge is not transmitted but co-constructed by the students themselves. That is, while Orca tended to summarise and conclude all topic discussions by himself in the baseline data as discussed in Transcripts 4.1 and 4.3, he gives Sam an opportunity to summarise and synthesise the topic after having shared and observed the discussion. "*How can we solve this problem, Sam? Sam, could you synthesis, summarise what we have discussed and recap them for us all, please?*" (line 231) is a challenging, thought-provoking teacher question given an extended discussion regarding the mud sea crabs conservation plan after her presentation. Despite some repetitions, Sam's extended talk well captures all student contributions and successfully incorporates her opinions. This elaborate extended student talk reflects Sam's understanding of the knowledge co-constructed by the students and her confidence in her own talk.

In summary, Transcript 4.4 illustrates a whole-class discussion consisting of exchanges that are chained into a coherent line of thinking, student agency, that is, taking initiation, asking questions, and sharing ideas without fear or making mistakes and participate actively.

Interim Summary

1. The analysis revealed changes in teacher talk, student talk, and turn management before and after the dialogic teaching intervention.
2. Although the students were actively engaged in the pre-intervention whole-class discussions, their participation was highly controlled by the lecturer. All student talk was preceded by teacher talk and silence was not desirable. On the other hand, Orca's teacher talk functions changed considerably as his role became helping the discussion, sustaining and extending it smoothly and purposefully.
3. Before the intervention, Orca dominated the discussion with his lengthy teacher talk. His talk was much lengthier than that of the students and composed of closed questions or repeating the brief student contributions. Following the intervention, the students' role changed considerably to a leading role. The power was transferred to the students, and knowledge was not transmitted but was co-constructed by the students themselves.
4. After the dialogic teaching intervention, all five key dialogic principles were evident in whole-class discussion interaction. Orca and the FS students addressed the learning task together (collective), shared and listened to ideas (reciprocal), supported and helped each other to reach an agreement or shared understanding (supportive), and built on each other's and their own ideas (cumulative) using talk as the main tool to reach the specific instructional goal (purposeful).

4. Findings from Student Questionnaire Analysis

This section presents the results of the quantitative analysis of Orca's students' pre- and post-intervention questionnaires. There were 18 and 17 students enrolled in Orca's course responding to the pre- and post-intervention questionnaires, respectively. Overall, the quantitative findings suggest that the students believe there were improvements in classroom climate and communication skills while their understanding of the course content improved only marginally. Furthermore, the key challenges the students anticipated and encountered during the dialogic teaching implementation are also reported.

Overall

The Fishery Science students' overall perceptions of dialogic teaching are presented in the following table.

Table 4.1

Results of Orca's pre- and post-intervention student questionnaires: Overall

Categories and Sub-categories	Pre-intervention		Post-intervention	
	Mean	Level of Agreement	Mean	Level of Agreement
A. Understanding of the course content	4.53	Strongly Agree	4.61	Strongly Agree
SD	0.69		0.50	
1. Benefits of talk on students' understanding of the course content	4.85	Strongly Agree	4.67	Strongly Agree
2. Benefits of listening to peers on their understanding of the course content	4.53	Strongly Agree	4.57	Strongly Agree
B. Classroom Climate	4.09	Agree	4.58	Strongly Agree
SD	0.64		0.54	
1. Overall	4.35	Agree	4.49	Agree
2. Lecturer	4.47	Agree	4.77	Strongly Agree
3. Peers	4.09	Agree	4.47	Agree
C. Communication Skills	4.13	Agree	4.52	Strongly Agree
SD	0.85		0.66	

As shown in Table 4.1, the students strongly believed that Orca's pedagogical practice played an important role in their understanding of the course content (4.53 pre-intervention, and 4.61

post-intervention). It is worth noting that the students had positive view towards talk, their lecturer and classmates, and language articulacy even before the intervention took place. The average of classroom climate increased significantly from 4.09 to 4.58, which suggests that there might have been some adjustments in Orca's teaching context and conditions during the intervention. A close consideration reveals that while overall average of classroom climate remained rather constant, those of the lecturer and classmates rose sharply. Altogether, the findings suggest that while the students had relatively positive views towards their language articulacy before the intervention, that improved afterwards.

Understanding of the Course Content

Next, even though the students strongly believed that talk and listening played an important role in their learning, their views on their understanding of the course content only changed slightly following the intervention as reported in Table 4.2.

Table 4.2

Results of Orca's pre- and post-intervention student questionnaires: Understanding of the course content

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Benefits of talk on students' understanding of the course content		4.85	4.67
1.	Talking with my peers and lecturer during discussions improves my understanding.	4.85	4.59
2.	My ideas become clearer when I have opportunities to talk about them with peers and lecturer than when I only think by myself.	4.85	4.68
3.	I am more confident about my understanding after talking with peers and lecturer during the discussion than when I only think by myself.	4.85	4.73

There is a slight drop in students' overall perception of their understanding of the course content. Similarly, all averages in this category decreased marginally from the pre- to post-intervention. The findings suggest that the students benefited from talking with their lecturer and classmates as it improved their understanding of the course content and confidence in their understanding than when thinking by themselves.

Benefits of Listening to Peers

Similarly, the students believed that listening in class helped them grasp the course content better as described in Table 4.3.

Table 4.3

Results of Orca's pre- and post-intervention student questionnaires: Benefits of listening to peers

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
5.	I find listening to my peers helpful to my understanding.	4.48	4.64
7.	I understand the topic better even when I observe the class discussion without participating through talk.	3.75	4.5

The students felt that their understanding of the course content improved as a result of listening to their classmates during class discussion. More importantly, it was found that after the dialogic teaching adoption, there was a significant rise in students' belief that the students understand the topic better even when they simply observed class discussion activities silently. The average rose sharply from 3.75 (agree) to 4.5 (strongly agree) in the post-intervention session. To conclude, the students valued listening to their peers during whole-class discussion and viewed it as a useful approach to understanding the course content even before the intervention. However, their view towards observing class discussion and their understanding of course content improved markedly from the pre- to post-intervention sessions.

Classroom Climate

Next, the questionnaire findings regarding classroom climate in Orca's course indicated that generally the classroom environment was initially positive and then improved slightly following the dialogic teaching adoption as shown in Table 4.4.

Table 4.4

Results of Orca's pre- and post-intervention student questionnaires: Classroom climate

Items, Categories, and Sub-categories		Pre-intervention	Post-intervention
Overall		4.35	4.49
10.	I feel comfortable speaking in class.	4.4	4.45

11.	I am motivated to come to class.	4.55	4.55
12.	I feel comfortable to share my ideas in class.	4.35	4.57
13.	I have opportunities to share my ideas in class.	4.15	4.57
14.	I have enough time to think and prepare my answer before sharing it in class.	3.85	4.23
15.	I like when the class discusses a topic in depth.	4.53	4.68

As can be seen in Table 4.4, the students felt comfortable talking and sharing their ideas in class. They were also motivated to come to class. The students believed that they had more opportunities to participate in class as the means made a notable shift from 4.15 to 4.57 after the intervention. The students felt strongly that they had much more time to prepare their contribution as indicated in the post-intervention average of 4.23, an increase from 3.85. In brief, the students' perceptions of classroom climate improved as a result of the dialogic approach.

A safe and secure classroom climate nurtures talk and learning to thrive in dialogic teaching. The safer students feel, the better chance dialogic teaching will take place. In Orca's class, the students felt highly positive towards the classroom environment, specifically towards their lecturer even before the intervention at an average of 4.49. That number however rose sharply to 4.77 at the end of the data collection period as shown in the following table.

Classroom Climate – Lecturer

A closer consideration with a particular focus on Lecturer Orca is presented in the following table.

Table 4.5

Results of Orca's pre- and post-intervention student questionnaires: Classroom climate – Lecturer

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Lecturer		4.49	4.77
16.	The lecturer values my opinions.	4.65	4.77
17.	I like the lecturer's teaching style.	4.9	4.82
19.	The lecturer asks questions to help me think and elaborate my answers.	4.5	4.77
20.	The lecturer encourages my peers and me to talk more.	4.55	4.86
21.	The lecturer makes me feel safe and welcome to share my ideas.	4.55	4.82

According to Table 4.5, the students were highly positive about Orca and his teaching style. First, the students felt that their contributions were valued and that Orca made them feel safe and welcome to talk in class. In addition, Orca asked questions to help the students elaborate more and he encouraged them students to talk more in class. Interestingly, how the students liked the lecturer's teaching style declined slightly from 4.9 to 4.82 but remained very high. It can be concluded that the students felt safe and welcome to talk in class, they viewed Orca and his teaching style effective, and his questions were useful for their thinking and elaboration during whole-class discussion.

Classroom Climate – Peers

The relationship among students plays an essential role in dialogic teaching as it helps create a nurturing ethos for talk and discussion. In Orca's course, it was found that the relationship among the students was a strong foundation for their learning and knowledge co-construction through collective whole-class discussion as seen in the following table.

Table 4.6

Results of Orca's pre- and post-intervention student questionnaires: Classroom climate – Peers

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Peers		4.09	4.47
24.	I feel comfortable to share my ideas with peers in class.	4.3	4.5
25.	My peers ask questions to help me think and elaborate more.	3.95	4.5
26.	My peers make me feel comfortable to share my ideas in class.	4.1	4.55

Overall, the peer-to-peer relationship of the students was positive. The students were comfortable expressing their ideas and opinions in class. This could be due to a three-year relationship among them that contributed to them feeling safe and comfortable verbalising their thoughts publicly. The most significant improvement was attitudes toward their peers' questions. The students strongly believed that their classmates asked questions to help them think and contribute more. This average climbed sharply from 3.95 to 4.5 over the course of the intervention. This suggests that the students valued their peers' questions not only as an opportunity to talk more but also to engage in thinking and expressing their ideas. In conclusion, a close, healthy relationship among peers in Orca's class eased the classroom

environment making the students comfortable. The student questions effectively helped them to engage deeper and elaborate more in whole-class discussion.

Students' Communication Skills

Furthermore, as talk is an essential learning tool in dialogic pedagogy, being able to express and articulate well is a critical skill. It was found that the intervention helped raise the students' awareness of their own talk and articulacy as presented in the following table.

Table 4.7

Results of Orca's pre- and post-intervention student questionnaires: Students' communication skills

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
28.	I am conscious of my own speaking in class.	4.15	4.59
29.	I am confident to speak.	3.65	4.32
30.	I speak fluently. I articulate well.	3.5	4.36
32.	I want to be more articulate.	4.7	4.55

The findings of the student pre- and post-intervention questionnaire regarding their views towards their language articulacy reveal that they became much more aware of their own talk in class (4.15 pre-intervention to 4.59 post-intervention). Their confidence improved significantly, from 3.65 to 4.32. Another striking finding was that the students believed that they were more fluent and were able to articulate well after the intervention as evident in the most drastic increase in student beliefs in their own articulacy from 3.50 to 4.36. This rise coincides with a drop in the students' desire to be more articulate reported at 4.7 average in pre-intervention session slightly dropping to 4.55. In brief, the students valued their own talk, and their articulacy skills improved as a result of the intervention.

Challenges

The students were asked to rank five challenges they expected before the intervention and experienced during the implementation. The results are presented in the Table 4.8 below.

Table 4.8

Results of challenges the student expected in pre-intervention session and those they encountered during dialogic teaching implementation

Challenges	Pre Total = 18 %	Post Total = 17 %
a. My language and communication problem	66.67	58.82
b. Lack of opportunities to talk in class	27.78	11.76
c. Belief that other students will talk	11.11	35.29
d. Insufficient time to prepare to talk	50	41.18
e. Fear of being judged by peers and lecturer	55.55	58.85
f. Lack of topic knowledge and understanding	83.33	58.85
g. Fear of being wrong or not giving fully developed ideas	88.89	100
h. Shyness/Embarrassment to talk in front of peers in class	77.78	58.52
i. Do not want to be rude by challenging the lecturer or peers	11.11	17.65
j. Do not want to interrupt the lecturer while speaking	38.89	11.76
k. Do not want to interrupt the flow of the class discussion	16.67	47.06

Overall, the Fishery Science students selected the same top five challenges (highlighted) in the pre- and post-intervention student questionnaires. The most frequently selected challenge for both was *fear of being wrong or not giving fully developed ideas*. This suggests that the students were afraid of their own contribution being judged as incorrect or not fully developed. That is followed by *lack of topic knowledge and understanding*, *shy and embarrassment to talk in front of the peers in class*, *their language and communication skills* and *fear of being judged by their peers and lecturer*. The fact that these challenges were selected for both before and after dialogic teaching suggests that the students faced the challenges previously anticipated and thus reported accordingly in the post-intervention questionnaire. However, the challenge *insufficient time to prepare to talk* declined slightly from 50% to 41.18%, probably as a result of Orca's intentional extension of wait time.

Interim Summary

1. The quantitative student questionnaire analysis findings suggest that the students believed there were improvements in classroom climate, their understanding of the course content, and their communication skills.
2. The FS students had positive views towards talk, their lecturer and classmates, and communication skills before the intervention and those views improved afterwards.

3. The students strongly believed that Orca's pedagogical practice played an important role in their understanding of the course content.
4. The students strongly believed that talking with their lecturer and classmates and listening to their classmates improved their understanding of the course content and were confident in their understanding when thinking by themselves.
5. The students felt highly positive towards the classroom environment and that improved after the intervention. The students were motivated to come to class, felt safe and comfortable talking and sharing their ideas, believed that they had more opportunities to participate and felt strongly that they had much more time to think before talking.
6. Following the intervention, the students viewed their lecturer and his teaching style as effective, and his questions useful for their thinking and elaboration during whole-class discussions.
7. After the intervention, a close, healthy relationship among peers in Orca's class helped ease the classroom environment even further. The student questions effectively helped *them to engage deeper and elaborate more in whole-class discussions*.
8. *It was found that the intervention helped raise the students' awareness of talk and communication skills.*
9. The challenges the students anticipated before the intervention and the ones they reported encountering during dialogic teaching implementation were the same and are as follows: 1) *fear of being wrong or not giving fully developed ideas*, 2) *lack of topic knowledge and understanding*, 3) *shy and embarrassment to talk in front of the peers in class*, 4) *language and communication skills*, and 5) *fear of being judged by their peers and lecturer*.

5. Findings from Student Group Interviews

In Orca's class, student group interviews were conducted pre- and post-intervention with the same five randomly selected students: Faye, Pete, Nick, Tess, and Arthur. Overall, the students' views towards their relationship with Orca, their relationships among themselves, whole-class discussions, classroom interactions, and their understanding of the course content remained positive prior to and after the dialogic teaching intervention.

Benefits of Talk

In the pre-intervention interview, the students viewed whole-class discussion activities as a source of learning and development. Pete noted participating by sharing and exchanging ideas during whole-class discussion activities helped them to identify and at the same time fill the gaps in their knowledge and understanding of the course content. He stated, "*I know something but not everything. They know something that I don't. So, we share and learn more from each other.*" However, Faye believed that listening to the classmates alone might not give her the complete understanding of a topic unlike listening to the lecturer.

According to the post-intervention interview, the whole-class discussion activities in Orca's class helped the students to better understand the course content in at least two ways. First, according to Arthur, Orca would clarify and help the students to explore the topic further. He reported that "*even though my classmates shared different views towards a topic during the whole-class discussion, Lecturer Orca would clarify the argument when necessary. If there are two opposing arguments, the lecturer would explain both sides of the argument thoroughly before concluding it.*" In addition, Nick noted that "*during whole-class discussion, it was common when one student initiated a new topic, analysed it and the classmates helped.*" Altogether, this helped them not only to understand the topic better but also to confirm their thinking. For instance, during the post-intervention classroom data, Arthur proposed the idea of spreading the fake news that there are parasites in crab eggs in order to lower its popularity and market demand; however, the idea was challenged by Penny who pointed out that parasites cannot be found in crab eggs.

The students preferred different types of class activities. Tess and Nick liked whole-class discussion activities while Faye, Pete, and Arthur liked both whole-class discussion and small-group discussion activities. Nick noted in the post-intervention interview, "*It's better*

when we share as a class. If it's a group discussion, it's only among the group members. On the other hand, Arthur explained his view as follows:

I like both (whole-class and small group discussion activities) like what Lecturer Orca did in the first session. We were divided into small groups. Then we discussed in groups first and we then discussed together as a class and the classmates could ask questions. It's like we brainstorm first. When we discussed as a class, we learned from others and more broadly.

Benefits of Listening to Peers

Not only did the students learn from their peer contributions, they were also inspired by them. Arthur noted, *"I like when my classmates share something new, something I've never known before. When they talk about it, I want to learn more and find more information about it"* (post-intervention interview).

Classroom Climate

1. Overall

All student interviewees strongly believed that they were given opportunities to share their ideas and opinions in class before and after dialogic teaching. They were encouraged by Orca to speak in class. However, Pete pointed out in the pre-intervention interview that *"sometimes the lecturer asks questions that are difficult for me. I'd be distressed because I think he asks me, but I just can't elaborate or don't dare to talk."*

All students felt highly comfortable sharing their opinions in class. Faye stated that Orca valued all student questions and contributions. There were times that there might be several questions during discussions; however, Orca never failed to address all questions raised. Arthur also noted that *"The lecturer never judges us like 'Alright, your opinion is wrong' or 'You're right.' Instead, he discusses both sides."*

Also, the students were motivated to come to class because of two main reasons. According to Nick during the post-intervention interview, *"It's not too academic."* Faye also added, *"I get to study with the lecturer like Lecturer Orca who isn't forceful."*

The students' views towards thinking time changed between the pre- and post-intervention sessions. In the pre-intervention interview, they said they were not given enough thinking

time to think and prepare their contribution. Faye noted, *“I think quite slowly. I have to organise my thoughts before speaking so it can take time sometimes.”* Arthur explained, *“In my opinion, Lecturer Orca speaks really quickly and sometimes I can’t keep up. I can’t follow him.”* On the other hand, the post-intervention interview reveals that the students believed they had ample thinking time during whole-class discussions. Furthermore, two techniques were used by Orca to give students time to think before talking. First, Faye recalled in the post-intervention interview, *“When I can’t answer right away, Lecturer Orca repeats the questions for me so that I can think twice. It’s not like he pushes me but more like he repeats to help me think.”* Arthur also added, *“Sometimes Lecturer Orca just asks the questions and continue talking about something else before returning to reconnect, letting the students who were ready to contribute first and giving other students more thinking time.”*

2. Lecturer

The students liked Orca’s teaching style in both pre- and post-intervention sessions for different reasons. In the pre-intervention interview, the students strongly favoured Orca’s teaching because he was approachable, and his humour and friendliness eased the tension in class. However, Arthur noted in the post-intervention interview that *“the classroom environment was relaxing and more chilled.”* After the students researched and prepared for their individual presentations in the final week of the intervention, they were encouraged to share their personal opinions of the topics. Arthur explained:

The lecturer tends to ask us to share our opinions. For example, when we needed to talk about the PPT slides from others, Lecturer Orca not only asked us to study the slides to understand them but also to add our thoughts. Even though the slides were others’, we were encouraged to incorporate our thoughts, too.

Moreover, unlike in the previous course they took with the lecturer, Arthur particularly appreciated the circle and U-shape classroom layouts as everyone could be visible and audible to all. He talked about the traditional classroom layout, *“When we sit facing the same way, we can’t tell if the classmates sitting behind me was confused or how he looked. But with this layout, we can see everyone’s facial expressions and be able to tell if someone is wondering or confused about something.”*

All student interviewees profoundly believed that Orca valued their opinions and contributions. They reported the strategies he employed to express his appreciation of student

contributions. First, Faye noted that “*Lecturer Orca keeps eye contact with me when I talk. It feels great. He listens attentively.*” Similarly, Pete commented on Orca as follows:

It's like talking to friends. He listens attentively and pays close attention to every word we say and every content we talk about. So, I don't feel worried about it. It's like at least he accepts everything, right or wrong, he listens to us first and will tell us if it's correct or not.

In addition, Orca verbally addressed student contributions to show his respect. Arthur noted his favourite comment from Orca was: “*Right, this is interesting*” and added, “*When Lecturer Orca says this, it implies that we're heading to the right direction, and we should explore and expand the topic more in the discussion.*”

The students believed that Orca made them feel encouraged, safe and welcome to share their ideas, and asked questions to help them think and elaborate their answers during whole-class discussion activities. However, Arthur asserted that more quiet students should participate more. In the post-intervention, he argued, “*Like for example, there're five students sitting together and only Faye and I talk. Three others just listen quietly and just two of us sharing our ideas and we don't get to listen to what they think. It'd be great if they discuss with us. It'd be more beneficial.*”

3. Peers

The student pre- and post-intervention group interview findings suggest that the students' view towards their peers was close and positive because they had known each other for over three years at the time of the data collection.

Communication Skills

The students became more confident in their communication skills after the intervention. One of the previously quiet students, Nick, commented on his talk in the post-intervention interview saying, “*I feel that I talk much more in class,*” to which Arthur confirmed that “*Nick talked much more than before.*”

Challenges

Although the student interviewees shared several similarities, there were differences in challenges they anticipated and faced when talk became a crucial part of their learning.

Language problem (4), lack of topic knowledge and understanding (4), fear of being judged by peers and lecturer (4), fear of being wrong or not giving fully developed ideas (4) were the top challenges selected by the students in the pre-intervention interview. It is worth noting that *lack of opportunities to talk* and *not wanting to interrupt the flow of the discussion* were not selected by any students. This finding is in line with students' comments above that there were sufficient opportunities to contribute to class discussions.

For the post-intervention student group interview findings, the most frequently selected challenges were related to the students' ideas, knowledge, and understandings of the course content. The most concerned challenges among the interviewees were *fear of being wrong or not giving fully developed ideas (5)* and *lack of topic knowledge and understanding (4)*. Interestingly, the students became more aware of other students and their preparation time and thus *belief that other students will talk (3)*, and *insufficient time to prepare (3)* were selected. On the other hand, the students were least concerned about *fear of being judged by peers and lecturer (1)*, and *not wanting to appear rude by challenging peers or lecturer (1)*. Also, the students became more aware of the flow of whole-class discussion activities as evident in two students *selected not wanting to interrupt the flow of whole-class discussion activity*, which increased from zero from the pre-intervention interview.

To conclude, the students prioritised their communication skills, topic knowledge and understanding, fear of being judged about whether their ideas were wrong or incomplete both in pre- and post-intervention sessions. On the other hand, they believed they had ample opportunities to talk in class and were less worried about being judged by peers and the lecturer and interrupting the discussion flow.

Interim Summary

1. In the pre-intervention interview, the students viewed whole-class discussion activity as a source of learning and development. After dialogic teaching, the students viewed whole-class discussion activities in their class as a way to better understand the course content by 1) Orca clarifying and helping them and 2) students initiating new topics and analysing them together with their classmates.
2. The FS students believed that they learned from and were inspired by their peers' contributions.

3. All student interviewees strongly believed that they were given opportunities to share their ideas and opinions in class before and after dialogic teaching.
4. The students felt highly comfortable and valued to share their opinions in class.
5. The students were motivated to come to class because they felt that the course was not too academic, and Orca was not a forceful lecturer.
6. The students' views towards thinking time changed between the pre- and post-intervention sessions. Even though the students believed they were not given enough time to think and prepare their talk before the intervention, they believed they had ample thinking time after dialogic teaching. The two techniques were used by Orca to give students time to think before talking were repeating the questions and letting the students who were ready contribute first.
7. The students liked Orca's teaching style in both pre- and post-intervention sessions for different reasons. In the pre-intervention interview, they strongly favoured him because he was approachable, funny, and friendly in class, whereas later after dialogic teaching the students reported they liked the more relaxing class environment, the U-shape classroom layout, and that Orca made them feel valued, respected, encouraged, safe and welcome to talk, think, and contribute more in whole-class discussions.
8. The student students' view towards their peers remained positive throughout as they were close for over three years at the time of the data collection.
9. The students became more confident in their communication skills after dialogic teaching.
10. Although the student interviewees shared several similarities, there were differences in the challenges they anticipated and faced when talk became a crucial part of their learning. *Language problem (4), lack of topic knowledge and understanding (4), fear of being judged by peers and lecturer (4), fear of being wrong or not giving fully developed ideas (4)* were the top challenges selected by the students in the pre-intervention interview. Following dialogic teaching, the most frequently selected challenges were related to the students' ideas, knowledge, and understandings of the course content.

6. Findings from Lecturer Interviews

The following section presents Orca's interview findings regarding his perception of dialogic teaching before and after the intervention. Generally, Orca strongly believed that the approach helped him improve his teaching strategies and talk practices while achieving his instructional objectives. It was challenging for him to implement dialogic teaching during the intervention, but he said he would continue to employ it in his future teaching.

Lecturer's Teaching Strategies and Talk Practices

Reflecting upon his pedagogical practices, Orca believed there were several improvements in his teaching. He said, *"I believe they surely have changed."*

1. More Adaptive and Personalised Teaching Strategies

Orca believed that his teaching practices improved after dialogic teaching. In the post-intervention interview, he reflected upon his teaching as follows:

I care more about each student's characteristics. I became more adaptive to each student. That is, the more I develop myself, the more I develop them. It's not that I learn something and teach it. But it's more like I develop myself so that I can develop my students which is more difficult. I have to understand how to phrase my question to ask Bob. If I ask Sam, I have to be calmer, "Sam, reorganise your thinking, and then talk about it again."

The dialogic pedagogy also made him more mindful of his own pedagogical practice and individual students' different needs. To better facilitate students' learning and development, his roles were 1) to challenge the students by asking them more thought-provoking questions assigned them more challenging tasks so that they could be more engaged by themselves rather than relying on him feeding them the information through teaching or lectures and 2) to better support the students to perform their best in class and to truly discover their hidden potentials.

2. Wait Time

One of the most profound changes in Orca's teaching practice was the thinking time given to the students. In the pre-intervention interview he noted, *"If I expect them [the students] to talk, that means I give them enough time to think."* In contrast, in the post-intervention interview, he recalled himself changing from being someone who was *"swift and short-*

tempered.” He said, “*two to three seconds was the longest time I could wait before. But now I can wait so much longer. I keep telling my students, ‘Take your time’ because there is plenty of time.*” That brief thinking time he mentioned in the pre-intervention interview was gradually extended, which corresponds with the transcript analysis findings.

3. Lecturer-students Relationship

Even though Orca did not see much change in the relationship between him and his students, he noticed the students becoming more comfortable in class. In the post-intervention interview, he noted, “*I don’t notice any difference because I have been close with them.*” However, he observed that “*the students feel comfortable to share their ideas without fear of being judged,*” and “*when the students are aware that they have positive relationships with me or they dare to talk with me, I can push them to show their performance. But I had never done it before.*”

4. Students’ Opportunities to Talk

There was a stark difference in opportunities for students to talk before and after the intervention. According to the pre-intervention interview, Orca remarked, “*I hardly [give them opportunities to talk] because they are not brave,*” and “*if they didn’t answer my questions, I’d answer them myself.*” Nevertheless, Orca noted in his post-intervention interview, “*I’m confident that the students were given 100% 200% 300%*” more opportunities to talk in class,” and “*If something was unclear, it was the students’ responsibility to explain.*”

5. Lecturer Talk to Student Talk Ratio

There was a significant change in the teacher talk to student talk ratio and teacher-student interactions became more balanced. The teacher/student ratio was reportedly at 80:20 at the beginning. In the pre-intervention interview, Orca said, “*I viewed the classroom climate important and wanted the students to become familiar with me and my teaching style before they could talk more in class.*”

On the other hand, during the post-intervention interview, Orca said that he deliberately limited his talk and took a moderator role. He noted, “*I talked much less, and my talk and student talk are balanced. I am happy.*” He also recognised that “*after the students discussed the topics extensively, my lecturer role was to summarise and provide them with additional*

information, especially something that was more in-depth, complex, or not publicly available.”

6. Instructional Goals Achieved

Orca believed that dialogic teaching helped him achieve his instructional goals. As he prioritised his students’ learning and sought ways to “*exchange experience and knowledge from authentic experience rather than reading the theories from textbooks,*” (post-intervention interview), it was crucial for him that the students had the freedom to decide and take the lead in their own learning. He stated in the post-intervention interview:

I only support them so that they can show their potential that I don’t know they have and I like it. Most lecturers assume that “the students should know what we have taught them,” or “sometimes I teach and you don’t listen so it’s your business not mine.”

7. Dialogic Teaching Prerequisites

Orca believed that in order for dialogic teaching to take place, classroom layout should be the first thing to consider. That is, in his words, “*How will dialogic teaching occur if everyone sits facing the board? Who will interact? It only facilitates students talking to the lecturer only. Classroom layout is important.*” Additionally, he stressed that teachers should listen to and really engage with student talk. They should follow their students’ thinking and respect their contributions because according to Orca, “*They are not wrong. But how can we better support their contributions?*”

In summary, several improvements occurred as a result of dialogic teaching implementation in Orca’s teaching including wait time, improved lecturer-student relationship, increased student opportunities to talk, awareness of student needs, and a more balanced teacher talk to student talk ratio. Orca believed that dialogic teaching helped him achieve his teaching objectives and practitioners should support their student engagement and learning by starting with changing the classroom layout.

Students’ Talk Practices

Orca perceived several differences in students’ participation and talk practices following the dialogic teaching intervention.

1. Student Participation

Student participation improved significantly after dialogic teaching. In the post-intervention interview, Orca evaluated his students' learning stating, *"The students were eager; they could think and analyse. I think they were much more eager than before."* Therefore, the students participated much more, especially when compared to the pre-intervention, which *"was like one person asked, another answered, and no one talked more after that."* Orca commented in the post-intervention interview as follows:

This approach enabled the students to become more engaged with the content, and they were more involved than those who had enrolled in similar courses before. That is, the students were more engaged in and eager for conservation (the course's main objective). They were able to think in both depth and breadth despite their lack of experience. They absorbed [from the discussion]. This group of students were the first group that has been successful in building awareness about marine conservation and management than other previous groups of students.

2. Student Contributions

Student contributions improved in terms of fluency, frequency, and complexity. Orca reported in the post-intervention interview that *"at the beginning, the students struggled to elaborate their thoughts like I had to take a deep breath and count my breaths but now they just talk without much thinking time."* In addition, he noted, *"At the beginning, their talk was unclear, and it did not flow as much. At the end, it became better. Their thinking process improved, like they could think and elaborate more quickly and did not have to repeat themselves very often."* Orca remarked about a student, Sam, as follows:

Sam is one of the most significant examples. She could summarise everything in the last session. If it was before, she could not elaborate well. Like in the first few sessions, she sometimes did not make any sense and her sentences were confusing and not orderly and I needed to tell her to "have a think." But now as soon as she finished listening to her classmates, she could summarise it immediately. She has changed so much and could articulate well.

Furthermore, the students contributed more frequently. Orca gave this example: *"Arthur never stops asking questions. But because I never limit their questions, now he keeps asking questions, one after the other while he only asked one or two questions before."* Orca also

added, “Everyone improved to a certain extent, especially Ivy, Sam, Belle, and Penny. However, some students like Pete still needed to be prompted otherwise they would keep quiet.”

More importantly, the student contributions became more complex. “There were so many points that I didn’t know that the students could think in a very complex way. This was not a result of the students feeling safe in my class but the development in their thinking,” stated Orca.

3. Student Questions

Student questions prior to and after the intervention improved quantitatively and qualitatively. In the pre-intervention interview, Orca noted:

The students only asked questions only if they were forced to do so. Because there have always been boundaries the students have registered since primary education, it is difficult to change their behaviours. Thus, for the students to be brave to ask, their mindset about the lecturer must be changed, especially in this course to “I am their friend.” Then from the beginning I told them to call me “Ajarn Orca” or “Pi Orca” but not “Dr.” followed by my first name.

Culturally, it is a common practice in Thailand for secondary students onwards to call their teachers *Ajarn* (equivalent to *Lecturer* in English) followed by their first name. A less common or a more informal practice is that students call their teacher *Ajarn* followed by a person’s nickname. Therefore, in the case of Orca, it is evident that he asked his students to address him informally from the beginning.

Student questions improved considerably after dialogic teaching. Orca commented, “The students didn’t dare to ask before. Take Bob as an example who dared to ask later” (post-intervention interview). The students improved as they could interact among themselves without having to wait for him to initiate. In the post-intervention interview, Orca remarked:

This’s a change I noticed and I’m happy about. There was a moment where I encouraged the students to ask questions among themselves. But once a question was initiated, there were more questions from the students. They asked one another more questions back and forth, or they exchanged their ideas and asked more questions on

the spot extending the discussion. It helped them better summarise, conceptualise, and incorporate their own thinking with what I taught in the lesson.

Then, he added this: *“It is challenging [for them] to come up with ones [questions] that they knew about but wanted to explore more and to verify something if what they knew was trustworthy or not. Asking questions is not easy.”* He believed that through their active participation, the students learned about getting the main idea, and critical thinking. They were able to incorporate their own ideas into what they learned from his teaching and include it in their talk.

Challenges for Dialogic Teaching Implementation

In the final part of the lecturer interview, the participants were presented with a list of possible or anticipated challenges when implementing dialogic teaching in the future. They were asked to select five anticipated challenges for the pre-intervention interview and five challenges they faced during the intervention program for the post-intervention interview. Orca selected five anticipated challenges for the first interview and only reported two challenges he encountered during the intervention.

Orca anticipated five challenges during the dialogic teaching implementation. The first challenge was *student dynamics*. He stated, *“Student dynamics are important like birds of a feather flock together. That is, if they see me as a good friend, they will dare to speak up with me.”* The second ranked anticipated challenge was *the tasks carried out by students*. Since he tended to change the classroom activities frequently, he was uncertain which was the best. Third, *Thai educational culture* was a concern. Orca noted that this had some critical effects on the students because they were accustomed to being taught as passive learners throughout their education and thus, it would be difficult to change. The final two challenges were *lack of student participation*, and *fear of being judged by students*. Although these were chosen as the lowest ranked challenges, he believed that he could make the students feel safe and comfortable like friends and thus, it would not be problematic for him. Evidently, Orca regarded his relationship between him and his students the most important, and he was willing to work hard to establish a strong, trustworthy relationship with them. He believed that once they deemed him a friend, they would be more willing to speak up and participate more in class.

Interestingly, only two factors were selected as barriers to dialogic teaching implementation in Orca's post-intervention interview. Initially, he selected *lesson structures* as the only challenge because he constantly had novel teaching ideas, and that resulted in too many changes in classroom activities. Furthermore, after long consideration, Orca added *student dynamics* as the second-ranked challenge he faced. He said, "*Having to take this into account, it was time-consuming as I had to constantly think about how to adjust my teaching to facilitate individual students' needs such as how to stop one student during their talk without ruining their self-confidence.*"

To conclude, Orca profoundly believes that dialogic teaching is an effective teaching approach and that it helped him achieve his instructional goals. Not only did it improve his teaching strategies and talk practices, it also brought about significant changes in student talk practices. Although Orca found some challenges during dialogic teaching implementation, he intends to continue teaching with the approach.

Interim Summary

1. Orca became more mindful of his own pedagogical practice and individual students' different needs.
2. The most profound change in Orca's teaching practice was the wait time given to the students.
3. Even though Orca did not see much change in the relationship between him and his students, he noticed the students becoming more comfortable in class.
4. More opportunities to talk were given to the students after dialogic teaching.
5. The teacher talk to student talk ratio and teacher-student interactions became more balanced and appropriate. Orca deliberately limited his talk and took a moderator role.
6. Orca believes that dialogic teaching helped him achieve his instructional goals.
7. To Orca, there were improvements in student talk. Their participation improved significantly. Their contributions improved in terms of fluency, frequency, and complexity. Also, student questions improved quantitatively and qualitatively.
8. Orca reported only two challenges he encountered during his dialogic teaching implementation: *lesson structures* (he constantly had novel teaching ideas and that resulted in too many changes in classroom activities) and *student dynamics* (it was sometimes time-consuming for him to adjust his teaching to facilitate individual students' needs).

Case Study 2: Language Education – Mary

This chapter presents the findings from quantitative and qualitative data analyses of Language Education (LE) Lecturer Mary's pre- and post-dialogic teaching intervention. Mary is an experienced female Thai lecturer in the English Program, Faculty of Education, University A in southern Thailand. In this study, Mary's class consisted of 24 fourth-year Language Education students enrolled in a compulsory course entitled *English Teaching Methods*. These students had previously taken a few courses with Mary in their first, second, and third years.

Overall, the results suggest that dialogic teaching had a positive impact on Mary's classroom processes, climate, and interactions. Mary and her students' perceptions of the dialogic pedagogy will also be discussed.

1. Observations from the Field Notes

This section presents the field note analysis findings. It was found that following dialogic teaching, the LE lecturer talked less, her students became more comfortable and participatory, the teacher-student relationship improved, and classroom interactions became more expansive and sustained.

Pre-intervention

1. Physical Classroom Setting

The classroom was located in a new Faculty of Education building, University A. It was equipped with advanced educational multimedia technology for teaching and learning including a desktop computer, a visualiser, a smartboard, several speakers, and a high-definition closed-circuit television (CCTV). To accommodate a class of 25-40 students, 40 individual student desks were arranged conventionally in rows of ten facing the front where the lecturer desk was located (see Images 5.1 and 5.2).

Image 5.1

Mary's classroom setting from the front looking towards the back

**Image 5.2**

Mary's classroom setting from the back looking towards the front

**2. Class Time and Activities**

The course was scheduled every Wednesday from 2.30 to 5.30 p.m. during a sixteen-week academic semester. For the pre-intervention session, there were five class discussion activities structured in the following order:

1. teacher-led whole-class discussion
2. small collaborative group discussion
3. teacher-led whole-class discussion
4. small collaborative group discussion
5. teacher-led whole-class discussion

Due to the lack of clear instructions, it was rather difficult to determine the exact duration of each activity during the session. For instance, there were several occasions when Mary asked

students to share their ideas with the entire class while they were still engaged in a small group discussion.

3. Classroom Layout

In the pre-intervention session, the classroom layout was changed only once. At the beginning of the session, the students sat in rows facing the front where Mary stood. The layout was then changed when Mary asked the students to sit in small groups of five or six for a collaborative group discussion. The students relocated themselves facing each other as seen in Image 5.3 below. Although the activities shifted several times between teacher-led whole class and collaborative group discussions, the students remained seated as shown for the rest of the session.

Image 5.3

Mary's classroom layout during the small group discussions in the pre-intervention session



However, the small group layout was not suitable for all classroom activities. For example, it was challenging for everyone to be heard and seen to others during the teacher-led whole-class discussion, as seen in the following photos. A male student, Sean (wearing a blue jacket) had to turn all the way around unnaturally to his back to make eye contact with Mary. In addition, given his seating location, it was even more difficult for the students at the back to hear and maintain eye contact with him when he talked. On the contrary, Jake (sitting at the far-right corner in Image 5.5) could attend Sean's talk, make eye contact with Mary, and observe the rest of his classmates without much effort. It was observed that to ensure that everyone heard and understood one another, oftentimes Mary repeated some students' contributions, especially those whose voice volume was low.

Image 5.4

A male student, Sean, turning to Mary during a whole-class discussion activity

**Image 5.5**

Mary, Sean, and Jake during a whole-class group discussion activity



Mary mainly positioned herself in three areas in this session: standing at the front, sitting at the computer desk at the front, and sitting at a student desk chair between two student groups. Occasionally, during the collaborative group discussions, Mary walked from one group to another for brief interactions.

4. Classroom Climate

The classroom atmosphere in Mary's pre-intervention session was strict but somewhat friendly. From the beginning of the session, Mary asked everyone to raise their hand to nominate themselves before contributing. Several students raised their hands to show their willingness to contribute and waited for Mary to call upon them; however, some frequent contributors did not raise their hands. They spoke up loudly as soon as the floor was open, meaning no-one was speaking at the time.

Also, humour was evident in Mary's pre-intervention session. There were times that she teased her students and they all laughed.

Mary controlled the whole-class discussion activities most of the time. Even though it was not explicitly said by anyone, the students' roles were to listen to and follow Mary's instructions quite strictly; that is, most student talk was preceded by Mary's initiation. Also, there were only a handful of student initiations in a three-hour session.

Another interesting observation during the session was student eye contact. Even though it was stated clearly and frequently by Mary that the students should share their ideas among themselves during the discussion, it was evident that most students looked at and maintained their eye contact with Mary rather than looking at their classmates. It was observed that whenever Mary moved to different parts of the classroom, the student speakers usually sought to make eye contact with her.

5. Classroom Language

Although English was the only language of instruction in Mary's class, there was evidence of Thai being spoken. At the beginning of the session, Mary asked the students to speak in English by stating, "*Speak English if you can,*" and that set the language of instruction for the rest of the semester. However, it should be noted that it is common that English courses or English-major courses are taught in Thai in most English education courses from kindergarten to higher education. Particularly, this course was the first course taught entirely in English for these LE students.

The Thai language was also found in the pre-intervention session but often used for non-academic purposes. While all discussion activities were carried out in English, some students talked among themselves in pairs and small groups in Thai and the southern Thai dialect. It was observed that in this session, Thai was used as a tool to inject humour. For instance, Mary playfully repeated the student's unintentionally insertion of "*baeb,*" a common Thai filler equivalent to "*like*" in English.

6. Instructions

Mary's instructions were short and at times, rather unclear. To illustrate, before the first group discussion activity, she stated, "*Can you tell your friends why you want to use English*

for 60% and Thai 40%?” as an introduction to a whole-class discussion activity. It appeared that some students were confused as to whether they should talk in their own group or as a whole class. Another example was when Mary asked the students to discuss in small groups the advantages and disadvantages of using the first language (L1) and the second language (L2) in English language teaching in Thailand. She stated, *“So again, what are you going to do is to tell me good points of using L1 in English classroom and bad points of using L1. Leave L2. L1 first.”* Without any additional explanation regarding the expected outcomes or double-checking the students’ understanding of the task, some students seemed confused and asked for clarification.

7. Teacher Talk

Mary’s teacher talk was traditional and structured. As is common in Thailand’s higher education setting, Mary addressed all students by their first names. Her teacher voice, especially when compared to that of the students was significantly louder. When one student talked, Mary listened attentively until the student finished talking. It was also evident that, both Mary and the students apologised saying, *“I’m sorry,”* whenever their talk clashed.

During the pre-intervention whole-class discussion activities, Mary’s talk followed a rather strict initiation-response-feedback (IRF) structure (Sinclair & Coulthard, 1975; Mehan, 1979). The interaction began with a teacher initiation (initiation-I), as an open- or closed-ended question, followed by one or more student answer response-R). Mary often acknowledged the student response by repeating their talk to validate it or providing them with short, subtle acknowledgement or feedback moves (feedback-F) such as *“okay”* and *“uh huh.”* She also provided the students with brief and stock feedback or praises like *“good”* and *“thank you”* What often followed was a teacher add-on question (the lecturer asked students to add on to another student’s contribution) like *“Anything else?”* and *“Any ideas?”* prompting other students to talk more about the topic rather than encouraging the current speaker to elaborate more.

In summary, Mary’s teacher talk was conventional and strictly structured.

8. Student Talk

Student talk in the pre-intervention session varied greatly in terms of length and speakers. In response to Mary’s questions, the students replied both in brief and extended contributions.

As can be expected, it was evident that short student talk occurred frequently after Mary's closed-ended questions. Likewise, the student extended talk was found after her open-ended questions and more frequently following her follow-up moves. Also, it should be noted that despite Mary's attempt to encourage everyone to participate, there were some dominating students during the whole-class discussion activities with lengthier comments. It was also evident that more quiet or less frequent contributors actively participated at times. They looked at current speakers, nodded and sometimes talked to the peers next to them. These students, however, were as active as those dominant students in small group discussions.

9. Student Self-nomination

There were numerous student self-nominations. Some students raised their hands and waited to be called upon by the lecturer, whereas others jumped in and started talking seamlessly and much more confidently.

10. Teacher-student Relationship

The relationship between teacher and students is significant. If students feel safe, welcome, and respected by their peers and teacher, it is likely that they will be more engaged and inclined to take on an active role in their own learning and development. In the pre-intervention classroom data, Mary appeared friendly and approachable. She smiled frequently and often teased students with jokes and small talk. Even though the microphone was available and ready to use, Mary opted for speaking up with her voice instead. There were occasions where she repeated herself to ensure that everyone heard and understood.

11. Student-student Relationship

It was found that that the students had known one another relatively well before the pre-intervention. Several students talked to each other in their dialect rather than the standard Thai language that is commonly used in formal settings. They also talked and giggled during the group arrangement and during the collaborative group discussion. Moreover, the students were attentive, observant, and respectful. For example, as soon as someone—either the lecturer or one of the classmates—spoke up, they would stop their ongoing interaction immediately to listen to the speaker.

Post-intervention

1. Physical Classroom Setting

The post-intervention took place in the same classroom and the physical setting remained the same.

2. Class Time and Activities

Unlike the pre-intervention session, whole-class discussion dominated the post-intervention. The entire session (2.45 hours) was allocated to this activity. The discussion was not solely led by the lecturer or any particular students. Rather, many interactants took turns talking lead by initiating new topics and asking follow-up questions.

3. Classroom Layout

The classroom layout setup at the beginning remained the same for the entire intervention; before the whole-class discussion activity began, Mary asked all students to arrange the classroom in a circle or rectangle layout in which everyone including herself could see one another (see Figure 5.1 and Image 5.6).

Figure 5.1

Classroom layout in Mary's post-intervention session

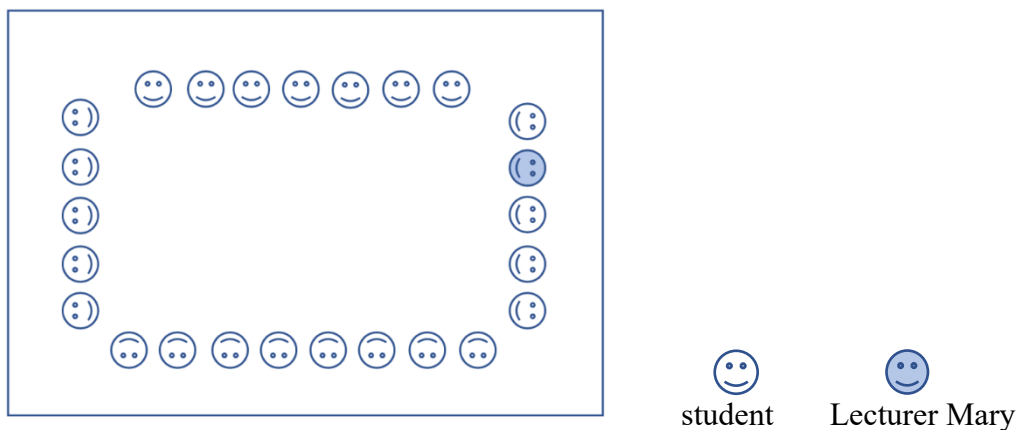


Image 5.6

Classroom layout in Mary's post-intervention session



4. Classroom Climate

Mary's post-intervention classroom climate was more informal, relaxed, and friendly than the pre-intervention; students were no longer required to raise their hands before talking although some did so, especially when there were several students willing to talk at the same time.

Also, it was observed that the class atmosphere became progressively more relaxed. At the beginning, it appeared that the students waited for Mary to lead the discussion as she had done previously. Nevertheless, as Mary gradually minimised her talk and finally withdrew herself from the discussion, the students seemed to be more comfortable with silence during wait time. For instance, when Mary asked questions, the students initially turned to their neighbouring classmates to talk one-on-one. Evidently, the students not only progressively became used to speaking up, they also initiated questions, nominated, and encouraged their peers to contribute to the discussion. There was evidence of both on-task and social talk during the discussion.

Students were reminded of the ground rules for talk and observed them throughout. Before the whole-class discussion activity, Mary asked the students to review the agreed-upon ground rules from the previous sessions. Later, she also reminded them again occasionally. Consequently, the discussion was rather smooth with minimal interruptions. The students were attentive and participatory.

Also, humour was evident in Mary's post-intervention session; as before, there were occasions where teasing, joking, and laughing took place by both Mary and the students. The difference though was the students became more active in using humour during the post-intervention discussions, although, the humour did not interrupt or interfere with the activity. Rather, it was done in a friendly manner and helped ease the tension during the activity and functioned as mini mental breaks. For instance, when Sean finished talking, another student, Eva smilingly asked him to provide some examples. Leo nominated himself to speak instead of Sean. What Leo did not only give Sean more time to think, he also helped ease the tension during the silent wait time.

Eye contact in the post-intervention session changed considerably. Unlike the pre-intervention session, the students no longer sought to make eye contact with Mary while talking. They looked around and maintained eye contact with their classmates more often. This could be partly due to the rectangle classroom layout enabling everyone to see others better. Also, the students were more involved in the discussions among themselves rather than seeking approval and acceptance from Mary.

In summary, with humour, ground rules for talk compliance, and minimised teacher talk, the classroom climate in the post-intervention session was more casual, inclusive, friendly, and welcoming.

5. Classroom Language

English was maintained as the language of instruction. Unlike before, Thai was used significantly less and often only in words or short phrases. The students appeared to be more comfortable when speaking English during the discussion. They also used English for social purposes like teasing and playing among themselves.

6. Instructions

Mary's instructions seemed clearer and well understood by the students. Although the lesson introduction and instructions were brief, the whole-class discussion proceeded successfully. This could be because the class had become familiar with whole-class discussion from the previous sessions. Thus, once Mary introduced a topic at the beginning of the post-intervention session, the students were able to engage right away.

Additionally, the classroom interaction was more extensive than rotational. That is, discussion topics were in-depth, and the comments were extended. It also involved fewer interlocutors, especially when compared with the pre-intervention interactions. One sequence could last five minutes or longer from the topic initiation to its termination. The structure was not linear, short, fragmented, or predictably IRF sequences. Although many topics began with a teacher question followed by a student response, Mary's follow-up questions kept the sequence open and lengthened it extensively. Similarly, it was also observed that many students successfully extended the topic using their broadened talk practices, which were similar to Mary's. For example, Gail asked, "*I want to know, uh what is the difference between interaction and engagement. (3.0) engagement like uh (1.0) we do activity?*" as a follow-up question after the class had discussed the term "*student engagement*" extensively. This led to another extended discussion of the term in which more examples were given.

To conclude, in contrast to the pre-intervention session, the instructions became clearer following dialogic teaching. Since the students were familiar with the lesson structure, they could participate well, and classroom interaction was mostly extended.

7. Teacher Talk

Mary talked much less, employed a wide variety of teacher follow-up moves, and the recitation script decreased. First, at the beginning of the whole-class discussion, she dominated the activity setup. She then gradually minimised her talk and completely withdrew from the discussion. Consequently, the students talked much more, eventually dominating the discussion.

Furthermore, Mary employed different follow-up talk moves in addition to the add-on questions that she had most frequently employed in the pre-intervention session. Her follow-up moves included expand, agree/disagree, revoice, rephrase, ask why, and challenge to varying degrees. These follow-up questions helped extend the discussion and scaffolded the students to think more critically and elaborate more extensively.

In brief, Mary's teacher talk reduced while her talk repertoire enriched, and classroom talk shifted from recitation towards dialogue.

8. Student Talk

Student talk mirrored Mary's talk in many ways. For instance, when Mary deliberately excluded herself from the discussion, Iris suddenly nominated herself to talk about the word she received "*student engagement*." As soon as she finished, she initiated a question, "*Do you have any idea about it?*" Likewise, in the same episode, Kim asked Rachel, "*Because? Because?*" in rising intonation prompting Rachel to justify her previous contribution. These student initiations very much resembled Mary's talk practices.

Student talk became more varied in type, length, and initiation. Unlike the pre-intervention session, the student-initiated questions increased considerably. Not only did they ask Mary questions, but they also consulted their classmates. To illustrate, when Mary excluded herself from the discussion, many were hesitant at first, but after a few exchanges, they managed discussions well among themselves taking turns. They also employed a range of follow-up moves such as revoice, add-on, and expansion.

9. Student Self-nomination

Although hand raising was no longer obligatory in the post-intervention session, it was observed that the more frequent contributors tended to start talking when possible while the quieter students tended to express their willingness to speak by hand-raising. Interestingly, in contrast to the pre-intervention session, the students who raised their hands did not wait to be called upon by Mary and started talking right away.

10. Teacher-student Relationship

The relationship between Mary and her students and among the students appeared closer, and the class atmosphere was friendlier and more relaxed in the post-intervention. Teasing, playing jokes, and laughing in class increased.

Interim Summary

1. The physical classroom setting was constant in both pre- and post-intervention sessions. It was well-equipped and distractions were minimised.
2. The class was scheduled to meet once a week. While the teacher-led whole-class and small-group collaborative discussion activities dominated the pre-intervention session, only the whole-class discussion activity was employed in the post-intervention session. Mary and the students took turns leading the discussion.

3. The pre-intervention classroom layout was not suitable to all discussion activities since the students had difficulty seeing and hearing everyone. In contrast, throughout the post-intervention, Mary and the students sat in a large rectangle making visibility and audibility suitable for the whole-class discussions.
4. The classroom climate changed quite significantly after dialogic teaching. Although the pre-intervention session was strict, but somewhat friendly, the classroom climate during the post-intervention was more casual, inclusive, and friendly, which could be due to humour, ground rules for talk compliance, and a decline in teacher talk.
5. English was the only classroom language in the course, and the students appeared to develop confidence in their ability to speak English in class.
6. Mary's instructions were initially brief and somewhat unclear, but they became clearer in the post-intervention session.
7. Mary's teacher talk changed quite drastically from conventional (teacher led) and strictly structured to more student-focused following the implementation of dialogic teaching. As her teacher talk reduced, her talk repertoire enriched, and classroom talk shifted from recitation to dialogue.
8. Student talk in the pre- and post-intervention sessions changed quite significantly. Before dialogic teaching, only a handful of students dominated the activities, but afterwards, student talk became more varied in length, initiation, and variety mirroring Mary's teacher talk.
9. Although hand raising was no longer mandatory after the intervention, some students still did so, but did not necessarily wait to be called upon.
10. In the pre-intervention session, Mary appeared friendly and approachable, but she and her students seemed closer and more playful after the intervention.

2. Findings from Systematic Observation Schedule Analysis

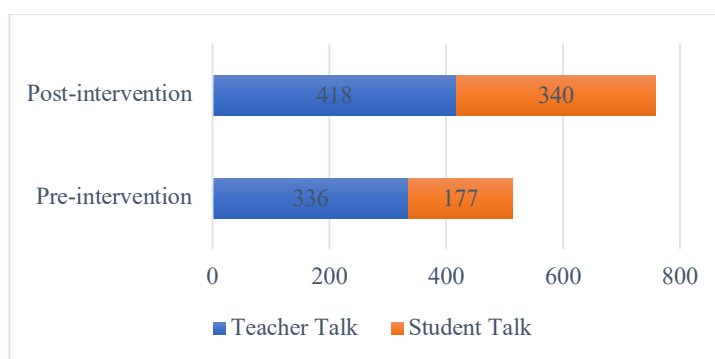
The analysis reported in this section aimed to determine the extent to which and the ways in which Mary employed talk practices and to compare how student talk changed after dialogic teaching. Overall, the quantitative analysis of the systematic observation schedule data indicated a positive impact of the approach on teacher talk, student talk, and classroom interaction.

Teacher Talk to Student Talk Ratios

First, the ratios of teacher talk to student talk before and after the adoption of dialogic teaching changed considerably as illustrated in the following chart.

Figure 5.2

A comparison of teacher talk and student talk ratios between Mary's pre- and post-intervention sessions



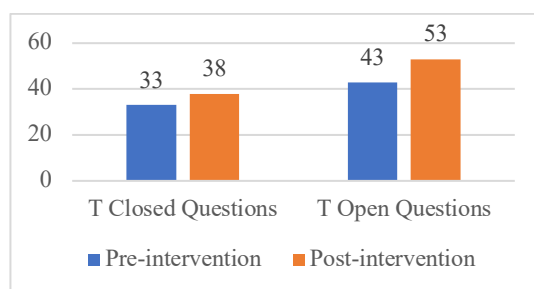
As seen in Figure 5.2, teacher talk moves rose by 24% from 336 to 418, whereas student talk moves almost tripled from 117 times to 340 times. These results suggest that before the adoption of dialogic teaching, the ratio of teacher talk to student talk was imbalanced as students talk was only one-third of all the classroom interactions. However, the ratio of teacher talk to student talk became much more balanced at 5:4 as more opportunities were given to the students and they took a more active role in knowledge co-construction among themselves in whole-class dialogues.

Teacher Initiation Questions

Next, as student talk is shaped by that of the teacher, it is important to consider teacher initiation and/or questions. Mary's are reported in Figure 5.3.

Figure 5.3

A comparison of Mary's closed- and open-ended question ratios for pre- and post-intervention sessions



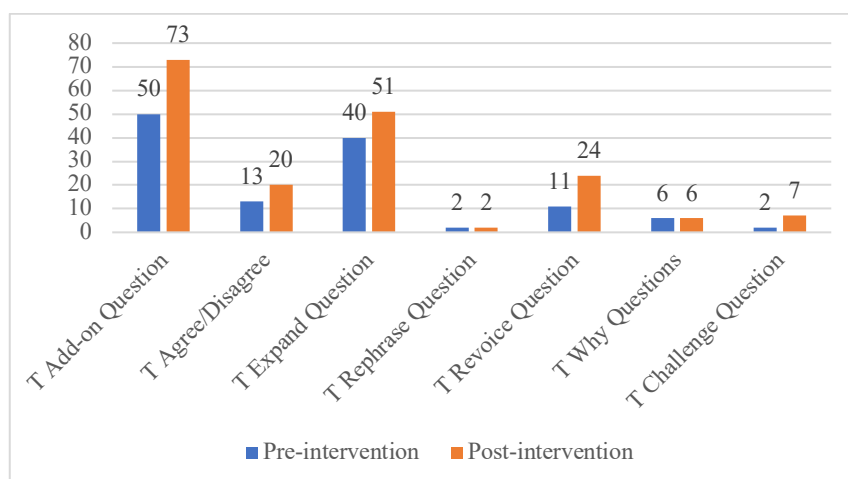
Generally, Mary's initiated classroom interaction with increased closed- and open-ended questions after the intervention—from 33 closed to 43 open during the whole-class discussion activities. Albeit not markedly higher, Mary asked 30% more closed questions and 40% more open questions in the post-intervention session. It is worth noting that she maintained her preference of open questions so that students could recall shared known knowledge. It can be concluded that questions were used as stimuli to engage the students in thinking and knowledge co-construction during the whole-class discussion activities. The following chart presents the findings of Mary's follow-up talk moves.

Teacher Follow-up Moves

Next, there were changes in Mary's follow-up moves; overall, they remained similar or increased as shown in Figure 5.4.

Figure 5.4

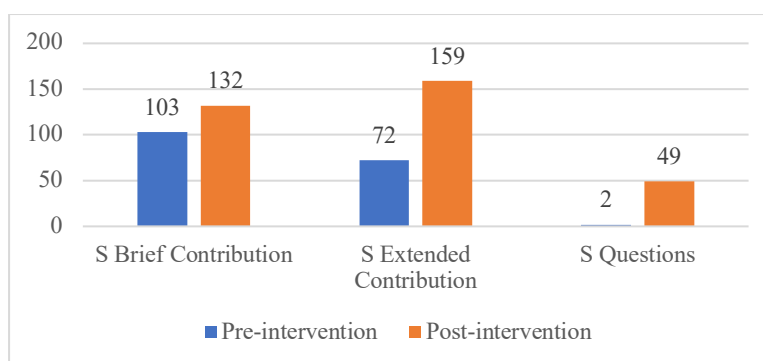
A comparison of Mary's follow-up talk moves for pre- and post-intervention sessions



As seen in the chart, initially, the three most frequently used follow-up moves were add-on (50 times), expansion (40 times), and agree/disagree (13 times). In the second session, although Mary still utilised add-on and expansion (increasing 73 and 51 times respectively), she asked more revoice questions than agree/disagree questions. In addition, with respect to changes, the greatest increase follow-up moves were challenge (from 2 to 7 times, a 250% increase), revoice (from 11 to 24 times, a 118% increase), and agree/disagree (from 13 to 20 times, a 54% increase). Although teacher challenge questions represented the highest percentage of increase, its occurrence was relatively low, especially when compared to the most frequently used follow-up talk moves. The findings suggest that Mary's questioning skills improved as she employed a broader range of follow-up moves. Figure 5.5 presents the results of student talk moves for the pre- and post-intervention sessions.

Figure 5.5

A comparison of student talk moves in Mary's pre- and post-intervention sessions



As seen in Figure 5.5, all talk moves increased to varying degrees with the most significant increase being in student questions. According to the baseline systematic schedule data, there were initially only two questions raised by the students. That number rose sharply to 49 student-initiated questions in the post-intervention session. Also, extended student talk went up by 120%, from 72 to 159 instances. These findings profoundly correlated with Mary's use of open-ended questions and follow-up moves.

Clearly, the increases in different teacher follow-up moves suggest that Mary successfully expanded her talk repertoires by employing various types of talk moves and was able to extend the classroom interactions beyond the conventional initiation-response-feedback sequence by stimulating the students to engage, explore, and accumulate their ideas. Also, the increases of student extended contributions and initiations indicate not only an expansion of

student talk repertoires and the lecturer's successful attempt to create a safe classroom climate but also an increased level in their agency. Altogether, Mary's systematic schedule findings suggest successful dialogic teaching enactment reflected in teacher talk and student talk.

Interim Summary

1. The teacher talk to student talk ratios changed considerably and became more balanced after the intervention.
2. Mary initiated sequences with both closed- and open-ended questions. While closed questions increased by 30%, open questions rose by 40%.
3. Mary's teacher follow-up moves remained either constant or increased, and she employed a broader range of teacher follow-up moves during the post-intervention.
4. Three meaningful increases were found in Mary's pedagogical practices: student questions, student extended contributions, and teacher follow-up moves.

3. Findings from Transcript Analysis

This section presents the findings of the qualitative transcript analysis. The micro-level analysis of the transcripts investigated talk in whole-class discussion. It included teacher talk (initiation and follow-up moves) and student talk (brief and extended contributions, and student initiations). The analysis revealed several changes including turn management, teacher talk, wait time, and student talk and self-nomination before and after the intervention.

Talk and Turn Management

According to Alexander (2008), dialogic teaching is facilitated and supported when turns are managed on a shared basis by teacher and students rather than being dominated by the teacher. In fact, when turns are strictly controlled by the teacher, a supportive environment for collective thinking and cumulative teaching and learning may not be nurtured. Turn management practice is aligned with four key principles—collective, reciprocal, supportive, and cumulative—and these principles govern the dialogic classroom climate. In Mary's pedagogical practice, turn management was one of the most significant changes. From the strict turn management in the pre-intervention whole-class discussion, talk was managed on a shared basis after the intervention.

Pre-intervention

Initially, turns were exclusively controlled by Mary as the sole discussion leader. Bidding for turns and student self-nomination following the teacher prompts were frequent. Although student participation was highly valued and encouraged, all students were required to raise their hands and be called upon before they could start talking. Student contributions were also strictly limited as can be seen in the following excerpt taken from a pre-intervention session during a teacher-led whole-class discussion. Immediately prior to this interaction, Mary asked the students, who had been sitting in four groups of five and six, to raise their hands regarding their opinions of the appropriate proportion of English as a second language (L2) to Thai as a first language (L1) in English language teaching in Thailand. The options were 75:25, 70:30, 80:20, 90:10, and 95:5. Since no student mentioned that English should be used 100% of time, Mary raised this point, and it became the next topic of discussion.

Transcript 5.1

A whole-class interaction in Mary's pre-intervention session: "How about 100% English?"

Line		
1	Mary	HOW about a <u>h</u> undred per cent. (4.0)
2	Some Students	((giggle slightly))
3	Mary	How about a hundred per cent. (3.0) £NO£ (.) no idea. Okay, how about a hundred per cent. I want to hear from you. What do you think about HUNDred per cent ENGLISH <u>in [an]</u> ENGLISH classroom. (1.5)
4	Sherry	It's very hard for Thai student.-
5	Mary	-Sorry, can you speak louder?
6	Sherry	One hundred per cent is TOO hard for Thai (.) students; they don't know the vocabulary o:r u::h อะไรนะ <i>arai-na</i> (.) What was it? And correct grammar.
7	Mary	o::h a::h (2.0)
8		Do you <u>agree</u> or disagree, can you, (.) can you talk? You're supposed to talk, remember? Yes? Do you agree?
9	Rachel	-I think one hundred per cent is good, bu::t (.) it's very to misunderstanding something so:: (.) therefo:re (.) ten per cent for Thai (unintelligible)
10	Mary	Anything else? Any idea?-
11	Nadia	-I think I think we might have to use Thai. Because Thai stude:nt don't understand (1.0) especially (.) stude:nt who study in uh school in countryside, countrys-
12	Mary	-countryside
13	Nadia	So, I think it's difficult to use u::m ninety to one hundred per cent English.
14	Mary	(3.0)
15	Mary	Okay. Got it. Thank you.
16	Class	((giggles slightly))
17	Mary	(3.0) No one agree? For a hundred per cent, really?-

As can be seen, student contributions are limited to only one to two turns. Once a student contributes, their chance to continue talking in subsequent turns declines meaningfully. In this learning episode, Mary's initiation, "*What do you think about a hundred per cent English*

in English classroom?” (line 3) is followed by Sherry’s response, *“It’s very hard for Thai student”* (line 4), which is abruptly interrupted by Mary’s comment on her low voice projection. Sherry immediately reformulates her answer saying, *“One hundred per cent is too hard for Thai students,”* (line 6) with an emphasis on the word *“too.”* Mary only replies with an acknowledgement move, *“o::h a::h”* and a teacher follow-up question, *“Do you agree or disagree?”* Evidently, this follow-up move is intended for the entire class and automatically concludes Sherry’s previous contribution and minimises the opportunity for Sherry to contribute more to the discussion. Next, Mary reminds the class of a ground rule, *“You’re supposed to talk a lot. Can you talk? You’re supposed to talk, remember?”* and reiterates the question, *“do you agree?”* This leaves no room for Sherry to resume her talk. In brief, teacher minimal feedback, follow-up moves intended for a new student interlocutor, and ground rules reminders suggest Mary’s preference for a quick rotation interaction involving several students to an in-depth extended interaction between a few students.

Additionally, in this situation, the students are only allowed to contribute when they are called upon. In this extract, after her successful self-nomination of hand raising, Rachel said, *“-I think one hundred per cent is good. bu::t (.) it’s very to misunderstanding something”* (line 9), Rachel’s talk is immediately followed by two teacher follow-up questions, *“Anything else? Any idea?”* but these questions are unlikely to address Rachel since Mary looks away from her in search of other student self-nominations and thus, the floor is open to the entire class.

While bidding and student self-nomination are frequent, unsolicited student contributions are rare, which is potentially due to the classroom layout because all students remain seated in small groups during the whole-class discussion activities, making it difficult for everyone to see and hear each other clearly, especially when several speak at the same time. Also, since participation is highly encouraged, as evidenced in Mary’s initiations and the students’ willingness to talk, it is inevitably crucial for someone to manage all the student turns; thus, Mary takes that role. When students are obligated to raise their hands and be called upon before speaking, unsolicited contributions are consequently discouraged and scarce.

Post-intervention

On the other hand, talk and turn management in Mary’s post-intervention classes changed remarkably. Three distinctive changes were student contribution length, the lecturer’s role,

and student bidding and self-nomination. The following excerpt is from the post-intervention session collected in Week 10. In this class, everyone, including Mary, sat in one large rectangle in which everyone could face each other. Previously, in this episode, the class has been discussing several English language teaching terms, and all students are randomly given one word during the whole-class discussion activity. In this episode, a frequent student contributor, Sean, nominated himself to talk about the phrase “*giving praise*.”

Transcript 5.2

A whole-class interaction in Mary’s post-intervention session: Positive reinforcement

Line

- | | | |
|----|-------|---|
| 1 | Mary | Okay. Next word please?
(2.0)
(unintelligible) next word. |
| 2 | Sean | Giving prai:se? |
| 3 | Mary | Giving prai::se,
(unintelligible) |
| 4 | Sean | I think giving praise ah about when a teacher (.) a teacher um
(.) tell the student to do something, or such as presentation,
a::nd uh to do:: <u>group</u> to do uh <u>group</u> activities and then the
teacher will will give the um (.) uh “clap your hand for your
friend,” o:r u:m to to give the good word such as “ <u>excele:nt</u> ,”
“ <u>aweso:me</u> .” Yes, it is giving praise, ((nods lightly three
times)).
(4.0) |
| 5 | Nancy | Can you pronounce the word praise? |
| 6 | Leo | Praise |
| 7 | Nancy | Praise |
| 8 | Sean | Praise
[ถูกต้องมั๊ย
[took-tong-mai
[is it correct? |
| 9 | Nancy | [Can you pronounce the word (.) praise?- |
| 10 | Mary | -spell |
| 11 | Nancy | Um spe:ll |
| 12 | Jake | spell |
| 13 | Sean | P-R-A-I-S-E. |
| 14 | Nancy | P-R- |
| 15 | Sean | P-R-A-I-S-E. |
| 16 | Mary | Prai:se
(6.0) |
| 17 | Mary | Okay, any more ideas? |
| 18 | Lily | Example |
| 19 | Sean | U:m there are uh someone someone doesn’t understand, um
can I explain?- |
| 20 | Mary | [Sure |

- 22 Sean [again
When the teacher um want students to do something, such as presentation, uh front of the room, the class and then, the teacher tell the student to to um “clap your hand for your frie:nds,” uh and such as the teacher will give the good word such as “awesome,” “excellent” fo:r for their presentations.
- 23 Kim (unintelligible)
- 24 Jake Positive
re[inforcement
- 25 Kim [Yeah yeah positive reinforcement
- 26 Eva Positive reinforcement.
- 27 Kim Right?
- 28 Sean Ah yes yes.
- 29 Eva Positive reinforcement like clap your hands
- 30 Leo Positive-
- 31 Sean Pos- pos- positive u:m
- 32 Jake [reinforcement
- 33 Kim [reinforcement
- 34 Eva [reinforcement
- 35 Mary Um ah Nancy,
oʔ
orr
I see
(4.0)
- 36 Mary So can I say “good job, Sean.” (.) Thank you for your explanation.
Well done. How do you feel when you get this kind of thing from your teacher. You feel-
- 38 Eva -Wow
- 39 Mary You feel wow. (unintelligible) I got it wow.
- 40 Sean I can do it. I yeah
uuu
baeb
like
I can do it. I finish my project yeah.
- 41 Kim Confident?
- 42 Sean Yeah.
- 43 Mary Confident then what. (.) You you feel good, you feel confident in class, and then after that, what are you going to do.
- 44 Kim [Pay attention
- 45 Gail [Want to talk more.
- 46 Mary You want to talk more?
- 47 Eva And it make other students want to:: get their presentation better (.) like in our class. Someone make u:h the work uh beautiful o:r make kind uh illustrator in the program in the computer. So, next week, other another make them too.
- 48 Mary H:mm
- 49 Sean Yes.
- 50 Kim A little bit competition.

- 51 Class ((laughs))
 52 Mary Really?
 53 Eva But it's it's good competition.
 54 Class ((giggles))
 55 Mary Yeah, you too?
 56 Some Yes.
 students ((giggle))
 57 Mary Okay,
 You agree? (.) Do you think you're gonna give the students-
 58 Leo I think teacher
 59 Mary [feedback like this?

The roles of the lecturer and students are fluid in this interaction. Not only do the students respond to teacher questions, they also take an active role by initiating student questions and contributing without teacher prompts. In contrast, Mary's role shifts from the sole discussion leader in the pre-intervention session as evident in Transcript 5 to an attentive discussion facilitator. Particularly, Mary initiates a new sequence during an ongoing whole-class discussion with an open question, "*Okay. Next word please*" (line 1) and leaves the floor open for all. Sean first nominates himself to speak, talks briefly, and then elaborates quite extensively in his second contribution (line 4). His talk is not followed by any teacher questions or follow-up moves, as was typical in the pre-intervention session. Instead, Nancy who sits in another corner of the room raises the first student comment, "*Can you pronounce the word 'praise'?*" (lines 5, 9). Due to Nancy's misuse of the word "pronounce," which causes confusion for some students, Mary intervenes briefly suggesting Nancy spell the word. Another student question occurs when Lily says, "*Example*" softly to Sean, suggesting he elaborate more on his previous talk by giving some examples; Sean declines and, instead, asks Mary for permission to reformulate his previous contribution. Throughout the rest of the episode, Mary employs seven more follow-up moves (lines 18, 37, 43, 46, 52, 55, 57). She also occasionally provides minimal acknowledgement tokens by repeating the students' contributions (lines 3, 16, 39, 48). Doing so does not interfere with the ongoing activity as it continues. In summary, as Mary talks less, the students become more active by initiating relevant topics.

Moreover, the student contributions become more expansive and elaborate. For example, in the following quote, Sean reformulates his contribution of the term "*giving praise*":

[again when the teacher um want students to do something, such as presentation, uh front of the room, the class and then, the teacher tell the student to to um "clap your

hand for your frie:nds, ” uh and such as the teacher will give the good word such as “awesome” “excellent” fo:r for their presentations. (line 22)

Two additional student brief contributions from Sean can be found in this excerpt; he confirms his classmate’s suggestion and reiterates the term, “*positive reinforcement*” (lines 28, 31). Evidently, his contribution is well elaborated and consists of a definition and evidence to support his point. Sean is able to complete his talk and ensure that it is complete and well understood by others.

Furthermore, student bidding and self-nomination become sporadic while student unsolicited contributions significantly increase. In this exchange, only Kim nominates herself by raising her hand. Without any explicit student self-nominations, the discussion continues with only a few overlapping contributions. For instance, when Eva, Kim, and Jake collaboratively offer the term “*positive reinforcement*” in response to Sean’s contribution, they state the term chorally (lines 32–34) without any teacher invitation. Also, when Mary asks a follow-up question, “*How do you feel when you get this kind of thing from your teacher. You feel-*” (line 37), the sentence is immediately completed by Eva’s brief student contribution, “*wow*” without waiting to be nominated.

The discussion continues with several other students’ unsolicited contributions both brief and extended from Kim, Gail, and Sean, and without any explicit student self-nominations or teacher invitations. This part of the post-intervention whole-class discussion very much resembles an everyday dialogue in which several interlocutors exchange their ideas seamlessly without having to wait to be called upon or nominated by anyone. It is also worth noting that active interlocutors in this part of the discussion sit in three different parts of the rectangle. Here, it can be assumed that the rectangular classroom layout enhances shared turn management as it allows all participants to see and hear each other well enough that all can contribute without clashing.

In summary, Transcript 5.2 demonstrates that during the post-intervention session, everyone’s role was flexible, turn management was shared with less student bidding and self-nominating, Mary talks less giving rise to student talk. Student contributions become more expansive and varied in type and length.

Student Agency and Initiation

Pre-intervention

Prior to the intervention, questions were mostly initiated by Mary whereas the proportion of teacher questions to student questions was more balanced with an increased number of student initiations in the post-intervention session. Transcript 5.3, taken from the pre-intervention session, is presented to exemplify the initiations and cumulation in student contribution during the teacher-led whole-class discussion activity. Prior to the extract, Mary asked the class to cast their votes on the proportion of English (L2) to Thai (L1) they thought appropriate in English language teaching in Thailand. The options of the poll were based upon students' answers from the previous discussion, which were 75:25, 70:30, 80:20, 90:10 and 95:5 respectively. The lecturer starts this part of the discussion by asking the class to share their opinions as to why they selected a proportion of 60 per cent English to 40 per cent Thai to be used in English class.

Transcript 5.3

A whole-class interaction in Mary's pre-intervention session: Any any any ideas?

Line

- | | | |
|----|------------------|--|
| 1 | Mary | Okay. So I want you to sha:re. (.) Let me start off u::m by this one first, forty, si::xty.
Can <u>you</u> tell your friends, (.) why do you think you're going to use <u>Engli:sh</u> (.) for sixty per cent. (1.0) and Thai forty per cent. (3.0)
Sixty forty. (5.0) |
| 2 | Some
Students | ((giggle)) |
| 3 | Mary | Oh they're gone? |
| 4 | Some
Students | ((laugh)) |
| 5 | Mary | Alright? (1.0) Yes.- |
| 6 | Nadia | -I think Thai stude:nts don't know about (.) English language. And a:nd the:y ((speaks softly in Thai to a classmate next to her)) don't (.) don't understand.
(3.0) |
| 7 | Mary | [>Did you say something?< |
| 8 | Eva | [uh so?
u:h I think we can use Thai and English together can (unintelligible) for students, (.) because they don't understand <u>all</u> of the English. (3.5) |
| 9 | Mary | Okay, any ideas? (1.0) If (.) if you want to say, just let me know. (1.0) |
| 10 | Liz | u:h I think they choose sixty per cent of English and forty per cent of Thai because uh Thai students uh in such as in countryside, they |

- don't know uh English uh that much so:: it gonna be better if we use more Thai
- ๓๐๕
- eyy
- oh
- more English.
- 11 Class ((laughs lightly))
- 12 Liz oh
[[((laughs))
- 13 Class [[((laughs loudly))
- 14 Liz More Thai.
- 15 Mary More Thai. Yeah,
Any any any ideas? Something more? Something to add more?
- 16 Kim Yes, I think u::m we use u::h we use uh sixty English, because uh most of Thai students, in rural rural school, u:h they don't u:h have u:h much English teacher that u:h c::an can pronounce o:r (.) can teach them like in the:: city. Yes, so:: when they don't understand all of English but they can use guest- guest- gestu- gesture to make them understand with forty per cent of Thai.
(1.0)
- 17 Mary So, I gue:ss I'm not sure if I'm right or wrong. You you're concerned about students' ability. That's why (.) we u:se (.) sixty forty?
- 18 Some Students Yes.
- 19 Mary Do you agree?
- 20 Eva Yes.
- 21 Mary Yes? So why not fifty-fifty then? why not fifty-fifty per cent? (4.0) why not fifty-fifty (.) but sixty forty. (3.0)
- 22 Nancy Because (.) because it is English class, so:: it's better if (.) we use English (.) mu:ch (.) mo:re (.) much more
- 23 Class [[((laughs lightly))
- 24 Nancy [than Thai-
- 25 Mary Do you mean ((then she stands up to points at 60 on the board and looks back to Nancy)) sixty?-
- 26 Nancy -yes.
- 27 Mary is the
- 28 Nancy after I listen (.) listen
[[((laughs))
- 29 Mary [[((laughs lightly))
- 30 Nancy Because in actua:ls (.) uh in actual situation (1.0) uh it's very work if we use sixty but-
- 31 Mary -So you think sixty is gonna be BETTER because English class is supposed to use English more than (.) Thai, and twenty, more per cent.

There is a marked difference between the number of questions initiated by the lecturer and the students. Ten questions are initiated by Mary, but no student-initiated questions are found

in this episode. The first teacher question (line 1) is responded to by Nadia and is followed by another teacher question addressed to Eva (line 7). There are two additional teacher questions in lines 15 and 17, which are immediately followed by student responses from Liz and Kim. The whole-class discussion continues until Mary summarises a common concern shared by Nadia, Liz, and Kim regarding the students' low English proficiency in less developed areas of the country, "*You you're concerned about students' ability.*" Yet again, Mary initiates another question, "*Do you agree?*" prompting the class to confirm before she asks yet another teacher follow-up question, "*Why not fifty-fifty then?*" (line 21). In fact, this interactional sequence very much resembles the traditional IRF sequence in which the teacher initiates and controls the discussion using questions as a primary tool to get the students to talk.

Moreover, considering Mary's questions, it is found that two are teacher add-on questions, which are often used to encourage several different speakers to talk. For instance, after Eva's contribution in line 8, Mary briefly accepts the contribution stating "*Okay*" and adds a teacher add-on question, "*any ideas?*" The same happens when Liz finishes her talk and Mary adds three similar questions to encourage the class to speak, "*any any any ideas? Something more? Something to add more?*" This series of questions theoretically validates prior student contributions as acceptable, and at the same time, stops the previous student contributor to continue talking or adding more information.

A problem arises when all teacher initiations and student contributions are scrutinised together. It may seem that this episode involves several student speakers with occasional teacher intervention, which is seemingly desirable in whole-class discussions. However, all student contributions are, in fact, either similar or repetitions of the previous answers with different terms. First, Nadia says, "*Thai students don't know about English language. And they don't understand,*" which is almost identical to the following contribution from Eva, "*I think we can use Thai and English together for students because they don't understand all of the English.*" Liz's response is similar with only one slight addition of where those students are located. Her contribution, "*because uh Thai students in such as countryside, they don't know uh English uh that much,*" is merely a combination of her classmates' previous answers. It can be argued that their contributions build on each other. Nevertheless, being too similar in terms of language lends support to the opposing view that the students mainly focus on formulating and delivering their own answer when prompted by the lecturer and do not take their peers' previous contributions into account. It can be concluded that in this the

pre-interventional episode the the students' role is passive rather than active. They are to answer teacher questions when elicited but they have almost no control or initiation of the interaction.

Second, student self-nominations seem mandatory. In this episode, there is a student self-nomination in which students express their willingness to contribute preceding all student talk. To comply with a ground rule introduced at the beginning of the session that all students should raise their hands if they want to talk, three of four student contributors, namely, Nadia, Liz, and Kim, raise their hands and wait until Mary calls upon them before starting to talk.

In conclusion, Transcript 7 demonstrates that during the pre-intervention session, talk is systematically structured, strictly controlled by the lecturer, and both teacher and students' roles are rather rigid. Also, the students refrain from talking until they are called upon by the lecturer.

Post-intervention

In contrast, the interaction in the post-intervention whole-class discussion reflects five key dialogic teaching principles in Mary's pedagogical practice. To illustrate, the following excerpt is taken from towards the end of the second hour of the same post-intervention session in Week 10. Prior to this excerpt, the class has just finished a teacher-led whole-class discussion of the term "*student interaction*" and the current topic of discussion is "*student engagement*." The transcript is presented followed by the analysis.

Transcript 5.4

A whole-class discussion in Mary's post-intervention session: How about you teacher?

Line		
1	Mary	That is about interaction. So, u:m you said teacher and students like we are doing now, can I see thum student and student interaction, talking about (.) next word, please?
2		(2.0)
3	Reese	I got u:h student engagement, I think it's in the part of u:h check check checking uh un- (.) student understanding in the part- in the parti- pa:rtici(.)pa(.)tion of u:h student in the class that showing how what they understand the content in the class, through answer answering the questions or doing the activities that u:h the teache:r made >such as< play game o::r doing exercise in the class.
4	Gail	คนต่อไปเลยเราว่า

- khon-tor-pai-loey-rao-wa*
I think the next person should talk.
- 5 Iris I got the word student engagement too. So I think student engagement is like uh student centre, that make student ca:n learn by doing something, or some activity like, uh game, role play, or something like that. So:., u:h student engagement don't let student, student just sit and receive the information. (.) So it u:h it mean that student have t:u uh do the activity:., and (1.0) yes like that.
(3.0)
- 6 Gail อาจารย์ไม่พูด
ajarn-mai-kui
The lecturer won't talk.
- 7 Iris Do you have any idea (.) about it?
- 8 Class ((giggles))
- 9 Rachel £no no no£
- 10 Kim I think uh student engagement i::s depends on s- u:h (.) an like u::m teacher (unintelligible) like student like everything about engagement like participate? (.) participate participation. Yes. I think the students, uh can participate with u:h (.) this activity together or just something like that. (2.0) Uh do you have u:h any idea, about this? For the example, I think I u:m i::n in this (.) uh in this case like u::m the teacher, the teacher? just like uh just give you assign like 'okay, you do group work, uh uh to present something' but we create the way to present um how to present li:ke your group work, yes. So:., (.) I think in this case this is about the student, u:m can share their idea, or engage with the: activity that they are going to do. (2.5) Do you understand?
(17.0)
- 11
- 12 Kim What do you think, Rachel?
- 13 Rachel £student£ (.) engagement right?-
- 14 Kim -yes.-
- 15 Rachel I think it is (.) like (.) student have to be the pa:rt of like they have their own decision to deci:de what they want to learn is. (unintelligible) I'm not sure,
- 16 Kim Yes.
- 17 Rachel Conclude? This is (.) like it's the part of (unintelligible) um
- 18 Kim Student student is a part of u::h activity that they can create.
Yes.
- 19 Rachel So: the students play major role in i:n,
- 20 Kim Yes, its can be like role play something like that. Just u:h think about it just discuss? discussing in group or something.
You can create.
- 21 Rachel So, what do you think Leo?
- 22 Class ((laughs lightly))
- 23 Leo Yeah, I agree with you two.
- 24 Class ((laughs))
- 25 Kim Because? Becau::se?
- 26 Rachel Becau:se,

- 27 Leo Becau:se (1.0) student (.) can create thei: r (.) o::wn (.) their
o:wn (.) activity.
(6.0)
- 28 Sean And participation
- 29 Eva For for me, u:h the u:h the the example such as teache:r give
the homework that student, find the meaning o:f so:me some
word. And next week, we come and sit and discuss together
and find (.) the four slash one and meaning of that word. (1.5)
Do you understand?
- 30 Rachel Yes
- 31 (6.0)
- 32 Jake Yes? (.) You have an idea? (.)
[You look like
- 33 Nicole [I have no i-
- 34 Jake You have an idea a good idea about that.
- 35 Nicole I have no idea because I'm uh confused about that you said
about
[sitti:ng
- 36 Iris [yes
- 37 Nicole in the-
- 38 Iris -Sitting and uh receive the information from teacher. The
students-
- 39 Nicole So students ca:n move?-
- 40 Iris -Yes. Can move, can do:: everything about the activity. (1.5)
can think, can share their idea:, like that
- 41 Nicole əə
orr
I see
- 42 Some students ((laugh lightly))
- 43 Nicole Yes, I agree.
(12.0)
- 44
- 45 Gail I want to kno:w, uh what is the difference between interaction
and engagement. (3.0) engagement like u:h (1.0) we do
activity?-
- 46 Iris -Yes.
- 47 Gail Interaction is u:h we just talk? Uh I'm not sure.
(1.0)
- 48 Eva In my opinion, I think engagement when the student u:m they
work together, thei:r (1.0) they work together so:: they are
going to get the interaction.
(3.0)
- 49 Kim Engagement is the (.) sub?-
- 50 Eva -Interaction is the sub of the (.)
- 51 Iris [engagement.
- 52 Eva [engagement.
- 53 Class ((laughs lightly))
- 54 Kim Like conversation and (unintelligible)
(9.0)
- 55
- 56 Leo How about you, Sean?

- 57 Class ((laughs lightly))
 58 (6.0)
 59 Sean U:m for my understanding, u:m conclusion of student engagement is um the students have participation, um led by group work, o:r pair work and the student can cheer- can share idea, can create the activities, and can can can think, u::m freely so:, um um (.) the student engagement is the main point of inter-action interaction.-
 60 Eva -Interaction. (1.0) So i::f as you're the teacher and you have to teach £about the pet, what the activity that£
 61 Class [((laughs lightly))
 62 Eva [you design for student
 63 Sean Yeah,
 64 Eva to be the student engagement?
 65 Sean Yeah-
 66 Eva -For examples.
 67 Sean By drawing drawing a picture u:m group group work, yeah. U:m i:n in thei:r in thei:r student group, u:m they can think, they can help, uh each other think about uh what's, (.) pet that the teacher tell the sentences.
 68 Some Hmmm.
 students
 69 Eva £good idea. I like it£
 70 Sean Yeah. (.) Thank you for your patient.
 71 Class ((laughs and some students clap))
 72 (5.0)
 73 Eva อาจารย์มองแล้ว
ajarn-mong-laew
 The lecturer is looking at us now.
 74 Iris How about you teacher what do you think-
 75 Class [((laughs loudly))
 76 Iris [about the different,
 the difference between student engagement, and u:h student interaction.
 77 Mary £as you were saying£
 78 Class ((laughs loudly))
 79 Mary Yeah. Back to you now.
 80 Class ((laughs loudly))
 81 Mary £You guys are doing good good good I like it.£
 82 Sean A:nd how about Mia.
 83 Mia ((giggles))
 84 Class ((laughs lightly))
 85 Leo >What do you mean, what do you mean <.
 86 Eva U:h if you [are student,
 87 Sean [ลื้อ ขอ
Leo-khor
 Leo has requested
 88 Leo [ไม่ต้องบอกเลย
mai-tong-borg-loey

- You shouldn't say it.
- 89 Eva Mia, if you are the student do you like uh the way that teacher teach, [like this-
- 90 Sean [what what way.-
- 91 Jake -Like this.
- 92 Eva Student en- engagement that you can that you:: (.) ca::n (.)-
- 93 Kim -participate-
- 94 Eva -participate with each other. do you like this way.
- 95 Kim (unintelligible) first group?
- 96 (28.0)
- 97 Mia Yes. I like becau:se uh I think share idea with other frie:nds. (.) A::nd (.) I: (.) I ca:n (1.0) ((giggles)) I can uh I can listen uh of idea uh idea of my friends.
- 98 Some
students Hmm.
- 99 Kim Listen to idea?
- 100 Mia Yes.
- 101 (6.0)
- 102 Mary Do you wanna give praise to your friend?
- 103 Eva £Good job.£
- 104 Class ((laughs loudly))
- 105 Eva £excellent£ huh huh clap your hand for your friend three times.
- 106 Class ((claps three times and laughs loudly))
- 107 (5.0)
- 108 Mary Okay. Is it clear to you? And the students will be responsible for their learning. Okay, and get involved. ((nods lightly a few times)) should we move to the next word?

In this excerpt, Mary first deliberately sets up a challenging whole-class discussion task for the class (purposeful). Making a reference back to the term “*student interaction*” previously discussed in this session, she initiates the topic by saying, “*Can I see thum student and student interaction, talking about (.) next word, please?*” (line 1). In fact, this is the first time in her class that she intentionally excludes herself entirely from the class activity. After the prompt, Mary looks down immediately at her desk and acts as if she is engaged with something else, excluding herself entirely and without assigning any student to lead it.

This discussion profoundly reflects the principle of collectivity when Mary and the students address a learning task collectively (Alexander, 2008, 2020). First, this eleven-minute whole-class discussion involves eleven student contributors and the rest of the class as active participants who listen and are engaged attentively. Collectively, the discussion touches upon different aspects of the term “*student engagement*” from co-constructing the definition of the term, providing examples, exploring the differences between “*student engagement*” and

“*student interaction*,” imagining a possible future teaching scenario, justifying answers, evaluating options, and arguing with justifications. This reflects the manifestations of a wide range of the learning talk repertoires students have accumulated and practiced from the previous sessions, their ability to employ them as effective tools to “interthink” (Mercer, 2000), and a more advanced level of cognitive engagement they have reached. This is even more markedly different when compared to the fast-paced rotation participation found pervasive in the pre-intervention interactions.

Moreover, there is evidence of reciprocity. Dialogic teaching is present as interlocutors listen actively and attentively to each other, share their ideas, and consider varying points of view. In this episode, once the discussion regarding the term definition is complete and some examples are given, Gail raises a relevant student initiation, “*I want to know, uh what is the difference between interaction and engagement. (3.0) engagement like u::h (1.0) we do activity? interaction is u::h we just talk?*” (line 45). Also, the students completing each other’s sentences reflects the reciprocity principle. For example, as Kim attempts to summarise Eva’s extended student contribution in line 48, she says, “*Engagement is the (.) sub?*” Evidently, Gail is able to raise a relevant question, which reflects her continued attention.

The supportive principle is also reflected in this session. According to Alexander (2008), “Students articulate their ideas freely, without fear of embarrassment over ‘wrong’ answers; and they help each other to reach common understandings” (p. 38). First, it is evident that the students help and support each other to reach common understandings. For instance, Nicole openly admits that she has yet to understand Iris’s extended contribution in line 5 regarding student engagement; she states, “*I have no idea because I’m uh confused about that you said about [sitti:ng]*” (line 35), and “*So students can move?*” (line 39).

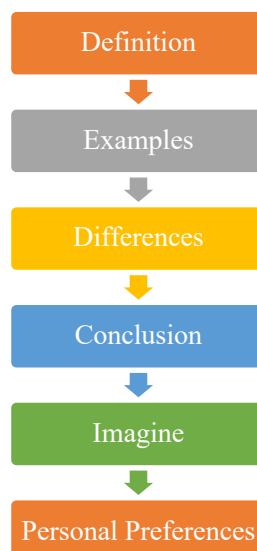
Additionally, the students appear to express their ideas and elaborate their opinions more confidently. For example, Kim’s extended contribution of the term “*student engagement*” differs greatly from Reese’s answer. This is because Reese’s contribution is more like a presentation (Mercer, 2000) as it is well prepared and comprehensive despite some repetitions. This contribution often occurs when students are well prepared as they do not want to take any risk by giving an unacceptable or incomplete answer. This is confirmed by the fact that Reese nominates herself to talk about the terms as soon as Mary prompts, and

she also reads her answer off her notes. Doing so minimises the risk of being wrong by giving an unstructured or an unprepared answer in her case. On the other hand, Kim's contribution (line 10) can be characterised as a "think aloud" answer as it is filled with several pauses and elongations, which suggest that she is thinking as she articulates her answer. Particularly, when Kim says, "*like student like everything about engagement like participate? (.) participate participation,*" it is as if she is speaking her mind and testing out which term sounds more valid and should be used not only by her but also her classmates simultaneously. This, together with her question to classmates, "*Do you understand?*" at the end of her turn, suggests that she is uncertain whether her contribution makes sense to her peers and thus seeks their confirmation. This certainly implies how supported and comfortable she feels as she is able to speak out her ideas even when she has not yet completely understood it.

More importantly, cumulation is substantially manifested in Mary's post-intervention session. The cumulative principle occurs when students "build on their own and each other's contributions and chain them into coherent lines of thinking and understand[ing]" (Alexander, 2018, p. 6). This is the most challenging of the principles to implement as it involves the meaning of talk rather than the dynamics of talk. Without Mary's involvement or intervention, all student contributions are chained coherently, and the organisation is illustrated in Figure 5.6 below.

Figure 5.6

Organisation of the whole-class discussion on "student engagement"



This discussion sequence is chained into one logical line of thinking. It begins with the discussion of the definition of the term, and some examples are given by Reese and Iris (lines 3, 5). Kim, Eva, Rachel, and Leo collaboratively explore the topic further and provide more classroom activity examples that can be employed to promote student engagement (lines 9-30). Next, Nicole and Gail raise two relevant questions (lines 39, 45) that expand the discussion and prompt the class to critically and collaboratively analyse similarities and differences between the terms “*interaction*” and “*engagement*.” These questions stimulate students to explain, analyse, explore, imagine, argue, justify, and evaluate their peers’ contributions resulting in even more thought-provoking comments and contributions from several students. As the whole-class discussion continues, the students consider some personal preferences of activities that can enhance student engagement.

In conclusion, the whole-class discussions during the pre- and post-intervention sessions differed substantially in terms of Mary’s pedagogical practice and manifestation of dialogic teaching principles. Even though her teachings aligned with collectivity, supportiveness, and cumulation in both sessions, it was in the post-intervention session that her pedagogical practice distinctively and extensively became more dialogic teaching aligning with all five key principles as presented above. It included an extended talk repertoire employed by both Mary and her students, a better balance of questions and initiations generated by the students, a more streamlined discussion, and increased students’ agency in taking the lead in their own learning.

Interim Summary

1. In the post-intervention session, there were several changes in turn management, teacher talk, wait time, and student talk and self-nomination in Mary’s whole-class discussion activities.
2. Turn management changed to a shared experience after the intervention.
3. In the post-intervention whole-class discussion, everyone’s role was flexible, turn management was shared with fewer students bidding and self-nominating, Mary talked less giving rise to increased student talk. Student contributions became more expansive and varied in type and length.
4. Prior to the intervention, questions were mostly raised by Mary, whereas the proportion of teacher questions to student questions was more balanced with an increased number of student initiations.

5. While the pre-intervention whole-class discussion was systematically structured, strictly controlled by the lecturer, and both teacher and student roles were rather rigid, the students took a more active role in the post-intervention session, taking the lead in initiating questions and contributing extendedly and without any teacher cues or prompts.
6. Even though her teachings aligned with three main principles of collectivity, supportiveness, and cumulation in both sessions, it was in the post-intervention that her practice distinctively and extensively became more dialogic, aligning with all five key dialogic teaching principles as reflected through various embedded elements, including extended talk repertoire employed by both Mary herself and her students, a better balance of questions and initiations generated by the students, a more streamlined discussion, and student agency in their own learning.

4. Findings of Student Questionnaire Analysis

This section presents the findings of the quantitative analysis of Mary's pre- and post-intervention student questionnaires, which were composed of two main parts. The first part consisted of statements to which the respondents were asked to select the degree to which each statement reflected their ideas or perceptions on a Likert scale from 1 to 5 (with 1 being strongly disagree and 5 being strongly agree). It was classified further in three sub-categories: 1) *understanding of the course content*, 2) *classroom climate*, and 3) *language articulation*. Another section of the questionnaire contained 11 challenges. For the pre-intervention questionnaire, the respondents were asked to select five challenges they anticipated encountering regarding whether talk became a main element of the teaching. For the post-intervention questionnaire, the students were asked to report five issues they found difficult during the dialogic teaching implementation. The same questionnaire was administered in person twice, before and after the intervention. Of 24 students, 16 responded to the pre-intervention questionnaire, and 23 responded to the post-intervention counterpart. All answers were tallied and calculated following the descriptive statistical analysis principles of average and standard deviation. The results were compared, and similarities and differences were identified.

Overall

Overall, the findings suggest that the students found dialogic teaching an effective pedagogical approach as it improved classroom climate, students' language articulation, and their understanding of the course content. Furthermore, the respondents encountered several challenges they had anticipated before the intervention. There were, nonetheless, changes in their perceptions towards difficulties they actually faced.

Table 5.1

Results of Mary's pre- and post-intervention student questionnaires: Overall

Categories and Sub-categories	Pre-intervention		Post-intervention	
	Mean	Level of Agreement	Mean	Level of Agreement
A. Understanding of the course content	4.05	Agree	4.53	Strongly Agree
SD	0.62		0.57	
Benefits of talk on students' understanding of the course content	4.27	Agree	4.48	Agree

Benefits of listening to peers on their understanding of the course content	3.93	Agree	4.56	Strongly Agree
B. Classroom Climate	3.88	Agree	4.28	Agree
SD	0.77		0.80	
1. Overall	3.80	Agree	4.04	Agree
2. Lecturer	4.13	Agree	4.52	Strongly Agree
3. Peers	3.67	Agree	4.38	Agree
C. Communication Skills	3.09	Neutral	4.40	Agree
SD	0.87		0.73	

As seen in Table 5.1, the students' perceptions of understanding the course contents, classroom climate, and language articulatory improved to varying degrees. Their perceptions of dialogic teaching also improved from pre- to post-intervention questionnaires.

The greatest increase was in the students' perceptions of their language articulatory, which rose steeply from 3.09 to 4.40 after the intervention. Their understanding of the course content increased from 4.05 to 4.53, and classroom climate rose from 3.88 to 4.28. The findings suggest that the students had a more positive perception towards Mary's pedagogical practice and their communication skills after the intervention.

Understanding of the Course Content

Next, a closer consideration of the benefits of talk on students' understanding of the course content revealed that the students believed that classroom talk helped them to better understand the course content as illustrated in Table 5.2.

Table 5.2

Results of Mary's pre- and post-intervention student questionnaires: Understanding of the course content

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Benefits of talk on students' understanding of the course content		4.27	4.48
1.	Talking with my peers and lecturer during discussions improves my understanding.	4.31	4.43
2.	My ideas become clearer when I have opportunities to talk about them with peers and lecturer than when I only think by myself.	4.25	4.65
3.	I am more confident about my understanding after talking with peers and lecturer during the discussion than when I only think by myself.	4.25	4.35

Table 5.2 reflects the benefits of talk among the students. The most significant finding is that the students believed their ideas became clearer when having opportunities to talk with others. The average rose from 4.42 (agree) to 4.65 (strongly agree). This increase suggests that the students viewed discussions with others an effective way to assist their learning of the course content. Further, they believed that discussions helped them develop not only their content understandings but also their confidence in their understandings.

Benefits of Listening to Peers

The benefits of listening to classmates on the students' understanding of the course content results are presented in the following table.

Table 5.3

Results of Mary's pre- and post-intervention student questionnaires: Benefits of listening to peers

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Benefits of listening to peers on their understanding of the course content		3.93	4.56
4.	I like to listen to my peers' ideas and opinions.	4.25	4.74
5.	I find listening to my peers helpful to my understanding.	3.75	4.65
6.	I learn from my peers when they share their opinions during the discussion.	4.19	4.65
7.	I understand the topic better even when I observe the class discussion without participating through talk.	3.63	4.39
8.	I feel inspired by my peers' ideas and opinions.	3.81	4.36

Overall, the students found listening to their classmates beneficial for their understanding of the course content. As revealed by Table 5.3, the overall average in this sub-category rose sharply from 3.93 (agree) to 4.56 (strongly agree) after the intervention; all items increased by 0.5 or more. Particularly, while the students strongly favoured listening to their classmates' ideas and opinions, the most substantial surge is the statement, "*I find listening to peers helpful to my understanding,*" which increased by almost 1.0 from 3.75 to 4.65. In addition, the post-intervention findings showed that the students felt strongly positive about listening to their classmates (4.74) because they learned from them (4.65) and were inspired by the shared ideas and opinions (4.36). It was also found that the students believed that their

understanding improved by observing whole-class discussions passively. The means hiked from 3.63 to 4.39 after the intervention.

Classroom Climate

The questionnaire findings regarding classroom climate in Mary's course indicated the students generally felt more supported and comfortable in her class after the adoption of the dialogic teaching as shown in Table 5.4.

Table 5.4

Results of Mary's pre- and post-intervention student questionnaires: Classroom climate

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Overall		3.80	4.04
9.	I am encouraged to talk in class.	3.81	4.52
10.	I feel comfortable speaking in class.	3.56	3.96
11.	I am motivated to come to class.	4	3.52
13.	I feel comfortable to share my ideas in English in class.	3.06	3.78
14.	I have opportunities to share my ideas in class.	3.69	4.65
15.	I have enough time to think and prepare my answer before sharing it in class.	3.56	3.91

As presented in Table 5.4, they students believed they were encouraged to talk in class and had ample time to think and prepare before contributing to the whole-class discussions. More importantly, not only did the students feel much more comfortable speaking in class, but to share their ideas in English. The most significant increase was the item, "*I feel comfortable to share my ideas in English in class,*" which rose from 3.06 to 3.78. Conversely, it was found that despite feeling welcome and comfortable, the students were less motivated to come to class and the average declined from 4 to 3.52.

Classroom Climate – Lecturer

A closer consideration of classroom climate, particularly focusing on Mary's dialogic teaching manifestation in talk and creating a safe and secure classroom climate for the students, found an important development as summarised in the following table.

Table 5.5

Results of Mary's pre- and post-intervention student questionnaires: Classroom climate–Lecturer

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Lecturer		4.49	4.77
17.	The lecturer values my opinions.	4.19	4.52
18.	I like the lecturer's teaching style.	4.44	4.48
19.	I feel comfortable to share my ideas with the lecturer in class.	3.88	4.26
20.	The lecturer asks questions to help me think and elaborate my answers.	4	4.78
21.	The lecturer encourages me and my peers to talk more.	4.31	4.83
22.	The lecturer makes me feel safe and welcomed to share my ideas.	3.94	4.27

The overall means in the lecturer category increased from 4.49 to 4.77 following the intervention. The students had a positive attitude towards Mary even before the intervention and their view improved further after it. As shown in Table 13, they reported that they liked Mary's teaching style, that she valued their opinions, and that they felt comfortable sharing their ideas with her. The most marked rise is the item, "*The lecturer asks questions to help me think and elaborate my answers,*" rising steeply from 4 to 4.78. Similarly, the students reported an increase from 4.31 to 4.83 for the item, "*The lecturer encourages me and my peers to talk more.*" It can be concluded that the students were encouraged and felt safe, welcome, and comfortable sharing their ideas in Mary's class after the intervention.

Classroom Climate – Peers

The relationship among students plays an essential role in dialogic teaching as it helps create a nurturing ethos for talk and discussion, learning and knowledge co-construction; this proved to be the case in Mary's class. The important findings are presented in the following table.

Table 5.6

Results of Mary's pre- and post-intervention student questionnaires: Classroom climate–Peers

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
Peers		3.67	4.38
23.	My peers value my opinion.	3.63	4.26
24.	I feel comfortable to share my ideas with peers in class.	3.81	4.35
25.	My peers ask questions to help me think and elaborate more.	3.5	4.43
26.	My peers make me feel comfortable to share my ideas in class.	3.75	4.48

According to Table 5.6, albeit not as significant as the lecturer, the students felt positively towards their classmates before and after the intervention; that sub-category rose steeply from 3.67 to 4.38. Like those of Mary, the averages in this category increased to varying degrees. Among all increased averages, the highest surge was in, “*My peers ask questions to help me think and elaborate more*” as it rocketed by almost one point from 3.5 to 4.43. Similarly, the average of “*My peers make me feel comfortable to share my ideas in class*” also increased from 3.75 to 4.48. Given these increased averages in this category, it can be concluded that the students deemed their classmates an important factor in creating an ethos for dialogic teaching and with their support, the students felt welcome and willing to contribute to whole-class discussions.

Students' Communication Skills

Moreover, as talk is an important learning tool in the dialogic teaching approach, being fluent and able to articulate well is crucial. As English majors, the students were asked to report on this part of the questionnaire specifically about their English proficiency and communication skills. As mentioned, among the three main categories of the dialogic teaching implementation in Mary's teaching practice, it was found that the students felt the most profoundly about their own English language fluency and communication skills. Key findings are presented in Table 5.7.

Table 5.7

Results of Mary's pre- and post-intervention student questionnaires: Student communication skills

Items, Categories, and Sub-categories		Pre-intervention Mean	Post-intervention Mean
29.	I am confident to speak English	2.88	4.30
30.	I speak English fluently. I articulate well.	2.69	4.22
31.	I am motivated to learn English.	4	4.61
32.	I want to be more fluent in English	4.94	4.65

As seen in Table 5.7, the findings suggest that the intervention improved students' confidence, developed their English fluency, and motivated them to be more proficient. While the students were barely confident to speak English in class prior to the intervention, their confidence improved by over 1.4 from 2.88 to 4.30. More importantly, the highest increased average was in the statement, "*I speak English fluently. I articulate well.*" The students believed their English fluency improved significantly after the intervention from 2.69 to 4.22. On the other hand, it is worth noting that the mean of students wanting to be more fluent in English dropped by 0.3 from 4.94 to 4.65. It can be summarised that following dialogic teaching adoption in Mary's course, the students developed their confidence and English fluency. They also became even more motivated to learn English.

Challenges

In addition, the last section of student questionnaire required the students to select five challenges they encountered during the intervention session. The results are presented in Table 5.8.

Table 5.8

Results of challenges the student expected in pre-intervention session and those they encountered during dialogic teaching implementation

Challenges	Pre- (Total = 16) %	Post- (Total = 23) %
a. My English language problem	68.75	78.26
b. Lack of opportunities to talk in class	25	17.39
c. Belief that other students will talk	18.75	34.78

d. Insufficient time to prepare before talking in class	68.75	78.26
e. Fear of being judged by peers and lecturer	56.25	43.48
f. Lack of topic knowledge and understanding	87.50	79.17
g. Fear of being wrong or not giving fully developed ideas	100	95.83
h. Shyness/Embarrassment to talk in front of peers in class	31.25	26.09
i. Do not want to be rude by challenging the lecturer or peers	12.5	0
j. Do not want to interrupt the lecturer while speaking	6.25	4.35
k. Do not want to interrupt the flow of the class discussion	25	34.78

Overall, the challenges remain constant in both pre- and post-intervention questionnaires. The five most frequently selected challenges (highlighted) are 1) *fear of being wrong or not giving fully developed ideas*, 2) *lack of topic knowledge and understanding*, 3) *insufficient time to prepare before talking in class*, 4) *my English language problem*, and 5) *fear of being judged by peers and lecturer*.

Interestingly, the top three challenges were related to the students' self-evaluation of their knowledge and language proficiency.

Given that the current study was conducted in Thailand where politeness is highly valued, two challenges related to these issues were chosen by none and one student. They were: *do not want to interrupt the flow of the class discussion* and *do not want to be rude by challenging the lecturer or peers*. The low selection of these challenges may suggest that the students did not feel interrupting classroom activities impolite. This could be a result of the safe, secure and friendly environment, and compliance with the ground rules. In other words, the whole-class discussion became more like dialogue to the students where they felt comfortable sharing their ideas and opinions openly without fear of appearing rude.

In conclusion, despite some challenges and difficulties the students faced during the dialogic teaching implementation, they found it an effective approach to their learning. It created a supportive classroom environment for learning and teaching, helped the students develop their language articulacy, and improved their understanding of the course content and knowledge retention.

Interim Summary

1. According to student questionnaire findings, the students found dialogic teaching an effective pedagogical approach as it improved classroom climate, their language articulacy, and their understanding of the course content.
2. The students felt the most profoundly about *their own English language fluency and articulacy*.
3. The students believed that classroom talk helped them to better understand the course content, and they became more confident in their own understandings.
4. The students deemed their classmates an important factor in creating an ethos for dialogic teaching, and with their support, the students felt welcome and willing to contribute in whole-class discussions.
5. Following the dialogic teaching adoption, the students developed their confidence and English fluency, and they became even more motivated to learn English.
6. The students reported the same five main challenges they anticipated and faced during the dialogic teaching implementation. The five most frequently selected challenges are 1) *fear of being wrong or not giving fully developed ideas*, 2) *lack of topic knowledge and understanding*, 3) *insufficient time to prepare before talking in class*, 4) *my English language problem*, and 5) *fear of being judged by peers and lecturer*.

5. Findings from Student Group Interviews

In Mary's class, two group interviews were conducted with the same five randomly selected students: Rose, Iris, Grace, Nicole, and Rachel. Overall, the student group interview results indicated that the students found dialogic teaching an effective pedagogical approach as it improved classroom climate, their language articulacy, and their understanding of the course content.

Benefits of Talk

In the pre-intervention interview, the students viewed whole-class discussion activities to learn course content. Through talk and discussion, the students were able to learn by comparing their own understandings with those of their classmates. The students felt closer, more intimate, and comfortable talking with their classmates than to Mary because according to Nicole, "*We speak the same language, and our relationship is closer. I am afraid to ask her [the lecturer] the questions some time.*" This highlights that like other students, the relationship among the classmates played a significant role in their learning. However, all student interviewees agreed that they sometimes doubted the correctness of their classmates' contributions.

In contrast, talking with peers benefited the students' understanding of the course content and yet was sometimes problematic. That is, Iris noted in the post-intervention interview that "*it [talking to peers] helps us to think more critically and holistically because sometimes we may not think of the ideas until the classmates shared in the whole-class discussion.*" Nonetheless, Nicole reported, "*Talking with peers can be confusing when the class discusses a topic in-depth because I felt lost and confused sometimes.*" In the same vein, Grace suggested that "*the lecturer use some Thai (5%) to explain the content to ensure that everyone is on the same page.*" Altogether, these comments indicate that although whole-class discussions can be useful, it can be overwhelming for some students. It is important for the lecturer to be sensitive and assist the students to best learn from this type of classroom activity.

It should be noted that during the post-intervention group interview, the students did not mention or compare their relationship with peers to that with Mary as they did in the pre-intervention interview.

Benefits of Listening to Peers

Even though the student interviewees found listening to their peers helpful to their understandings of the course content in both pre- and post-intervention interviews, their views differed greatly. On the one hand, the students liked to listen to their peers' opinions during discussions; however, they were uncertain whether they could be confident in their classmates' knowledge, and thus, confirmation from the lecturer was needed as noted by Nicole during the pre-intervention interview. On the other hand, after the intervention, the students found their classmates' questions diverse, useful, and thought-provoking. Rachel noted that the student questions prompted her and the other classmates to think more critically and comprehensively about the given topics and thus she and her classmates often felt exhausted after Mary's course due to its intense concentration and continued engagement when they barely moved around.

Furthermore, because of the active engagement in knowledge co-construction, the students believed that dialogic teaching led to improved knowledge retention. When compared to attending traditional lecturer-based classes, the students implicitly learned the course content more efficiently through class discussions without having to take many notes (Nicole and Rachel, post-intervention student group interview). Nicole added, "*Listening to peers is an effective way to learn a lot of content more easily and it aids knowledge retention. Like the previous quiz on four teaching methods. I didn't really study much for it, but I could still do it.*" She felt this was because she already understood and was able to retain the knowledge gained from the class discussions.

The students preferred discussions over lectures. In the post-intervention student interview, Rachel stated, "*Discussion helps with understanding and retention. We felt exhausted on the day that we discussed until 6 in class although we did not do much, just discussed.*" Also, Nicole asserted that "*lectures can be boring, but discussions make us alert and never feel sleepy. Time flies quickly when we discussed.*"

Classroom Climate

1. Overall

Pre-intervention. Mary encouraged the students to share their ideas during whole-class discussion activities prior to and after the intervention; however, they found the language barrier a challenge throughout. In the pre-intervention interview, all agreed that they felt

comfortable speaking and sharing with the class if they knew and understood the topic well. However, they would feel pressure when having to talk about something that they did not fully understand. Iris said, *“I was worried about the course because I did not know what to expect but believe it would be difficult.”* Another concern shared by Nicole and Rachel was using the English language. Nicole reported, *“I am worried if I will make grammatical mistakes in front of the peers.”* Similarly, Rachel noted, *“It is okay if I have time to prepare such as if it is homework.”*

Post-intervention. In addition to Mary, the students were encouraged by their classmates to contribute to whole-class discussions. Grace shared this anecdote of the second session when one of her classmates encouraged her to talk in class:

A friend of mine encouraged me to talk in class. I agreed with her, and then I was brave to talk more in class without fear of making mistakes. I just need to speak up and share my ideas. I chose to try to speak English first and switch to Thai when I got stuck or did not know how to express my ideas in English. I chose to try first.

It was evident in the classroom data that Grace occasionally code-switched between English and Thai during her contributions. She added, *“I felt great and inspired. I did not realise that I can speak Thai in class and my classmates find it alright.”*

The language barrier hindered student talk. In the post-intervention interview, the language problem was expressed by three students. First, Nicole said, *“There is still a language barrier that makes me not 100% comfortable speaking in class.”* A more frequent speaker, Rachel, shared a similar view, saying, *“I can speak and express my ideas in Thai but sometimes I find it difficult to do so in English. It is also easy to lose track of my own thinking stream when I have to speak in English.”* This is also in line with Grace’s comment, *“I am not confident to speak English. I cannot do it promptly.”*

In the post-intervention interview, the students agreed that they were motivated to come to Mary’s session like other courses. Iris remarked, *“I am motivated to go to other classes, too.”* Grace suggested, *“This course requires a lot of thinking and consumes a lot of energy. It would have been better if it was allocated in the morning when we are fresh and more energetic.”*

Students agreed that the wait time could be longer. Iris mentioned in the post-intervention interview, *“With the time given, I still felt that my ideas were incomplete, especially when Lecturer Mary asked some questions.”* Rachel added, *“There were some questions that I had no ideas [how to answer].”* Iris also commented that she felt encouraged when Mary initiated a teacher question and informed the students to take their time because according to her, *“I can spend time to discuss or talk about the topic with my peers next to me first.”* These comments suggest that the students could benefit more and would appreciate longer wait times.

2. Lecturer

Pre-intervention. The student interviewees were concerned about Mary in several ways. First, they strongly agreed that Mary valued their opinions. Nicole noted, *“The lecturer is friendly. I feel safe and dare to talk more in class.”* Similarly, Iris added, *“The lecturer is receptive and listens to us carefully and respectfully. I never feel bad to talk in class and when my contribution is incomplete or not fully correct because the lecturer would add what was missing.”* Rachel commented on Mary’s teaching practice thus, *“I was a bit scared at first. But once I saw her teaching, I was much more relieved.”*

Not all the students felt safe in Mary’s class, and Grace and Rachel stated that a teacher’s personality plays an important role when it comes to teaching. Rachel stated, *“There is a space between students and the lecturer, but we do not feel scared or uncomfortable being around her. When it gets serious, Mary is respectful rather than terrifying.”* On the other hand, Nicole asserted that she felt comfortable with Mary because of her voice, personality, and facial expressions. Grace also noted, *“Lecturer Mary employed a range of activities from individual work to pair and group work, enabling them to work with different peers, especially those they were not familiar with.”*

Post-intervention. The students gradually felt safe to talk in Mary’s course for several reasons. First, they reported that they felt that they pressured themselves. However, with help and support from both their peers and Mary through her eye contact, smiling, and nodding, they felt safe and welcome to share their ideas. Iris said, *“Lecturer Mary never said that we have to be perfect grammatically. She never reproved or made us feel discouraged.”*

When questioned about Mary's teaching, they called it a positive surprise. Rachel reported, "*I was sceptical about it but later found that I learned so much from the discussions and the retention is great without me taking notes. It was a good surprise.*"

3. Peers

Pre-intervention. While peers were a concern among the student interviewees in the pre-intervention interview, they were not in the post-intervention interview. Grace, who identified herself not a top student, stated, "*I do not know if they [my classmates] would listen to me because I am not that smart.*" This was similar to a more frequent contributor, Rachel, who remarked, "*I am not sure if they agree with me.*" Although these comments were different, they indicate that both Grace and Rachel were uncertain whether their ideas would be accepted by their classmates.

Post-intervention. The students did not express peers as a main concern regarding their talk in whole-class discussions after the intervention.

Communication Skills

Pre-intervention. The students were not confident about speaking English as they were afraid of being judged and making grammatical mistakes. Rachel explained, "*Since the students do not get to use English outside the class in our daily life, we do not feel as confident using it. We are afraid to be judged.*" Grace and Rachel believed that the fear is rooted in English education in Thailand. "*Grammar has always been the focus of English education in Thailand. Even though teachers never state explicitly that we must be grammatically correct, it is difficult for us to change our belief,*" noted Grace and Rachel. In addition, as future English teachers themselves, the students believed they should be corrected. Iris and Rachel were concerned about their English and stated, "*We have to be role models who our students can look up to.*" In fact, these concerns stemmed from students themselves rather than any external factors. The idea of being ideal or perfectly correct has been deeply rooted in English education in Thailand.

Post-intervention. The students' views towards their English changed drastically after the intervention. First, they viewed this course as a space for practice. Unlike the pre-intervention interview, the students did not mention their concerns regarding being judged, perfect, or

grammatically correct. Iris noted that, “*Mary’s session is a space for us to practice speaking English.*”

Furthermore, the students felt inspired to learn more. In this course, Grace was inspired by her classmates Luke and Rachel. “*I feel that I have to be better than my yesterday’s self,*” said Grace. In fact, some students reported their English proficiency and articulacy improved after the intervention. Iris said, “*I can think and speak English now unlike in the past I had to think in Thai and translate that into English.*”

Challenges

The students’ views of challenges prior to and after the intervention remained rather similar. That is, they were concerned about their language fluency and articulacy, having adequate preparation time for their contributions during whole-class discussion activities, and their own topic knowledge and understanding throughout the intervention. *Language problem[s]* (5), *insufficient time to prepare to talk* (5), *lack of topic’s knowledge and understanding* (5), and *fear of being wrong or not giving fully developed ideas* (5) were the top four challenges selected by the students in the pre-intervention interview. Iris commented as to why language was one of the greatest challenges among all the students, “*Grammar and vocabulary are my main concerns so that I’m not confident to speak. I feel that I’m not as good as them and should be better.*” This was shared by other students in the pre-intervention interview. Moreover, all five students chose *insufficient time to prepare to talk* as a challenge, and Iris explained, “*If I have to think and speak, I think I cannot do it well.*” Next, Rachel reported how her lack of topic knowledge and understanding affected her, “*If I don’t have firm understanding about something, I’m not confident.*” Similarly, Nicole added, “*If I don’t have enough knowledge, I’m afraid to speak.*” In addition to the top four challenges selected by all students, *fear of being judged by peers and lecturer* (2), *shyness/embarrassment to talk in front of peers in class* (2), and *do not want to interrupt the flow of the class discussion* (1) were also selected by the students as anticipated challenges. It is worth noting that *lack of opportunities to talk*, *do not want to be rude by challenging the lecturer or peers*, and *do not want to interrupt the lecturer while speaking* were not selected by any students. This could be because the students believed there were opportunities for them to speak and their relationships with the lecturer and among themselves were close enough not to feel rude or be intimidating to one another even when talk became critical in teaching and instructions.

Similarly, the most frequently selected challenges were *language problem[s]* (5), *insufficient time to prepare to talk* (5), *lack of topic knowledge and understanding* (5), and *fear of being wrong or not giving fully developed ideas* (5). The concern regarding the language issue was readdressed by Iris in the post-intervention interview, “*If I were more fluent, I would be able to share my ideas more. But sometimes I cannot express what I want to share because I don’t know what words to use.*” Grace added, “*If this wasn’t an issue, I would be more confident to speak.*” Apparently, the language issue was a main challenge for this group of students throughout the intervention, and it inevitably lowered their confidence and hindered their participation. Like the pre-intervention interview results, it was found that the students still believed their preparation time for talk was insufficient. Rachel explained that “*in some topics, we needed more time to think more carefully.*” When it comes to discussing topics new to the students, *lack of topic knowledge and understanding* played a significant role. According to Iris, “*Because in some topics that I don’t really know, I don’t know what to say. What I can do is listening to my classmates.*” Another remaining main concern included in both pre- and post-intervention student group interviews was *fear of being wrong or not giving fully developed ideas*. Rachel said, “*I’m not sure whether what I say is right.*” It is interesting that *shyness/embarrassment to talk in front of peers in class* was not chosen by any students in the post-intervention interview. The same happened with *lack of opportunities to talk in class, do not want to be rude by challenging the lecturer or peers, do not want to interrupt the lecturer while speaking, and do not want to interrupt the flow of the class discussion*.

In conclusion, the student group interview findings suggest that they prioritised their language fluency and articulacy, time to prepare for their contribution during whole-class discussion activities, and their topic knowledge and understanding throughout the intervention. On the other hand, *lack of opportunities to talk in whole-class discussions, shyness or embarrassment to talk in class, fear of being judged by others, and interruptions the peers, lecturer, and activity flow* were not their main concerns prior to and after the intervention.

Interim Summary

The student group interview findings suggest the following:

1. The students found dialogic teaching an effective pedagogical approach as it improved classroom climate, students' language articulacy, and understanding of the course content.
2. In the pre-intervention interview, the students used whole-class discussion activities to learn course content. Although whole-class discussions can be useful, they can be overwhelming for some.
3. Even though the students found listening to their peers helpful to their understanding of the course content in both pre- and post-intervention interviews, they were concerned that their peers' contributions in the pre-intervention interview. However, they found their classmates' questions diverse, useful, and thought-provoking in the post-intervention interview.
4. The students believed that dialogic teaching led to improved knowledge retention as a result of active engagement in knowledge co-construction.
5. The students were encouraged by Mary to share their ideas during whole-class discussion activities prior to and after the intervention; however, they found the language barrier a challenge throughout.
6. Both the lecturer and classmates were influential in encouraging the students to contribute to whole-class discussions.
7. The students were sceptical about Mary's teaching but gradually felt safe to talk due to their peer support and Mary's nonverbal language including eye contact, smiling, and nodding.
8. While peers were a concern among the student interviewees in the pre-intervention interview, that was not an issue in the post-intervention interview.
9. The students were initially not confident speaking English as they were afraid of being judged and making grammatical mistakes. However, their view towards their English changed drastically as they deemed Mary's course a practice for their English and felt inspired to learn more; some reported their English proficiency and articulacy improved after the intervention.
10. The students were concerned about their language fluency and articulacy, having adequate preparation time for their contribution during whole-class discussion activities, and their own topic knowledge and understanding throughout the intervention.

6. Findings from Lecturer Interviews

The following section presents Mary's interview findings regarding her perception of dialogic teaching before and after the intervention.

Lecturer's Teaching Strategies and Talk Practices

Reflecting upon her pedagogical strategies and talk practices prior to and after the intervention, Mary believed there were several improvements in her teaching. She believed that dialogic teaching helped improve overall classroom talk and student talk and engagement, and yet she found it in conflict with her personality.

1. Teacher Talk Practices and Classroom Interaction

A significant improvement in Mary's pedagogical practice was her teacher talk and classroom interactions. With the key dialogic teaching principles in mind, she was able to use talk strategically. Her initiations and follow-up moves, in particular, became more carefully constructed with the goal of stimulating and engaging students in more meaningful whole-class discussions. Mary reported this in the post-intervention interview:

I asked more questions and became more conscious about phrasing them and not to give away too much. Before, I had asked yes/no questions followed by why questions. The students had to support and justify their answers. I have been more careful with my own questions so that they can scaffold further.

As a result, classroom interaction was expanded and lengthened as she noted in the same interview, "*Before this, the interaction was between the lecturer and a student or between a student and the lecturer, but now it can be between students themselves. This was new to me.*"

2. Wait Time

By minimising her teacher talk, Mary was able to extend the response wait time significantly. Prior to the intervention, she believed that her wait time of approximately eight seconds was sufficient. After implementing dialogic teaching, she remarked, "*This changed as I waited longer. In the past, I waited about eight seconds, but now I wait much longer, and it affects student talk.*" Mary noted in the post-intervention interview that with less teacher talk and longer wait time, the students became more deeply engaged in their own learning and development.

3. Lecturer-students Relationship

Mary believed that the dialogic teaching approach improved her relationship with her students. She said this in the post-intervention interview:

I was worried at first, but I could not imagine how it [dialogic teaching] would be like. I was worried that the students would think I did not teach well. Later, I could see that the class environment was okay. Dialogic teaching helped develop the teacher-student relationship and it established trust between the lecturer and students.

4. Students' Opportunities to Talk

Although Mary believed that her students had more opportunities to talk, she was concerned that her focus on dialogue and the students' courage and English proficiency level might hinder their participation.

Initially, Mary had a positive view towards asking questions and considered her questions learning opportunities for the students. She noted in the pre-intervention interview:

I like to ask questions. When I ask questions, their answers can be either correct or incorrect, but they try to answer the questions. When their answers are not something I look for nor something I want them to be able to come up with, I keep asking because it helps them to remember. I don't ask to learn but I want the students to learn.

After dialogic teaching, Mary's view differed as she believed the students had more opportunities to contribute. Their opportunities to talk included her teacher questions and their unsolicited contributions during whole-class discussions. Nevertheless, due to the amount of the course content and her gradual understanding of dialogic teaching, Mary was concerned about the students having too many opportunities to talk and becoming drained afterwards. Mary remarked in the post-intervention interview:

Since there is so much content to cover in this course, sometimes there are too many opportunities for them talk. There should be other activities so that the students would not feel drained or exhausted. Sometimes the students spent 3-4 hours in class, but

they enjoyed it and did not feel exhausted like this. But because I wanted the dialogue to occur, I only focused on it.

Additionally, it was found that Mary was concerned that students' courage and English proficiency would hinder their participation in whole-class discussions. In the post-intervention interview, she said, *"I gave them opportunities to elaborate [on] their ideas when unclear and to share their ideas and opinions during whole-class discussions. I believe it is their courage and language proficiency that hold them back."*

5. Lecturer Talk to Student Talk Ratio

Teacher talk and student talk in Mary's class became more balanced. Mary profoundly believes in student engagement and her main strategy to involve them was asking questions. In the pre-intervention lecturer interview, Mary reported that she used questions to provoke her students to think; she said:

I ask guiding questions and when the students answer, I will ask more questions to them or ask other students questions like, "Do you have any questions? Do you think it is okay? Why or why not?" I use questions to provoke them to think. I cannot ask a question and end a topic right away. A topic discussion lasts quite long.

According to Mary's pre-intervention interview, her questions functioned as scaffolds guiding the students to think more critically and become more involved in learning.

Mary believes that her teacher talk decreased gradually following her dialogic teaching adoption. Unlike the beginning of the semester, she talked much less and let the students take the lead in discussion activities; she said:

At the beginning of the semester, I talked a lot, more than or equal to student talk. Towards the end of the semester, I talked less. I believe it is more balanced. I let the students discuss and if they went off-topic, I talked or asked questions to challenge them so that they could discuss it further. Teacher talk was much less than that of the students, but I believe it was proportional.

It is noteworthy that the proportional talk in Mary's understanding did not mean both teacher and student talk was equal in quantity. Rather, it was more about the contribution and

engagement the students had that made the teacher talk and student talk proportion more balanced.

6. More Aware of Personality and Facial Expressions

Mary became more aware of her personality and facial expressions as she strongly believed they affect students' perceptions and participations contingently. As she mentioned in the pre-intervention interview, "*I tried to change my personality, but I couldn't.*" She also called herself "*a ferocious teacher*" based upon her assumption of the students' views of her. The same topic was brought up again in the post-intervention interview, and she elaborated as follows:

I didn't smile a lot in class not because I was angry at them. I was more careful when making eye contact with the students. If I looked at someone, they would think that I nominated them to talk. Plus, I may appear ferocious to them, and they wouldn't dare to talk in class. The students may interpret me smiling as I felt good, and this is better than me not smiling. That way, I could look grumpy but, in fact, I was just thinking.

Nevertheless, Mary found dialogic teaching in conflict with her own personality. As noted in the post-intervention interview, "*I would rate 8/10 when it comes to reaching the dialogic teaching goal. However, when it comes to my own teaching style, I'm not quiet and static like this. The students should move and do more activities. This conflicts with my personality.*"

Students' Talk Practices

Mary observed several improvements in students' talk practices, engagement, and communication skills following her dialogic teaching implementation.

1. Student Contributions

Student talk improved qualitatively and quantitatively. It was found that prior to the intervention the length of the student talk varied depending upon students' learning pace and understanding of the course content and contingent teacher questions. Mary reported in the pre-intervention interview that "*for fast learners, I would ask, 'what about this?' and they would say, 'Okay.' This means that they understood it. But for some students, I would say, 'I don't understand. I don't quite get it yet.'* Then I would ask one of the students to explain.

However, Mary reported in the post-intervention interview that, *“the students talked much more, and they could practice their language and content. They constructed knowledge by themselves without waiting to be spoon-fed by the lecturer.”* She also noted that with more opportunities to talk, the students developed confidence in their communication skills. *“They also learned how to communicate the way in which their classmates would understand. For the students, they might feel good about themselves being able to speak and having opportunities to speak in class,”* she remarked in the post-intervention interview.

2. Student Questions

Student questions increased significantly following the intervention. Prior to dialogic teaching, Mary believed there were only a few student questions; she said, *“Overall, I would say a few questions in each class,”* and it was due to her personality. *“I am a ferocious lecturer in their opinion. I was told by them,”* she said in the pre-intervention interview. She also explained further that the students did not feel comfortable outside the classroom as *“some of them feared me, like when they hand[ed] in their assignments in my office, their hands would shake.”*

However, since Mary viewed the roles of her own talk and student questions differently, she focused on minimising her teaching to give rise to the students’ curiosity. Consequently, there was an increase in student questions. She explained in the post-intervention interview:

The students asked many more questions in class. If I teach, teach, and teach, the students just receive, receive, and receive. But if they only receive some rather than everything, they will think it’s not enough and thus would want more. So, they asked more questions. If the questions stemmed from their own curiosity, they would compare what they already knew to what they learned from the discussion and see whether they fit or not. They learned better and remembered better that way. It was from self-discovery not because of me giving to them.

3. Student Nominations

While the students hardly nominated themselves to contribute before the intervention, they did so more often afterwards. Mary strongly believed that *“personality affects everything”* as stated in her pre-intervention interview. Although she asked questions very frequently and was very observant, she noted, *“I’m sure that if I did not ask any questions, there would be no*

student nomination. Zero percent.” On the other hand, Mary said that after the intervention, “*the students dared to nominate themselves more than before.*” She also noted that the students nominated their classmates and they seemed to enjoy it.

The student talk improved significantly as their contributions became increasingly complex and expansive. In the post-intervention interview, Mary remarked, “*The students talked more frequently, especially those who were quiet before.*” The students were also able to elaborate their ideas more expressively and exhibit extensive talk repertoires developed during the intervention program and that their ideas and language became progressively more academic. In the post-intervention interview, Mary noted:

The student contributions became more elaborate and complex, and I felt great about it. They also raised better, more complex and stimulating questions. For example, Gail was able to link the previously discussed idea and raised a relevant question. She did well and it was a pleasant surprise for me.

Challenges for Dialogic Teaching Implementation

Prior to the dialogic teaching adoption, Mary anticipated encountering five challenges. First, she was concerned that if they did not have sufficient knowledge about the topic of discussion, they would not be able to discuss it. The second challenge anticipated was insufficient time for students to prepare to talk. Given the time constraints in the course and the amount of content in this course, Mary was uncertain whether the students would have enough time to prepare before making a contribution. Lack of English language proficiency, student dynamics, and lack of student participation were also expected.

In the post-intervention interview, Mary reported five challenges she faced during the implementation of dialogic teaching. First, Mary found that students’ language proficiency played an important role in their learning, especially the discussion participation. It may hold back or even stop some students from contributing due to their limited language proficiency. Also, due to a large amount of course content in higher education in Thailand, Mary was concerned that dialogic teaching might lead to insufficient time to cover all the content since the whole-class discussion could take up a great deal of class time if not planned well. Next, since Mary was not confident in her own understanding of dialogic teaching, especially at the beginning of the intervention, she only employed the whole class teaching activity. This

consequently became a challenge for her and the students as they became mentally drained having to concentrate on a discussion for several hours without any activity breaks (from the post-intervention student group interview). Students lack of topic knowledge and understanding was also a challenge when dialogic teaching was enacted. Last, but not least, classroom layout can inevitably hinder student learning and dialogic teaching implementation. Particularly in Mary's class, limited classroom space and the size of student desks made it difficult for the students to rearrange their seats during the class. After several trials and errors, Mary found that the most suitable classroom layout for her whole-class discussion activity was a large circle or rectangle as opposed to double horseshoe or U-shape since it enabled everyone to see one another more clearly, which is a desirable condition for dialogic teaching.

To cope with these challenges, Mary deployed several strategies to ensure that the instructional goals were successfully reached. To address her students' language proficiency, Mary first provided them with prolonged thinking time to allow them to not only think silently but also to be able to casually interact with peers before whole-class discussions. Also, Mary frequently made the objectives of whole-class discussion explicit so that the focus would be on the content rather than speaking perfect English. Thus, the students were free to make grammatical mistakes while talking. More importantly, to cover as much course content within the limited class time, Mary planned the activities in advance, crafted thought-provoking teacher initiations and delivered meaningful necessary follow-up moves. She also let the students discuss the given topics comprehensively with vital occasional interjections.

Interim Summary

The lecturer interview findings can be summarised as follows:

1. Following the intervention, Mary viewed the roles of her own talk and student questions differently. While she believed her personality was a main factor that caused the students to fear asking questions prior to the intervention, she focused more on limiting her teacher talk and giving the students opportunities to raise questions themselves.
2. Mary provided her students with more opportunities to contribute with her teacher talk including questions and students' own unsolicited talk. Nevertheless, the

students' opportunities to contribute could be hindered by Mary's primary focus on dialogue and the students' courage and English proficiency.

3. Teacher talk and student talk in Mary's class became more balanced after the intervention.
4. The student contributions were increasingly complex and expansive following the dialogic teaching adoption.
5. While the students hardly nominated themselves to contribute before the intervention, they did so more often in the post-intervention session.
6. Mary believed that the student contributions were increasingly complex and expansive following the adoption of dialogic teaching.
7. With less teacher talk and longer wait time, the students became more deeply engaged in their own learning and development.
8. Although Mary found dialogic teaching an effective approach that helped to improve overall classroom talk and student talk and engagement, she believed it conflicted with her personality.

Chapter 6 - Case Study 3: Law – Fiona

This chapter presents the findings from quantitative and qualitative data analyses of Law Lecturer Fiona's pre- and post-intervention. Fiona is a female lecturer who has been teaching in the Faculty of Law, University A for over six years at the time of data collection. For this study, Fiona selected a required general education (GE) course called *Way of Life* which consisted of 22 second-year law students. It was the first time the students took a course with her. It is important to note that in this class, there was a significant change in student number before and after the intervention due to student dropouts for their personal reasons. It was not related to Fiona's teaching at all.

Generally, the quantitative and qualitative findings suggest that although there were some changes in Fiona's teaching strategies, talk practices and overall classroom interaction, her teaching remained quite traditional especially when compared to those of Orca (Fishery Science) and Mary (Language Education). However, Fiona had a positive view towards dialogic teaching and intended to use it in her future teaching.

1. Observations from the Field Notes

This section presents the findings of Fiona's field note data collected prior to and after the dialogic teaching intervention. The purpose of the analysis was to determine the extent to which the principles of dialogic teaching were manifested in her teaching context and conditions. Overall, the qualitative analysis findings suggest that Fiona's pedagogical practice and talk practices remained similar before and after the dialogic teaching intervention.

Pre-intervention

1. Physical Classroom Settings

The classroom was arranged conventionally and difficult to change due to the heavy office desks. In this course, all student desks were arranged in two rows facing the white board and the lecturer desk. The classroom was equipped with basic educational technology.

2. Class Time and Activities

This course was scheduled to meet weekly on Tuesday morning from 8.30-11.30 of a sixteen-week academic semester. The baseline classroom data were collected from the first two

weeks. While the first session lasted about three hours, the second lasted for about 50 minutes because all students were required to attend a meeting. In the first session, three main activity types dominated the sessions: teacher monologue, pair and small group discussion, and teacher-led whole-class discussion. In the second session, there were two main class activities: a game and a discussion.

The first session composed of eight main parts. The first activity was the teacher-led discussion and a student presentation. It was observed that Fiona invited the students to discuss her former law students' academic success. The student came to the front of the class to share her study tips and Fiona sat down amongst the students. This became more like a one-on-one interaction in which Fiona asked her several questions, and the student answered while other students listened.

After that, the class discussed the course assessment and evaluation for about 27 minutes. This activity was composed of a mix of teacher monologue, pair and small group discussion, and teacher-led whole-class discussion.

The third activity was attendance check which lasted for 16 minutes. Fiona asked the students, "*For the past three months, what was the moment that you think "Wow, that's so wonderful!"?*" Each student shared their story once called upon and one-on-one lecturer-student interaction occurred. It was observed that the students participated actively in this activity.

Next, teaching began and lasted for about five minutes. This was solely teacher monologue followed by a thirteen-minute break.

Once the session resumed, the class discussed class rules for about 15 minutes. Again, this was a combination of three interactional types: teacher monologue, teacher-led small group discussion, and whole-class discussion.

The following 30 minutes was the main lesson. In this activity, it was mainly teacher-monologue; however, it was occasionally more interactive sometimes when Fiona elicited some student to answer her questions.

What followed was a small group work and a presentation activity. Fiona asked the students sitting in the same row to work in small groups to prepare a two-minute presentation. Their task was to summarise the chart previously discussed in the main lesson. The students worked for a few minutes and four group representatives presented to the class. Although the students were given one to two minutes to present, their presentations ranged from only 20 seconds to one minute. Each presentation was followed by Fiona's questions.

The first session concluded with a teacher monologue summarising the student group presentations for about five minutes. It can be summarised in the following table:

Table 6.1

The activities in Fiona's first pre-intervention session

Duration	Activity
24 minutes	teacher-led discussion and a student presentation
27 minutes	teacher-led whole-class discussion: course assessment and evaluation
16 minutes	attendance check
5 minutes	Lesson 1 – teacher monologue
13 minutes	break
15 minutes	teacher monologue, teacher-led small group discussion, and whole-class discussion: course rules
30 minutes	Lesson 2 – teacher monologue and interactive teaching
15 minutes	Small group work and presentation
5 minutes	Session conclusion

The second pre-intervention session began with a casual warm-up discussion between Fiona and the students for about eight minutes. The instructions were given by Fiona. She also informed the class that three students who were the highest scorers would be given a notebook as a reward. The lecturer let the students play the game without explicitly informing them that the first time was a trial. The instructions were given by Fiona as the activity proceeded. To play this online interactive *Kahoot* game, the students were required to connect to the internet using their mobile device. They then entered the code shown on the screen to take part in the game. The prompts or questions were prepared in advance by the lecturer and the students were to answer by choosing their desired item using their mobile device. Once all students selected or the time limit ended, the results were displayed instantly

on the screen and the feedback—correct or incorrect—was given to each student on their device. After each item, the score report of the top scorers appeared on the screen.

After the trial game finished, Fiona asked the students to prepare for an actual game. She informed the class that they would be asked about the ten country members of the Association of Southeast Asian Nations (ASEAN). She also encouraged them to use their mobile device to find the information on the internet to prepare themselves for the game. The students were given about seven minutes to prepare during which Fiona walked to chat with them informally.

The game began and lasted for about ten minutes. The game proceeded by a question displayed on the screen, the students selected their answer from 2-4 options shown on the screen, and the correct answer was revealed. After each question, the class discussed briefly about it before proceeding to the next question.

The final class activity was a discussion for just over 10 minutes. It was a mix of both teacher-led small-group and whole-class discussion. As it shifted subtly between the two, it was difficult to determine the length of each activity.

In conclusion, three activities dominated Fiona's pre-intervention sessions including teacher monologue, pair and small group discussion, and teacher-led whole-class discussion.

3. Classroom Layout

The classroom layout remained the same for both pre-intervention sessions. The students sat at their desk facing the front of the class where Fiona was as seen in Image 6.1. While the students remained seated in their seat for most of the class time, Fiona walked around to discuss with small groups of students occasionally.

Image 6.1

Fiona's classroom layout in the pre-intervention session

**4. Classroom Climate**

In Fiona's pre-intervention sessions, the classroom climate was relatively formal, despite her effort to create a friendly, comfortable ethos for the students.

In both pre-intervention sessions, Fiona appeared friendly. She smiled frequently, listened to her students attentively, and talked openly about sensitive issues.

Nevertheless, Fiona's nonverbal language was quite reserved and traditional. Throughout the session, she positioned herself in three areas: at her desk, at the board in front of the classroom, and at student seating areas. The only times the students could feel more connected with the lecturer was when she approached them at their desk as shown in the following photo.

Image 6.2

Fiona's first pre-intervention session during the course assessment and evaluation discussion

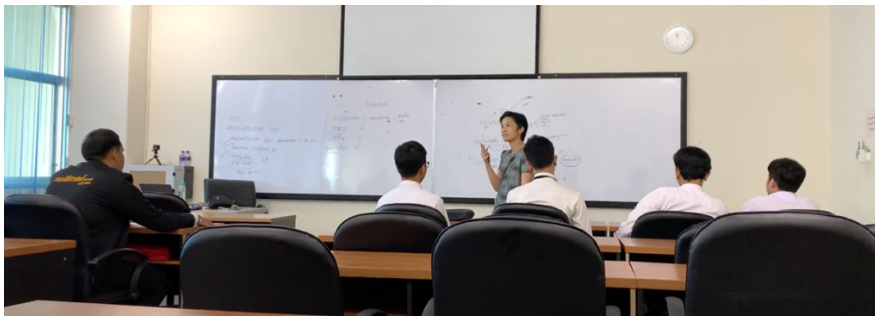


Fiona projected her voice loudly when communicating with all. On the other hand, it was observed that even when she was standing in the same position, her voice level was significantly lower she lowered her voice level when she talked to only a few students.

Additionally, it was observed that the lecturer made eye contact mostly with the students in the left of the room but rarely with those on the right. For instance, while teaching the lesson, Fiona stood in front of the class by the whiteboard as seen in Image 6.3. Here, she was in a closer proximity to the students sitting in the front row on the right; however, she maintained her eye contact with the students sitting farther on the left of the room and only glanced at those closer to her briefly, or when she interacted with them. The same was observed throughout both pre-intervention sessions.

Image 6.3

Fiona's first pre-intervention session during the course assessment and evaluation discussion



While some students participated actively in class activities, other did not. The students, especially those sitting in the first two rows paid close attention to class activities. On the other hand, the rest appeared not fully engaged. It appeared that the students only paid attention when they were explicitly prompted or instructed with the presence of Fiona. It was also observed that Fiona let the class become loud at times without making sure that the students were on task.

To conclude, the class environment was rather formal and not very stimulating. While the lecturer appeared friendly and approachable, some students were loud and distracting.

5. Classroom Language

Standard Thai was the only language of instructions in Fiona's pre-intervention sessions. Also, even though many students were originally from the south of Thailand where a variety

of dialects are commonly spoken, their home language or mother tongue was not mentioned nor encouraged. Nonetheless, it was evident that some students discussed in pairs or groups using their dialects.

6. Teacher Talk

Fiona's teacher talk was friendly, relaxing, and yet traditional. First, the lecturer talk was friendly. She called her students "*loung*" which can be directly translated to a child or children and is commonly used to call someone younger. This term is often used amongst Thai carers, teachers and lecturers, especially in the early education years to express care, affection, and intimacy between them and students. In the case of Fiona, she often called all students "*loung*" and rarely called anyone by their first name.

In addition, humour was evident in Fiona's teacher talk. Regardless of her standing position and class activity, Fiona teased the students individually, as a group and as a whole class and often invited them to small talk. Her jokes were directly related to the ongoing topics and often delivered as a feedback move from a few words to sentences. Altogether, these suggest her friendly manner of talk in the pre-intervention sessions.

Fiona's teacher talk was traditional and led to the three-part initiation-response-feedback (IRF) classroom interactional pattern. First, she dominated classroom interaction. Compared to student talk, her talk was much more frequent and most of the classroom interaction in pre-intervention sessions was initiated by her. Moreover, Fiona employed fact-recalling or close-ended questions more frequently than open questions and her wait time was very short. When Fiona initiated a topic, she only waited for a few seconds. It was observed that when the students' answers did not match her expectations, she tended to give them hints or simplify the question. On the other hand, if their answers were correct, teacher acknowledgement tokens were given while praise was rarely used.

The instructions were unclear in Fiona's pre-intervention sessions. Although Fiona spent quite an extended time on giving the instructions, there were yet unclear.

Instructions and expected outcomes were not explicitly communicated across from Fiona to the students. For example, in a whole-class discussion activity towards the end of the second session, Fiona asked the students to discuss what they knew about the ASEAN countries. She did not say explicitly whether she expected the students to discuss in pairs, small groups or as

a class. Then she walked towards a group of students sitting in the front row and discussed the topic with them leaving the rest of the class on their own. When happened next was the lecturer moved to discuss with the students in the second and third rows. Occasionally, she would speak loudly to report the student contributions to the whole class. The class became scattered as some students kept silent while others talked in pairs and small groups.

In summary, the analysis of teacher talk in baseline sessions reveals that Fiona's talk before the dialogic teaching intervention was casual, playful, and yet conventional.

7. Student Talk

Student talk is another critical element of classroom discourse; however, it is frequently overshadowed by teacher talk. Not only does student talk help teachers to gauge students' current knowledge and understanding, but it also helps identify the areas needed to be addressed or emphasised. From Fiona's pre-intervention sessions, student talk was apparent but rather short and controlled. It was observed that the students contributed when prompted during all classroom activities. Nevertheless, it was also observed that some students talked among themselves both on- and off-topic amidst the activities very loudly and sometimes it became difficult for Fiona to lead the discussion. There were several times where Fiona had to project her voice more loudly so that the activity could continue. To deal with this problem, Fiona approached and talked to the students in pairs or small groups rather than imposing any rules or asking class to pay attention.

8. Student Self-nominations

Student self-nominations by hand-raising did not occur in Fiona's pre-intervention sessions. Rather, some students started talking at the same time in class. This was likely due to the nature of the closed questions to which the students knew the answers.

9. Teacher-student Relationship

The relationship between Fiona and the students was new and rather distant. Since the lecturer and students only met for the first time in this course, they did not know each other. Fiona expressed her willingness to get to know the students several times during the first session by inviting them to see her at the office to discuss their educational goals and other topics. It was also evident that Fiona asked the students to share their personal stories during

the attendance check. It was an opportunity for her and the students to become more open and familiar to one another.

Post-intervention

After the intervention, Fiona's post-intervention session was observed, and data were collected. The data were analysed qualitatively in comparison to the pre-intervention data against the backdrop of dialogic teaching principles. The analysis suggests that although there were some changes in Fiona's pedagogical practices and talk practices, overall classroom interaction, her teaching remained traditional rather than moving towards dialogic teaching.

1. Physical Classroom Settings

Since the session was held in the similar classroom as the pre-intervention sessions, the settings remained similar. That is, the desks were arranged in rows facing the front of the class and the classroom was equipped with basic educational technology.

At the beginning of the post-intervention session, there were only two students; however, as it proceeded more students arrived. It was not until 45 minutes into the session when all nine students attending this session arrived.

2. Class Time and Activities

The entire session time was allocated to the final examination preparation. The main activity was whole-class teaching with some teacher monologues and whole-class discussion intervals lasting for over six minutes altogether. The session was solely led by the lecturer using questions and prompts to which the students answered briefly. They also took notes.

3. Classroom Layout

The classroom layout remained static. Unlike the pre-intervention sessions, from the beginning to the end of the session, the lecturer sat at one of the student desks facing the class while the students sat in row. Fiona remained in her seat as seen in Image 6.4 and only walked to the whiteboard behind her when she needed to write something. However, all were visible and audible in this layout.

Image 6.4*Fiona's classroom layout in the post-intervention session***4. Classroom Climate**

Like the pre-intervention sessions, Fiona's post-intervention session's environment was friendly but not stimulating. First, the ground rules were not mentioned nor observed. The session started without any formal introduction. Although the students listened attentively, their participation was fairly limited.

Fiona's eye contact improved from the pre-intervention sessions. Fiona constantly made and maintained her eye contact with all students, especially those she talked with throughout the session.

Interruptions were not minimised in this session. First, although several students entered the class quietly after the session started, their presence could be distracting for others. Another continuous distraction was the noise from students taking in small groups while the teaching was ongoing. It was observed that some students talked so loudly that could be audible for the entire class. There were students, especially those sitting in the first row of the class talked among themselves as seen in the following photo.

Image 6.5

The students talking in small group during the whole class teaching in Fiona's post-intervention session



As shown in Image 6.5, the three students in the front row on the right talked among themselves. Against the dialogic teaching classroom conditions, some students did not listen and pay attention to class activity. It was also observed that a female student spent an extended period of time during the session on her phone while Fiona and her classmates reviewed the course content. It should be noted that she did not have the course textbook which was used throughout the session. Given all distractions including students coming to class late, talking among themselves, and spending time on their phone, Fiona did not address any issues. It was evident that she looked at them briefly and continued teaching.

5. Classroom Language

Like the pre-intervention session, standard Thai was the only language used in the post-intervention session. Nonetheless, it was found that some students talked to their classmates in southern dialects.

6. Instructions

Teaching took place without any clear instructions provided to the students in the post-intervention session. This could be due to the main instructional goal which was to review the course content in order to prepare the students for the final examination. Thus, from the beginning to the end of the session, no formal instructions nor expected outcomes was conveyed to the students. The session, however, went rather well as it was likely because the students were familiar with the class activity—recitation with some whole-class interactions.

7. Teacher Talk

As a sole leader whose talk dominated most of the class time, Fiona's teacher talk was friendly and straightforward. Throughout the post-intervention session, Fiona focused on covering the course content and her talk was mainly knowledge recall with some lecture and discussion. It was evident that she invited the students to share their ideas and opinions not only with her but the rest of the class whenever relevant.

Fiona's teacher talk repertoire was rather limited and similar to that found in the pre-intervention sessions. First, Fiona's teacher initiations in the post-intervention session were mainly closed questions which encouraged the students to recall known information taught in the previous sessions. Also, teacher feedback moves were infrequent and often positive. Although some teacher follow-up moves were evident, they were limited to mainly add-on questions. Therefore, the interaction was choppy, quick paced presumably to maintain student attention and involve as many students, and the student contributions were brief from a word to short sentences.

One of the most significant findings of Fiona's teacher talk was the use of cued elicitation. Even though cued elicitation was previously evident, it was found more pervasive in the post-intervention session. For instance, Fiona prompted the students to complete a sentence like "*Where there are people, there are*" to which the students add a single word "*rules.*" This could be due to the instructional goal of reviewing the course content to prepare the students for the final examination. However, due to its excessive frequency, cued elicitation was a distinct feature found in her post-intervention session.

Another observation was Fiona's student reference. She did not address any students by names. Rather, she collectively called everyone "*nug-suek-sa*" (directly translated as "the students") and "*loug*" (equivalent to English's collective noun as "the children" or "guys"). This happened throughout.

Wait time was still short. Like the pre-intervention sessions, when Fiona asked questions regardless of question type, she waited for only a few seconds before repeating or reformulating them. The difference between the post-intervention session and the pre-intervention ones was that when the students did not answer Fiona's teacher initiations, she answered her own questions. That happened quite frequently.

To conclude, the analysis of teacher talk in post-intervention session suggests that Fiona's talk before and after the dialogic teaching intervention was generally similar to that before dialogic teaching. Although her talk was friendly and traditional, it was close-ended fact-recall question dominant and her talk repertoire was limited.

8. Student Talk

Student talk repertoire in the post-intervention session appeared limited and highly controlled by the lecturer. Even though the Law students were participatory and willing to talk in class, there was limited evidence of talk for learning like explain, analyse, explore, speculate, imagine, evaluate ideas, and ask different questions. Since there were more closed questions in the sessions, student talk was brief and only occurred when prompted. However, it was observed that they were engaged, and their contributions became extended, when Fiona asked open ended questions.

9. Teacher-student Relationship

The relationship between Fiona and the students developed but remained relatively distant. On the one hand, Fiona appeared friendly and approachable to the students in class by smiling frequently and maintaining eye contact with them. She also tried to connect with the students personally by inviting them to talk with her outside the class time. This is uncommon in Thai higher education, especially when the students and the lecturer who do not have a close relationship as supervisors and supervisees. On the other, as mentioned above, throughout the session, her teacher talk and body language remained rather distant. For instance, Fiona sat at her desk throughout the session and referred to all students with a generic collective pronoun like "you," "guys" or "students" and rarely call anyone by name throughout.

Interim Summary

1. Generally, the qualitative findings of field note analysis suggest that Fiona's pedagogical practice and talk practices remained similar before and after the dialogic teaching intervention.
2. The classroom layout was arranged conventionally in both pre- and post-intervention sessions regardless of the activity changes. This could be due to the weight of student desks.

3. Class activities in Fiona's sessions were mainly led by the lecturer before and after the intervention. The activities in both sessions included whole-class teaching, teacher monologue, teacher-led whole-class discussion, and small group work.
4. In both pre-intervention sessions, Fiona appeared friendly and traditional. There were some improvements in classroom climates found in the post-intervention session, especially Fiona's teacher eye contact. However, the interruptions were not minimised.
5. Prior to and after dialogic teaching, Fiona's teacher talk appeared rather constant as friendly and yet traditional. The wait time was brief throughout.
6. Fiona's talk before and after the intervention remained comparable, friendly, quick paced, and traditional. Cued elicitations and closed questions were pervasive in both sessions.
7. Student talk repertoire in the post-intervention session appeared limited and highly controlled by the lecturer. Student talk was brief, mostly preceded by Fiona's questions or nomination. Student questions were rare and their talk were not taken into uptake by the lecturer.
8. The relationship between Fiona and the students developed but remained relatively distant. It was more professional and no personal connections were observed.

2. Findings from Systematic Observation Schedule Analysis

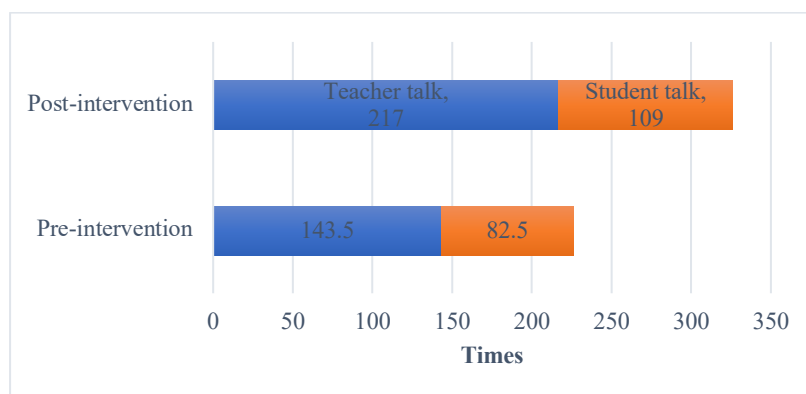
This section reports the findings of Fiona's systematic observation schedule analysis. The purposes of the analysis were to determine the ratios of teacher talk to student talk, explore teacher talk and student contributions, and indicate the extent to which the intervention affected the whole-class interaction. Overall, the quantitative analysis of the systematic observation schedules indicates that Fiona's teacher talk and the Law students' contributions did not differ much between before and after the dialogic teaching intervention.

Teacher Talk to Student Talk Ratios

First, the ratios of teacher talk to student talk in Fiona's teaching sessions remained relatively similar. There was a surge in teacher and student talk from the pre- to post-intervention sessions.

Figure 6.1

A comparison of teacher talk to student talk in Fiona's class between pre- and post-intervention sessions



As seen in Figure 6.1, the total number of talk moves rose by 44% increase from 226 in the first two sessions to 326 times in the post-intervention session. Specifically, Fiona's teacher talk went up by 51 % from 143.5 to 217 times after the dialogic teaching intervention. Likewise, student talk moves increased by 32.1% from 82.5 to 109 times.

However, the proportion of teacher talk to student talk remained rather disproportional. Particularly, the ratio of teacher talk to student talk in the pre-intervention session was 7:4 whereas that of the post-intervention session was 2:1. In other words, prior to the intervention, teacher talk almost doubled student talk. Although student talk increased after

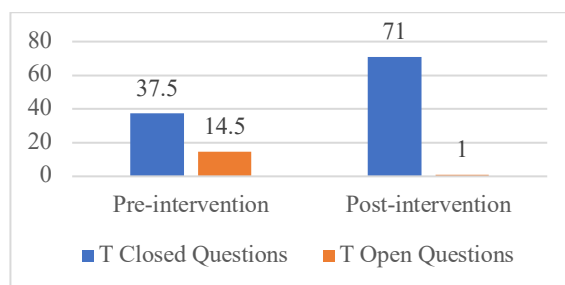
the intervention, Fiona's teacher talk increased much more than her talk was accountable for twice as much as all the student talk moves combined.

Teacher Initiation Questions

The analysis of Fiona's teacher questions revealed that while teacher closed questions increased significantly, her open questions were scarce in the post-intervention session as presented in the chart below.

Figure 6.2

A comparison of Fiona's closed- and open-ended question ratios for pre- and post-intervention sessions



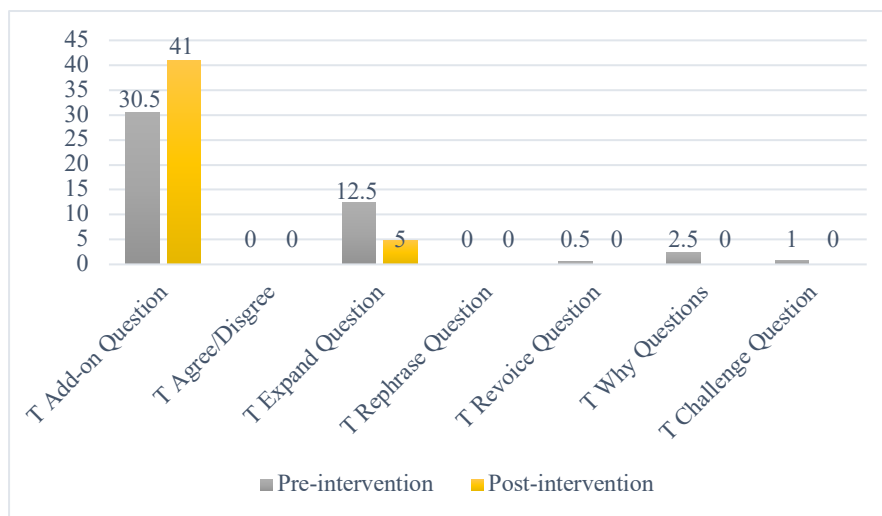
As seen in Figure 6.2, the number of teacher closed questions occurring in the pre-intervention sessions almost doubled that of teacher open questions. On the other hand, of 72 teacher initiations in Fiona's post-intervention session, only one was an open question. Fiona initiated new topics using teacher closed questions move 37.5 times in the pre-interventions sessions and that number doubled to over 70 times later. In contrast, while there were 14.5 open questions in the pre-intervention sessions, only one teacher open question was found afterwards. This suggests that Fiona was inclined to initiate talk using closed questions rather than open-ended questions.

Teacher Follow-up Moves

Through five cycles of individual video-based reflective coaching sessions, Fiona was encouraged to reflect on her teaching and employ different follow-up moves to lengthen and sustain classroom interaction and facilitate student learning. The findings of Fiona's teacher follow-up moves analysis are presented in the following chart.

Figure 6.3

A comparison of Fiona's follow-up talk moves for pre- and post-intervention sessions



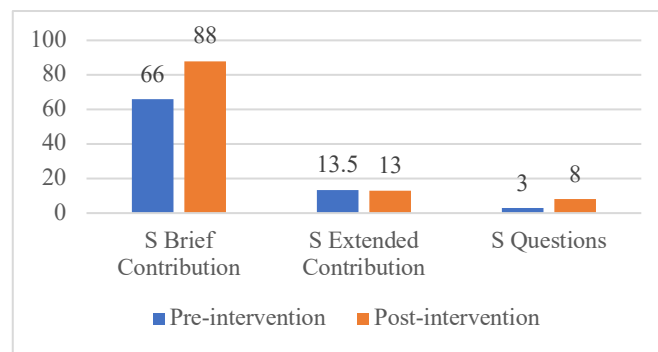
According to Figure 6.3, five types of follow-up moves were used in Fiona's pre-intervention sessions but only two were employed in post-intervention. Initially, teacher add-on (30.5 times) was the most frequently employed follow-up move followed by expand (12.5 times) and why questions (2.5 times). On the other hand, teacher add-on and expand questions were accountable for all teacher follow-up questions in the post-intervention period. Also, it should be noted that despite the training, teacher agree/disagree, rephrase, revoice, and teacher challenge questions were either rarely or never used by the lecturer throughout the data collection period. This could be due to the instructional goal to prepare the students for final examination in the post-intervention session.

Student Talk Moves

The systematic observation schedule data were analysed to determine the extent to which students talk repertoire was expanded and extended in response to changes and modifications in teacher talk due to the dialogic teaching intervention. The analysis indicate that student talk was marginally altered from Fiona's pre- to post-intervention sessions as presented in Figure 6.4 below.

Figure 6.4

A comparison of student talk moves in Fiona's pre- and post-intervention sessions



As illustrated in Figure 6.4, student talk changed slightly. First, the student extended contribution remained almost identical about 13 times both in pre- and post-intervention sessions. Nevertheless, two changes were evident in student talk. First and perhaps the most significant change was student brief contribution rising by 33.33% from 66 to 88 times. This coincides with a drastic hike in teacher closed questions mentioned in Figure 28 above. Another surge was student questions. While there were only three student questions in the pre-intervention sessions, the students raised eight questions following the intervention. Given the findings of teacher talk and student talk, it can be concluded that the classroom interaction in Fiona's pre- and post-intervention sessions was mainly initiated and driven by teacher talk and the students' main role was to respond to the lecturer questions or prompts.

In summary, considering the number of talk move changes, the interactional sequences of Fiona's class appeared to be rather similar between the pre- and post-intervention sessions. The intervention program aimed to introduce different talk move types to expand the participating lecturers' talk repertoire by utilising a variety of moves to facilitate learning and attaining different instructional goals. Nevertheless, interactional sequences found in Fiona's teaching were yet shorts and the teacher talk repertoire appeared not to expand extensively after the implementation of the dialogic teaching approach.

Interim Summary

1. Overall, the quantitative analysis of the systematic observation schedules indicates that Fiona's teacher talk and the Law students' contributions did not differ much between before and after the dialogic teaching intervention.

2. The ratios of teacher talk to student talk in Fiona's teaching sessions remained relatively similar throughout.
3. Fiona's teacher closed questions increased significantly while there was only one open question in the post-intervention session. This suggests that she was inclined to initiate talk using closed questions rather than open-ended questions.
4. Five types of follow-up talk moves (add-on, expand, revoice, why and challenge questions) were used in Fiona's pre-intervention sessions but only two (add-on and expand questions) were employed in the post-intervention session. This could be due to the instructional goal to prepare the students for final examination in the post-intervention session.
5. The Law students' talk slightly changed from the pre- to post-intervention sessions. First, the student extended contribution remained almost identical. However, student brief contributions rose by 33.33% which coincides with a drastic hike in teacher closed questions. The student questions rose from three to eight.
6. The findings suggest that the classroom interaction in Fiona's pre- and post-intervention sessions was mainly initiated and driven by teacher talk and the students' main role was to respond to Fiona.

3. Findings from Transcript Analysis

This section presents the findings of qualitative transcript analysis. The micro-level analysis of the transcripts aimed to investigate talk in whole-class discussion focusing on teacher talk and student talk in the pre- and post-intervention sessions. The analysis reveals that despite some subtle changes in Fiona's teacher talk, voice projection level, initiation strategies, and student involvement and agency, her professional practice remained traditional following the dialogic teaching intervention.

Teacher voice level and initiation strategies

The qualitative analysis indicates that Fiona's teaching practice in teacher initiations and voice projection improved as a result of the professional development program. Extracts 9 and 10 will be presented along with the analyses.

Pre-intervention

The following transcript is taken from the second pre-intervention session of Fiona. In this session, she has just finished an extended monologue explaining the restrictions of the mobility of professions in the Association of Southeast Asian Nations or ASEAN community faced by the dentists who work internationally in the region.

Transcript 6.1

A whole-class interaction in Fiona's second pre-intervention session: Can I have a moment, Lecturer?

Line	Name	
1	Fiona	((points at Liam)) What do you know about the ASEAN? (2.5)
2	Liam	(unintelligible)
3	Fiona	What do you know about the ASEAN that is not about our country? Such as ...
4	Liam	Can I have a moment, Lecturer?
5	Fiona	Don't you know anything? Do you know that the majority of labours working in Thailand are from where?
6	Liam	Myanmar.
7	Fiona	There you go. You know it.
8	Class	((laughs lightly))
9	Fiona	That's it! You know it. Sometimes you know something, but you tend to rush and think it wasn't knowledge.

- 10 Fiona For Myanmar, its former name is Burma; however, some countries like the U.S. doesn't tend to call it Myanmar because it was changed later. But in the ASEAN countries, we call it "Myanmar," but we are used to calling it (.) Bhama or Burma which are not incorrect because their government does not accept it and thus doesn't allow to change accordingly. But Burmese are Burmese people, the Burmese language but still the country is Burma.
- 11 Fiona ((looks at Jacob)) What about you? What do you know?

Fiona utilises close-ended questions and does not provide sufficient thinking time for the students. In the excerpt, as she stands close to and maintains her eye contact with Liam, she asks him three teacher initiations. The first two questions are more generic prompting Liam to talk about his background knowledge regarding the ASEAN community, "*What do you know about the ASEAN?*" (line 1) and "*What do you know about the ASEAN that is not about our country? Such as...*" (line 3). These two questions are open-ended directly addressing to Liam as evident in Fiona maintaining her eye contact with him. In response, Liam openly requests for some thinking time, "*Can I have a moment, Lecturer?*" in line 4. Without any response to his request, Fiona immediately turns her previous questions into a series of close-ended questions, The first question, "*You don't know anything?*" (line 5) negatively addresses his inability to retrieve the information quickly and reply promptly. It is immediately followed by a polar question, "*Do you know that the majority of labours working in Thailand are from where?*" The answer to this question is commonly known among Thai people that the majority of foreign labour workforce in Thailand is from Myanmar. Thus, this question is thus very much like a cued elicitation which only requires Liam to recall the shared information by everyone in class. In addition, Fiona's quick movement from the first to the second row of the students and from one student to another repeatedly suggests Fiona's underlying preference of a quick rotative interaction involving many student brief contributions and extended teacher talk over a more sustained thread of extended contributions between a few interlocutors.

Another unique practice found only in Fiona's pre-intervention session was her voice projection. Fiona uses two distinct voice projection levels when she talks to include and exclude certain groups of students. To illustrate, Fiona's classroom layout is presented as follows.

Image 6.6

Fiona's classroom layout in the pre- and post-intervention sessions



Fiona only projects her voice loudly to the entire class when she wants everyone to be involved in the discussion as seen in the case of her Myanmar monologue in Excerpt 9 above. Even though she stands on the far left of the classroom, Fiona intentionally raises her voice level significantly loudly to attract all students sitting on the right of the class to include them in the discussion. On the other hand, during the one-on-one interaction with Liam discussed in the above excerpt, Fiona focuses exclusively on him. She only points at, keeps eye contact directly with and talks just loudly enough for him to hear.

Post-intervention

However, Fiona's teaching practice in teacher initiation techniques changed slightly in the post-intervention session. The following extract is taken from her post-intervention session. In this learning episode, the class has just finished discussing lawyer ideology, and Fiona complimented the students that she was pleased to learn that the students were willing to devote themselves in service of others. It is important to note that the number of students attending this class is nine, a significant decline from 22 students in the pre-intervention session.

Transcript 6.2

A whole-class interaction in Fiona's post-intervention session: Does any have any questions?

Line	Name	
1	Fiona	Like if you were a police officer, would you arrest your father?
2	Ellen	I would.

3 Fiona Your father, you were a police officer, suppose that you are a police officer (2.0) and your father is guilty. He gambled and you were a police officer.

4 Rod ((speaks to Liam))-(unintelligible)

5 Fiona As you enter, "oh, it is my dad."

6 Rod It's not office hours ((laughs))

7 Ellen And that is-

8 Bill Ignore it.

9 Fiona You're with your squad. You're the head of the squad.

10 Rod (unintelligible)

11 Fiona ((laughs loudly))
Would you arrest him or not?-

12 Ellen -I would.

13 Fiona You would.

14 Keith [My friend would arrest but (unintelligible), Lecturer.

15 Fiona ((in southern dialect accent))
What! It's your child, oh:: ((hits the desk once))

16 Bill If I wouldn't arrest them, I would release all.

17 Keith The whole gang (unintelligible)

18 Fiona ((laughs then looks to her right where Rod, Liam and Edward sit))

19 Some Ss [(unintelligible)

20 Fiona [Would you arrest him?

21 Liam Arrest first then release him later.

22 Fiona You would. ((laughs briefly))
Would you arrest him?

23 Bill I wouldn't.-

24 Fiona You wouldn't.

25 Keith Oh, you wouldn't! ((laughs loudly))

26 Fiona Would you arrest him or not?

27 Rod Ask to make sure.

28 Fiona You would.
Would you arrest him? Your father gambled on cards.

29 Nathan (unintelligible)

30 Fiona He was caught red-handed.
[You were the head of the squad. You could make any decision.

31 Keith [I would let my squad arrest him.

32 Some Ss ((laughs))

33 Fiona Would you arrest him? ((opens her right hand to Edward))

34 Edward ((nods once))

35 Fiona You would. What about you?

36 Rod I would tell my squad to run away.

37 Fiona What about you? ((opens her right hand to Liam))

38 Liam (unintelligible)

39 Keith ((speaks in southern Thai dialect))
Why? It's your dad!

40 Ellen [Arrest and then bail him out later.

41 Rod I would let my squad arrest and only witness it.

42 Fiona This is difficult, very difficult. This is a conflicting role.

43 Liam -You can arrest him if you like.

44 Bill [(unintelligible)

- 45 Ellen To sum up, would we arrest him or not?
 46 Fiona Yes, it is up to you. ((smiles))
 47 Ellen No, that's unacceptable. ((laughs))
 48 Bill Several people would survive.
 49 Fiona In fact,
 50 Ellen We should arrest him?
 51 Fiona This is a conflicting role. So, if you were a police officer, what are your duties? If you were on duties, you would do it first. Remember that.
 52 Nathan Then you could explain later, right?
 53 Fiona However, other non-conflicting roles; for example, if a monk received people's food offerings and give to those affected by the flood (2.0) is it a conflicting role?

In Transcript 6.2, Fiona's teacher initiations differ slightly from the pre-intervention sessions. The first question, "*Like if you were a police officer, would you arrest your father?*" (line 1) prompts the students to imagine themselves in a hypothetical situation where they were a police officer. Unlike several questions found in Excerpt 9, this is an open question followed by additional contextual information given in the following turns including "*.... your father is guilty. He gambled, and you are a police officer*" and "*You're the head of the squad.*" The students should have a better understanding of the given situation to help them make a sound, logical decision. By asking such question and providing relevant contextual background, Fiona successfully draws students' attention to engage in this whole-class discussion activity, give them with some crucial thinking time, and expand their talk for learning repertoire (analyse, imagine and explore the possible ideas). Nevertheless, at the end of the excerpt, Fiona gives the class the correct answer. Therefore, the interaction is still recitation or initiation-response-feedback (IRF). Although it is highly engaging and interactive, it is neither lengthened nor expansive.

Student Involvement and Level of Agency

Dialogic teaching values student contributions and aims to shift from traditional high-stake competitive student bidding to shared turn management. Therefore, teachers should become more attentive to their own talk as well as student talk and expand their teaching talk repertoires. In more conventional classrooms where three-part recitation sequences are dominant, students have limited opportunities to share or develop their ideas, let alone co-constructing the knowledge collaboratively. The interactions are often stranded and disconnected, making it challenging for the students to learn and develop their understandings of topics. Teaching is rather a process of knowledge transmission.

Over the course of the intervention, there was a gradual growth in student involvement and student agency in Fiona's class. Two excerpts from pre- and post-intervention sessions will be presented along with the analyses.

Pre-intervention

To exemplify the strict turn management in Fiona pre-intervention session, Transcript 6.3 taken from the second pre-intervention session is presented. Prior to this excerpt, Fiona has just finished talking about free trade agreement in the ASEAN Community. She walked to the third row on the left of the class while most students on that side turned to their side to look at her.

Transcript 6.3

A whole class interaction in Fiona's pre-intervention session: ASEAN plus three

Line	Name	
1	Fiona	What about you? (.) Something about the ASEAN that you know, something you know well (.) is
2		(8.0)
3	Fiona	Can you talk about it?
4	Emma	(unintelligible)
5	Fiona	I see, there are several professions that are mobilised in the ASEAN countries. (3.0)
6	Fiona	Anything else? What do you know? What do you about our friends, our neighbours?
7	Rod	I recall that Myanmar exports areca nuts.
8	Fiona	Areca nuts? Do they export areca nuts? We also have them but they
9	Rod	-do more-
10	Fiona	-do more, more. It's a pity too because we also grow a lot of areca nuts. (several students talking at the same time)
11		
12	Jacob	Indonesia grows rubber plants, don't they?
13	Fiona	Indonesia? Palm oil and para rubber.
14	Rod	Lecturer, and Thailand exports a lot of rice.
15	Fiona	Not anymore.
16	Rod	Or has someone surpassed us?
17	Fiona	It has changed. It has changed to something else. Vietnam has surpassed us. (1.5) Vietnam has surpassed us.
18	Emma	[(unintelligible)]

- 19 Fiona [The thing is the net produce per rai, Vietnam can do five times more than we do per rai. But I don't know if they use any chemicals.
- 20 Ava What about Cambodia? (unintelligible) Cambodia.
- 21 Fiona What do you know about it?
- 22 Fiona [(unintelligible)]
- 23 Emma [There are some countries joining-
- 24 Fiona Which and which?
- 25 Emma China and what else, Lecturer?
- 26 Female S Again
- 27 Emma China and another country which I don't know. A big country.
- 28 Fiona I see
- 29 Female S What is she talking about?
- 30 Fiona Okay ((looks at Emma))
What do you two think? ((turns to Clara and Lily))
- 31 Emma ((still talks loudly to Fiona))
- 32 Fiona No, no there are so many ((turns to the left of the class and speak loudly to the whole class)) Guys, I want to, I want to know if you know anything about other countries?
- 33 Rod ASEAN plus three
- 34 Fiona ASEAN plus three, ASEAN, ASEAN plus, ASEAN plus three is
[China, Japan
- 35 Rod [China, Japan
- 36 Fiona And (2.5) Korea (.) South
- 37 Emma Yeah, a big country
- 38 Rod That is (.) the plus three.
- 39 Fiona That is the plus three um
- 40 (3.0)
- 41 Fiona Do you know something about other countries?

Student initiations and contributions are often neglected unless they are complete or relevant. In this learning episode, there are three interactional sequences between Fiona and the students. The first teacher-led discussion begins with the teacher initiation, “*What about you? (.) Something about the ASEAN that you know, something you know well (.) is...*” (line 1). Although this superficially appears to be an open-ended question, it is a cued elicitation ending with “is” prompting a female student to “fill in the blank” immediately after Fiona’s initiation ends. Since no one answers the question, there is an eight-second silence while some students are talking among themselves. Fiona reinitiates the sequence using a much shorter more direct question, “*Can you talk about it?*” (line 3) to Emma to which she responds right away. Fiona’s comment “*I see, there are several professions that are mobilised in the ASEAN countries*” validates Emma’s contribution and terminates the sequence simultaneously.

Fiona swiftly moves on to initiating a new sequence with three questions, “*Anything else? What do you know? What do you know about our friends, our neighbours?*” (line 6). These questions are well received by Rod and Jacob as they discuss exported produces from Myanmar, Indonesia, Thailand, and Vietnam (lines 7, 9, 12, 14, 16). Their contributions are validated and further elaborated by the lecturer in lines 17 and 19.

The third interactional consequence between Fiona, Rod and Emma is particularly interesting. Fiona does not provide any response or feedback to student contributions until they are complete or relevant. When Fiona raises a teacher initiation to Lily and Clara, “*What do you know about it?*” (line 21), both students remain quiet leaving the floor open to everyone. Emma then makes two consecutive efforts to take part in the discussion. Her first attempt, “*There are some countries joining-*” is cut off by Fiona as she raises a cued elicitation, “*which and which?*” In her next contribution, Emma can only recall one of the two countries and replies, “*China and what else, Lecturer?*” Here, Emma explicitly asks Fiona to help. It is yet followed by her second attempt, “*China and another country which I don’t know. A big country*” (line 27). Fiona still does not respond to Emma’s initiations. Instead, she resumes the previous unfinished sequence with Clara and Lilly and then asks the entire class, “*Guys, I want to, I want to know if you know anything about other countries?*” (line 32). Despite her several attempts to participate actively in the discussion, Emma’s contributions are neglected by the lecturer until Rod says, “*ASEAN plus three*” to Emma during their one-on-one peer interaction. Here, Rod’s contribution is a missing piece of the jigsaw puzzle of Emma’s initiation and contribution. That is also the moment when Fiona looks back at both Rod and Emma and invites them to discuss the ASEAN plus three further using several cued elicitations as found in lines 34-39.

In summary, Transcript 6.3 has shown that even though the students are eager to participate in the discussion, their learning opportunities in the pre-intervention session are strictly limited to the lecturer’s evaluation and permission to talk. Fiona’s turn management strategy may influence student contributions and involvement remarkably.

Post-intervention

Fiona’s turn management and student nomination, and students’ self-nomination differed significantly in the post-intervention session. The following transcript is drawn from a whole-

class discussion activity in the post-intervention session. The class has just finished reviewing the course content as a part of exam preparation.

Transcript 6.4

A whole-class interaction in Fiona's post-intervention session: What if your social media account was hacked?

Line	Name	
1	Fiona	Oh right, I want to let you know that currently there is a lecturer's uh Line account of a lecturer in the faculty, Lecturer Somchart, was hacked.
2	Keith	Yes, ma'am. ((looks at Fiona and nods twice))
3	Fiona	Then the hacker borrowed the money from several students. And the students, the students shouldn't, just because he is a lecturer, oh, then they transferred the money right to them right away. What should you do if someone messages you to borrow some money?
4	Rod	Never reply.
5	Keith	Our dean?
6	Fiona	Yeah, our dean, Lecturer Somchart. If- if it was me and I messaged you to borrow some money, what would you do?
7	Rod	\$never reply\$
8	Class	((laughs))
9	Fiona	\$never reply\$
10	Fiona	Call me to double-check? You should call me to double-check because how I would borrow some money from you out of the blue.
11	Keith	Is it the dean?
12	Fiona	Yes, and they borrowed some money.
13	Steve	Was it a lot?
14	Bill	Has he filed a police report?
15	Fiona	He did. Lecturer Anthony found out about it and 25 satang was transferred to their bank account.
16	Keith	((laughs))
17	Fiona	So this is is is-
18	Steve	(unintelligible) ((speaks to Keith))
19	Keith	[(unintelligible) ((speaks to Steve))
20	Fiona	[students, if this happened to you, what would you do?
21	Steve	Lecturer, Facebook did it to him.
22	Fiona	Yes?
23	Steve	Lecturer, Facebook did it to him.

In this excerpt, Fiona and the students share more balanced turn management, and the whole-class discussion becomes more dialogic. Fiona casually starts a discussion by informing the class about a recent case of a hacked Line account (a text messaging application similar to

WhatsApp) occurring to one of the Law faculty members. The students become immediately interested, and Fiona asks an open question, “*What should you do if someone messages you to borrow some money?*” As one of the most participatory students, Rod replies with a brief student contribution right away, “*Never reply.*” Another student, Keith, asks for clarification if whose account was hacked was the dean of the Faculty of Law. Fiona confirms quickly and reiterates the same open question with some modification, “*if it were me, and I messaged you to borrow some money, what would you do?*” Only Rod restates his answer playfully “*Never reply.*” Without waiting for other student contributions or justifications, Fiona decides to provide the plausible solution, “*Call me to double-check? You should call me to double-check*” (line 10).

The students become more initiative in this activity. Three students request for additional details about the incident. First, Keith initiates a clarification request, “*Is it the dean?*” (line 11) to which Fiona confirms, “*Yes, and they borrowed some money.*” That is followed by two additional student initiations, “*Was it a lot?*” from Steve (line 13), and “*Has he filed a police report?*” from Bill (line 14). Evidently, this part of the discussion becomes much more everyday conversation-like where everyone can raise questions and exchange ideas accumulatively without being prompted or waiting to be called upon. Also, the turns become more shared, and the students are free to speak, raise questions and contribute whenever they find appropriate. However, it appears that Fiona may have a certain answer in mind and only look for one correct answer. As evident in her explanation in line 10, “*Call me to double-check? You should call me to double-check because how I would borrow some money from you out of the blue.*” Altogether, this excerpt reflects some minor changes in more balanced turn management and more student initiation in Fiona’s class and suggests students’ increased level of agency and readiness to take a more active role in class. However, it is important to note that this seemingly casual whole-class discussion did not expand or lengthen and was not yet dialogic.

Instructions and Ground rules

To create a teaching and learning condition in which students’ learning and development can flourish, clear instructions and ground rules are essential. While clear instructions enable students to know their roles to participate in each class activity, explicit ground rules facilitate learning by creating a safe, welcoming classroom climate. It is suggested that teaching instructions should be clear and ground rules be agreed upon and made explicit as

early as possible. Failure to do so can affect the consequent teaching and learning in various aspects.

Pre-intervention

The following extract taken from Fiona's pre-intervention session to exemplify the classroom discourse and the interactional features. Prior to this excerpt, the class has just finished playing an online interactive game called Kahoot, which all students took part in. Fiona then informed the students that in the following week, the topic would be the ASEAN countries' capital cities, and they should be prepared. Fiona has just started a new whole-class discussion activity with an aim for the Lecturer to gauge and for the students to share their background knowledge of the ASEAN community members.

Transcript 6.5

A whole-class interaction in Fiona's second pre-intervention session: What about, Lecturer?

Line	Name	
1	Fiona	We're done with the ASEAN countries' national flags already. So, next time (3.0) the topic will be the capital cities so you can prepare beforehand. The capital cities will be for the next class which we won't come to class. (.) I want you to have some knowledge about the ASEAN community. ((Fiona gets up from the desk and walks to the front left of the class)). There is research which I doubt its validity ((Fiona taps Rod's desk lightly)) indicating that we know about other countries less than our ASEAN member neighbours. Do you think it's true?
2	Female S	True.
3	Fiona	Really? Why don't you think we also know about it, too?
4	Female S	We know it but not so much.
5	Fiona	((Fiona turns to her right)) What do you know about the ASEAN countries?
6	Female S	More but less.
7	Fiona	((Fiona turns to her left briefly and turns back to her right)) What do you know about the ASEAN that is related to our country such as (2.0) something that is not our country. ((Fiona looks at Rod)) Anything that you know.
8	Rod	What about, Lecturer?
9	Fiona	Anything that is not about our country.
10	Rod	I only know that for dentists, it (.) is (.) free for them to work professionally.
11	Fiona	((claps her hands loudly once)) See? This is the mobility of professions in the ASEAN community.

12 Rod dentists-

This whole-class discussion activity lacks two vital dialogic teaching elements. First, there are no clear instructions on what activity the class is about to commence. The transition from a game to a discussion activity is not clear enough to some, if not all, students. In other words, it is uncertain whether the Lecturer wants to involve some students in small group discussion, or all students in a whole-class discussion activity. Thus, the students do not know what they should do or how to participate in class actively.

Considering when Fiona stands up and walks to the class where all students are seated, some students listen actively to her while others still talk to their peers. As Fiona approaches the front of the class, she initiates the first question which supposedly sets up a new task asking for students' opinions, "*There is research which I doubt its validity ((Fiona taps on Rod's desk lightly)) indicating that we know about other countries less than our ASEAN member friends. Do you think it's true?*" (line 1). By tapping Rod's desk, Fiona seems to call for his attention to the activity; however, Rod does not answer the question. Instead, a female student who sits on the right of the class (to the left of Fiona) replies, "*True*". The lecturer asks her follow-up questions, "*Really? Why don't you think we also know about it, too?*" These teacher challenge talk moves prompt the same student to contribute more. She then answers loudly and playfully that "*We know it but not so much.*"

Image 6.7

Fiona talking to the students sitting on the right of the class in the second pre-intervention session



As seen in Image 6.7, Fiona only glances at her but does not give any teacher comments or acknowledgements. Instead, she initiates yet another interactional sequence asking an open question, "*What do you know about the ASEAN that is related to our country such as (2.0)*

something that is not our country?” (line 7) while walking from the middle of the class to her right (the left of the classroom).

Interestingly, the immediately following question *“Anything that you know”* is addressed to Rod who is sitting in front of the class, as evident in Fiona looking at him in Figure 6.8 and maintaining eye contact with him in Image 6.9. It appears that Fiona deliberately nominates Rod to answer the question to which he requests for further clarification, *“What about, Lecturer?”* Given all the student reactions, it is likely that the students are unsure about their roles in the ongoing activity.

Image 6.8

Fiona talking to Rod during a whole-class discussion in the second pre-intervention session

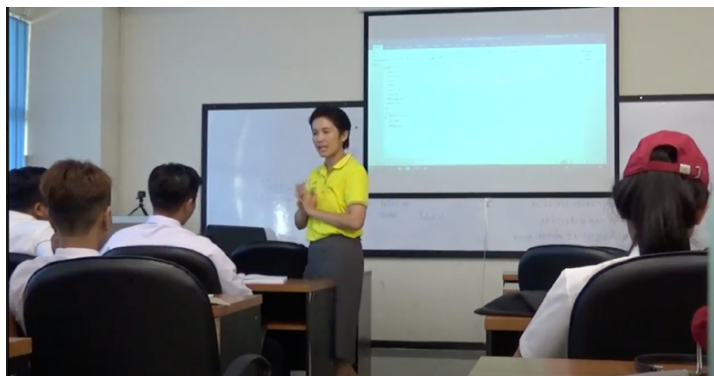
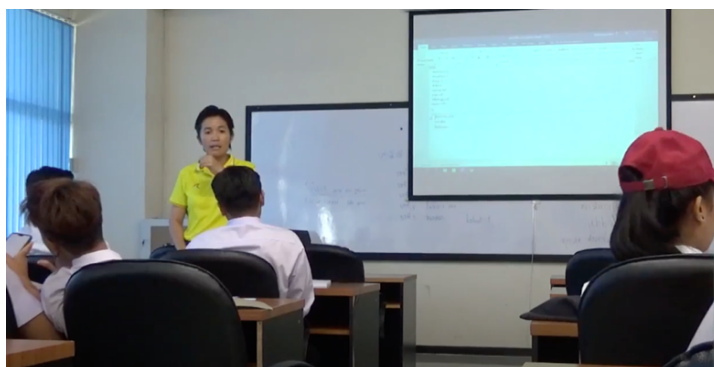


Image 6.9

Fiona talking to and maintaining eye contact with Rod during a whole-class discussion while other students talking among themselves in the second pre-intervention session



Another missing component to create a safe, secure classroom environment in this learning episode is ground rules. As mentioned above, ground rules are like the backbone of the class which should be agreed upon by teacher and students and complied with by students. It is

suggested that they be made explicit, openly discussed and agreed upon by the community members as early as possible. Although the importance of the ground rule establishment was carefully considered and demonstrated during the one-day dialogic teaching workshop, Fiona only mentioned the ground rules briefly once in her Cycle 2 class. Consequently, Fiona's class did not have specific ground rules known and agreed upon by her and all students like other cases in this study. Without any explicit explanations of their roles and unclear expected behaviours, it is very challenging for the students to remain focused or participate actively in such a distance.

To sum up, Transcript 6.5 has shown that without clear teaching instructions and explicit established ground rules, collective learning and enquiry are unlikely to take place in Fiona's teaching. Therefore, the students are at risk of not attentively participating in the ongoing activity and might lead to students losing their learning opportunity despite being physically in class.

The findings of qualitative transcript analysis indicate that after the intervention, Fiona's teacher talk, voice projection level, initiation strategies, and student involvement and agency changed only slightly. Therefore, her professional practices could still be considered traditional rather than dialogic teaching.

Interim Summary

1. The analysis reveals that despite some subtle changes in Fiona's teacher talk, voice projection level, initiation strategies, and student involvement and agency, her professional practice remained traditional following the dialogic teaching intervention.
2. Fiona's teacher initiations, and voice projection improved only subtly. However, display or closed questions were still pervasive throughout.
3. Prior to the intervention program, student initiations and contributions were often neglected by Fiona unless they were complete or relevant. Following the intervention, the students become highly engaged in whole-class discussion activities in Fiona's post-intervention session. However, whole-class discussions did not expand or lengthen and more closely resembled recitation than dialogic teaching.
4. Fiona's teaching lacked clear teaching instructions and explicit established ground rules before and after dialogic teaching.

4. Findings from Student Questionnaire Analysis

This section presents the results of the quantitative analysis of the law student questionnaires. Particularly, three-way analysis was conducted for Fiona's student questionnaire data because the number of students changed drastically from 19 students answering the pre-intervention questionnaire to 10 students in the post-intervention counterpart. Further, only five students answered both pre- and post-intervention questionnaires. Of 19 students who answered the pre-intervention questionnaire, 14 students only answered the pre- but not the post-intervention questionnaire. Similarly, only half of 10 students completing the post-intervention questionnaire only answered the post- but not the pre-intervention one. Therefore, three-way analysis was selected for the richest possible findings of the available data.

Three analyses were carried out to compare three different sets of pre- and post-intervention student questionnaire data. First, pre- and post-intervention questionnaires that were completed by five students who did both. This group will be called "*both pre- and post-group*" henceforth. The second analysis was the comparison of the pre-intervention questionnaire data that were answered by five students who only completed the pre-intervention questionnaire or "*pre-only group*" and the data completed by five students in the *both pre- and post- group*. The last analysis was a comparison of the post-intervention questionnaires completed by five students who only did the post-intervention questionnaire or "*post-only group*" and those questionnaire data of another five students from the *both pre- and post-group*.

Overall

Overall, the quantitative findings suggest that the students' perception of classroom talk and the lecturer's teaching approach improved from the pre- to the post-intervention sessions in understanding of the course content, classroom climate, and students' language articulacy in varying degrees. Also, the students' anticipated challenges were constant to the actual difficulties they faced with during the dialogic teaching implementation.

Pre-intervention

The findings of the pre-intervention student questionnaire of the *pre-only group* and the *both pre- and post-group* are presented below.

Table 6.2

Results of Fiona's pre-intervention student questionnaire of the both pre- and post- group and the pre-only group: Overall

Categories	Pre-intervention		Pre-intervention	
	Both pre- and post group		Pre-only group	
	Mean	Level of Agreement	Mean	Level of Agreement
A. Understanding of the course content		Agree		
	4.25		4.22	Agree
SD	0.54		0.56	
B. Classroom Climate	4.10	Agree	4.14	Agree
SD	0.65		0.61	
C. Communication Skills	4	Agree	3.98	Agree
SD	0.79		0.74	

According to Table 6.2, the analysis reveals the almost identical averages between the *both pre- and post-group* and the *pre-only group* in all three categories. First, the students in both groups viewed talk important for their learning and understanding of the course content at the averages of 4.25 for the *both pre- and post- group* and 4.22 for the *pre-only group* respectively. Additionally, the students agreed that the classroom climate was generally pleasant. Likewise, both groups felt positively towards their own communication skills. Given these findings comparing presented in the table above, it can be concluded that the *both pre- and post-group* highly represented all the pre-intervention student questionnaire results.

Post-intervention

The second analysis focusing on the post-intervention student questionnaire data was conducted between the *both pre- and post- group* and those of the *post-only group* and the findings are summarised in the Table 6.3.

Table 6.3

Results of Fiona's post-intervention student questionnaire of the both pre- and post-intervention group and the pre-only group: Overall

Categories	Post-intervention		Post-intervention	
	Both Pre- and Post-		Post- Only Group	
	Mean	Level of Agreement	Mean	Level of Agreement
A. Understanding of the course content	4.58	Strongly Agree	4.43	Agree
SD	0.55		0.55	
B. Classroom Climate	4.68	Strongly Agree	4.48	Agree
SD	0.47		0.55	
C. Communication Skills	4.77	Strongly Agree	4.67	Strongly Agree
SD	0.43		0.48	

First, it was found that of three main categories, communication skills was the only one that the averages of the two groups fell in the same level. However, even though the means of the *post-only group* were lower in two categories: understanding of the course content and classroom climate, the differences were not so great only between 0.15 and 0.20. Also, the means of the *post-only group* in these categories were just below the cut-off point between “agree” and “strongly agree” at 4.5 average score.

In addition, the analysis of the *both pre- and post- group* and the *post-only group* at sub-category and item levels reveals three important findings as summarised in the following table.

Table 6.4

Results of Fiona's post-intervention student questionnaire of the both pre- and post- group and the post-only group

Categories, Sub-categories and Items		Both Pre- and Post- Group	Post- Only Group
1. Understanding of the course content		4.58	4.43
		Strongly Agree	Strongly Agree
Benefits of talk on students' understanding of the course content		4.87	4.53
		Strongly Agree	Strongly Agree
4.	I am more confident about my understanding of the course after talking with peers and lecturer	5	4.2

	during the discussion than when I only think by myself.		
	Benefits of listening to peers on their understanding of the course content	4.40	4.36
		Agree	Agree
9.	I understand the topic better even when I observe the class discussion without participating through talk.	3.8	4.2
2. Classroom Climate		4.68	4.48
		Strongly Agree	Agree
Lecturer		5	4.77
		Strongly Agree	Strongly Agree
18.	The lecturer values my opinion.	5	4.6
19.	I like the lecturer's teaching style in this course.	5	5
20.	I feel comfortable to share my ideas with the lecturer in this course.	5	5
21.	The lecturer asks questions to help me think and elaborate more.	5	4.6
22.	The lecturer encourages my peers and me to talk more in this course.	5	4.8
23.	The lecturer makes me feel safe and welcome to share my ideas in this class.	5	4.6
Peers		4.35	4.3
		Agree	Agree
24.	My peers value my opinion in this course.	4.2	4.2
25.	I feel comfortable to share my ideas with peers in this course.	4.6	4.6
26.	My peers ask questions to help me think and elaborate more.	4.2	4.2
27.	My peers make me feel comfortable to share my ideas in this class.	4.4	4.2

First, the averages of the post-intervention student questionnaire of the *both pre- and post-group* and the *post-only group* were highly comparable. As seen in Table 6.4, the results of the two groups were either identical or differed slightly. The greatest difference of 0.8 was found in item 4 where the mean of the *both pre- and post-group* was 5 whereas that of the *post-only group* was 4.2.

Next, considering the *understanding of the course content* category, the result of item 9 of the *post-only group* was higher than that of the *both pre- and post-* counterpart. Although the difference between the two groups may not be large, especially when compared with other items, of 33 items in three categories, this was the only average of the *post-only group* that was higher than that of the *both pre- and post-* group.

All students in the *both pre- and post- group* rated all items regarding their lecturer a perfect score of five meaning or their view towards their lecturer was extremely positive. Similarly, all averages of the *post- only group* were extremely high from 4.6-5 as well resulting in the overall mean of this sub-category at 4.77 which was the highest across all sub-categories.

Despite the differences, the results of both groups are greatly comparable in all but one main category, the classroom climate. A closer consideration of the findings reveals the only sub-category difference in overall. The *both pre- and post- group* felt strongly positive about the classroom climate (4.60 average) while the *post- only group* mean was 4.20.

In conclusion, like the pre-intervention student questionnaire findings, the post-intervention findings suggest that the students who answered the post-intervention student questionnaires in both groups felt positive and similar towards the new pedagogical approach.

Pre- and Post-intervention Findings Comparison

The findings of the pre- and post-intervention student questionnaire of the *both pre- and post-group* are presented in the following table.

Table 6.5

Results of Fiona's post-intervention questionnaire of the both pre- and post- group

Categories	Pre-intervention		Post-intervention	
	Mean	Level of Agreement	Mean	Level of Agreement
Understanding of the course content	4.25	Agree	4.58	Strongly Agree
SD	0.54		0.55	
Classroom Climate	4.10	Agree	4.68	Strongly Agree
SD	0.65		0.47	
Communication Skills	4	Agree	4.77	Strongly Agree
SD	0.79		0.43	

Overall, the students' perception of classroom talk and the lecturer's teaching approach improved from the pre- to the post-intervention in all categories. According to Table 21, the most significant improvement was found in student communication skills at 4.77 after the

intervention, followed by the classroom climate (4.67), and understanding of the course content (4.58) respectively.

Next, a closer consideration of the Law students' perception of benefits of talk to their understanding of the course content reveals that they felt positive. The key findings are presented in the following table.

Table 6.6

Findings of Fiona's pre- and post-intervention questionnaire findings of the both pre- and post- group: Understanding of the course content

Categories, Sub-categories and Items		Pre-intervention	Post-intervention
Understanding of the course content		4.25	4.58
		Agree	Strongly Agree
Benefits of talk on students' understanding of the course content		4.33	4.87
		Agree	Strongly Agree
1.	Talking with my peers and lecturer during discussions improves my understanding of this course.	4.4	5
2.	My ideas become clearer when I have opportunities to talk about them with peers and lecturer than when I only think by myself.	4.2	4.6
3.	I am more confident about my understanding of the course after talking with peers and lecturer during the discussion than when I only think by myself.	4.4	5
Benefits of listening to peers on their understanding of the course content		4.20	4.40
		Agree	Agree
4.	I like to listen to my peers' ideas and opinions.	4.2	4.6
5.	I find listening to my peers helpful to my understanding.	4.4	4.4
6.	I learn from my peers when they share their opinions during the discussion in this course.	4.4	4.4
7.	I understand the topic better even when I observe the class discussion without participating through talk.	3.8	3.8
8.	I feel inspired by my peers' ideas and opinions.	4.2	4.8

Prior to the intervention, the students believed that talking was essential to their understanding. According to Table 6.6, the students highly valued talking (4.87) more than listening to peers (4.40). However, even though they liked listening to their peers (4.60) and were inspired by them (4.80), they did not feel strongly about its benefits of listening to their classmates on understanding of the course content.

Classroom Climate

Next, the students felt strongly about classroom climate towards the overall environment and their lecturer. After the intervention, their perception of these classroom environment categories improved rather significantly as the results summarised in the following table.

Table 6.7

Results of Fiona's pre- and post-intervention student questionnaire of the both pre- and post-group: Classroom climate

Categories, Sub-categories and Items		Pre-intervention	Post-intervention
Classroom Climate:		4.10	4.68
		Agree	Strongly Agree
Overall		3.89	4.60
		Agree	Strongly Agree
10.	I feel comfortable speaking in this course.	3.8	4.6
11.	I am motivated to come to this course than other courses.	4.2	4.6
12.	I feel comfortable to share my ideas in this course.	3.8	4.8
13.	I have more opportunities to share my ideas than other courses.	3.6	4.8
Lecturer		4.57	5
		Strongly Agree	Strongly Agree
16.	The lecturer values my opinions.	4.8	5
17.	I like the lecturer's teaching style.	4.8	5
18.	I feel comfortable to share my ideas with the lecturer in this course.	4.8	5
19.	The lecturer asks questions to help me think and elaborate my answers.	4.2	5
20.	The lecturer encourages my peers and me to talk more in this course.	4.4	5
21.	The lecturer makes me feel safe and welcomed to share my ideas in this class.	4.4	5
Peers		4.24	4.35
		Agree	Agree
23.	My peers value my opinion in this course.	3.4	4.2
24.	I feel comfortable to share my ideas with peers in this course.	3.8	4.6
26.	My peers make me feel comfortable to share my ideas in class.	3.8	4.4

As seen in Table 6.7, the students felt strongly positive about the overall classroom climate. The overall categorial average increased from 4.10 from pre- to 4.68 post-intervention. The

students particularly felt strongly about being comfortable and having more opportunities to share their ideas in this course in both items. More importantly, their view towards the lecturer improved from 4.57 to 5 in all items in the post-intervention questionnaire.

Communication Skills

Moreover, as talk is an essential learning tool in dialogic pedagogy, being able to express and articulate well is a critical skill. It was found that the intervention helped raise the students' awareness of their own talk and improved their communication skills as presented below.

Table 6.8

Results of Fiona's pre- and post-intervention student questionnaire of the both pre- and post-group: Students' communication skills

Categories, Sub-categories and Items		Pre-intervention	Post-intervention
Students' Communication Skills		4	4.77
		Agree	Strongly Agree
29.	I am confident to speak.	3.4	4.8
30.	I speak fluently. I articulate well.	3.2	4.8

As shown in Table 6.8, the students' confidence and fluency rocketed after the intervention. It can be concluded that the students felt more confident and articulate with dialogic teaching

Challenges

The last section of the post-intervention student questionnaire asked the students to select five challenges they faced during the intervention period. Of 10 completed questionnaires, eight were properly completed. The results are illustrated below.

Table 6.9

Results of challenges the students expected in pre-intervention session and those they encountered during dialogic teaching implementation

Challenges		Pre Total = 12 %	Post Total = 8 %
1.	My language and communication problem	50	75
2.	Lack of opportunities to talk	16.67	0
3.	Belief that other students will talk	0	0

4.	Insufficient time to prepare to talk	50	12.5
5.	Fear of being judged by peers and lecturer	41.67	100
6.	Lack of topic knowledge and understanding	66.67	37.5
7.	Fear of being wrong or not giving fully developed ideas	83.33	87.5
8.	Shyness/Embarrassment to talk in front of peers.	66.67	62.5
9.	Do not want to be rude by challenging the lecturer or peers	41.67	25
10.	Do not want to interrupt the lecturer while speaking	41.67	50
11.	Do not want to interrupt the flow of the class discussion	41.67	50

Before the intervention took place, the students reported their top four anticipated challenges (highlighted) which include: *fear of being wrong or not giving fully developed ideas* (83.33%), *lack of topic knowledge and understanding* (66.67), *shyness/ embarrassment to talk in front of peers* (66.67%), and *their language and communication problems* (50%).

Albeit slightly different, the top four challenges (highlighted) faced by the students during the dialogic teaching implementation are: *fear of being judged by peers and lecturer* (100%), *fear of being wrong or not giving fully developed ideas* (87.5%), *their language and communication problem* (75%), and *shyness/ embarrassment to talk in front of their peers* (62.5%).

Importantly, after the intervention, all students were afraid to be judged by others and almost 90% of students felt uncomfortable sharing their ideas that could be incorrect or underdeveloped. Despite Fiona's effort to create a nurturing dialogic teaching classroom where the students feel safe and comfortable to share their ideas, the majority of the students were still concerned with how their contributions would be judged by others.

Considering the three challenges chosen by none or one student including: *lack of opportunities to talk* (0%); *belief that other students will talk* (0%); and *insufficient time to prepare to talk* (12.5%), these low percentages reflected the lecturer positive dialogic teaching manifestation in providing the students with ample thinking time and opportunities to talk during whole-class discussions. However, these findings seem to contradict with the transcript analysis findings presented earlier in this chapter.

In summary, the students' self-reported anticipated challenges were highly comparable to the actual difficulties they faced with during the dialogic teaching implementation.

Interim Summary

1. Since there were a number of student dropouts between before and after the intervention, three-way analysis was conducted for Fiona's student questionnaire data.
2. First, the pre-intervention findings are drawn from the student questionnaire results of the students who completed both pre- and post-intervention questionnaires (*both pre- and post-group*) and the students who completed only the pre-intervention questionnaire (*pre-only group*). The findings from these two groups are almost identical in all three categories. First, the students in both groups viewed talk important for their learning and understanding of the course content. They also believed that the classroom climate was generally pleasant and felt positively towards their communication skills.
3. Secondly, the post-intervention results are a comparison of students' post-intervention questionnaire of the *both pre- and post-group* and the students who completed only the post-intervention questionnaire (*post-only group*). It was found that although the findings are not highly comparable as the pre-intervention results, the students felt profoundly positive about the dialogic teaching implementation in all three categories: understanding of the course content, classroom climate, and communication skills.
4. Thirdly, the pre-intervention results of the *both pre- and post-group* were compared to those of the students who completed only the post-intervention questionnaire (*post-only group*). The results suggest that the students' perception of classroom talk and the lecturer's teaching approach improved from the pre- to the post-intervention in all three categories. The students felt strongly about classroom climate towards the overall environment and their lecturer. Moreover, *the intervention helped raise their awareness of their own talk and improved their communication skills*.
5. Before the intervention took place, the students reported their top five anticipated challenges which include: *fear of being wrong or not giving fully developed ideas, lack of topic knowledge and understanding, shyness/ embarrassment to talk in front of peers, their language and communication problem, and fear of being judged by peers and lecturer*.

6. Similarly, the top four challenges faced by the students during the dialogic teaching implementation are: *fear of being judged by peers and lecturer, fear of being wrong or not giving fully developed ideas, their language and communication problem, and shyness/ embarrassment to talk in front of their peers.*
7. Importantly, after the intervention, all students were afraid to be judged by others and almost 90% of students felt uncomfortable sharing their ideas thinking if their contributions were acceptable or underdeveloped despite Fiona's effort to create a nurturing dialogic teaching ethos.

5. Findings from Student Group Interviews

This section presents the findings from Fiona's pre- and post-intervention student group interviews. With respect to data collection, like student questionnaire, the student group interviews were conducted twice immediately after the pre- and post-intervention questionnaire were administered. For the pre-intervention student group interview, of 19 students answering the pre-intervention questionnaire four were randomly selected according to the ending of their student identification numbers and Liam, Ellen, Jasmine, and Jacob and were invited to participate in the interview. Due to an unforeseen situation as several students dropped out during the term, the participants in both pre- and post-intervention student group interview were slightly different. As two of the student interviewees (Jasmine and Jacob) did not show up on the day of post-intervention student data collection, two more students were randomly selected and invited to take part in the post-intervention student group interview. Therefore, Rod and Keith were invited to the post-intervention student interview in addition to Liam and Ellen. It should be noted Jasmine only attended the first two sessions and then dropped out. The post-intervention student group interview was necessary to be modified due to a significant decline of students and missing participants. For the second interview, the student participants were Rod, Liam, Ellen, and Keith. Overall, the qualitative analysis of the student interview data revealed that the students had positive attitudes towards their lecturer, and classroom talk and listening to classmates contributed to their confidence and better understandings of the course content. However, it was also found that the relationship among classmates could be improved. Challenges and suggestions were explored.

Benefits of Talk

Pre-intervention

The students agreed that talk was beneficial to their course content understanding and discussions with classmates also helped with their confidence. Jasmine noted that *"I learn what I don't know from discussions and understand better. My classmates are the answer."* Likewise, Ellen added, *"It [talking with peers] is much better than thinking by myself. When there is something that I am not sure of, I talk with my classmates."*

Post-intervention

Similarly, in the post-student interview, the students' view of talk remained positive as they believed talk was beneficial in their learning. The students found having the opportunities to

talk in discussions helped improve their understanding and they were more confident with their understanding of the course content afterwards. *“We learned better when we talked because we had to think and analyse before we could share our ideas with classmates,”* Keith emphasised the benefits of talking in class. *“When peers discussed something, I did not know much about, it encouraged me to find out more about it,”* Ellen added during the post-intervention student group interview.

Benefits of Listening to Peers

Pre-intervention

Listening to classmates during whole-class discussions helped the students learn the course content. *“I learn implicitly through listening to classmates. However, through observing class discussions, I learn but not as much as answering questions myself”* reported Jasmine in the pre-intervention interview.

Post-intervention

On the other hand, the students believed that listening to peers during whole-class discussions was beneficial and yet doubt their peer contributions' validity. Ellen noted the benefits of listening to peers that *“My peers gave me confidence to a certain extent and yet it is unclear.”* Rod was also uncertain about the benefits of observing talk during whole-class discussion. He pointed out that *“I didn't focus when the lecturer talked with my classmates because I wasn't aware whom she discussed with such as in the front or in the back of the class.”*

Classroom Climate– Overall

Pre-intervention

The students agreed that they were encouraged to talk in Fiona's class and thus were excited and motivated. Liam noted that *“The lecturer prompted us to speak, and I still felt excited.”* Likewise, Jasmine stressed that, *“The lecturer asked us to talk more than other courses I took before, and I wanted to learn more in this course.”*

Post-intervention

The students had positive attitudes towards overall classroom climate. They believed they had sufficient opportunities to talk. *“The lecturer constantly asked us questions and encouraged us to talk about everything in all sessions,”* noted Rod. *“The lecturer listened to*

and let us know what we don't know," Liam stated, and Keith also added that *"We didn't have to be afraid because when we make mistakes, the lecturer would let us know."*

Classroom Climate– Lecturer

Pre-intervention

The students felt that the lecturer was open and friendly. Ellen particularly liked her lecturer talk and friendliness as she stated *"her friendliness made us less anxious."* Jasmine added that *"Since I have studied, no lecturers have ever approached me this close before."*

Post-interview

Similar to the pre-intervention interview findings, all student interviewees agreed that Fiona was a good listener who was kind, open-minded and understanding. *"The lecturer asks us a lot of questions and she also encouraged us to talk and gave us feedback like "It's interesting, ""* stated Rod. Keith added, *"I did not have to worry about making mistakes. Because if it happened, the lecturer would tell me."* Ellen mentioned several times during the post-intervention interview about her appreciation of Fiona being genuinely caring about her students. Keith also mentioned that *"In every session, the lecturer asks us about grades [academic performance]. If anyone has problems, they can consult with her."*

More importantly, the student interviewees liked Fiona's teaching style. Rod explained that *"Her talk techniques make me interested in studying; for example, she provides examples, and shared her experiences with us."* In addition, *"Her friendliness encouraged me to ask. I am braver to ask more questions,"* Liam commented on the lecturer's teaching style.

Classroom Climate– Peers

Although the students view peer relationship influential in their learning, they did not feel close and comfortable talking and sharing their idea in class during the intervention program. The students did not feel valued by some classmates but were willing to know their peers better.

Pre-intervention

The students agreed that the relationship with their classmates influenced their learning. They stated that having a good relationship with friends helped them in their learning. However, Jasmine pointed out that their relationship was not as close and healthy as she stated, *"We're*

in the second year now but there are some people whom I have never talked to. It is not that I have not approached them. They have not approached me either.” This is in line with Liam’s comment that *“I know them, but we are not close.”* Also, the students expressed their willingness to get to know their classmates through both formal and informal classroom activities. Jasmine noted that *“some did not care as much”* regarding whether her classmates valued her opinions shared during whole-class discussion.

Post-intervention

The post-intervention student group interview revealed that the students felt more valued by peers compared to the pre-intervention interview. *“At least my classmates listened to me,”* said Ellen. What is interesting is that the students’ perceptions of peer support were mixed. Ellen noted, *“I am more embarrassed when talking with peers than with the lecturer.”* Similarly, Rod reported that, *“Some classmates did not pay attention to what I said.”* *“Only the close ones listened to me,”* Keith added. The student interviewees also expressed their frustration regarding their classmates taking off-topic during whole-class discussion activities in Fiona’s sessions as they called it distracting. Furthermore, the students agreed that nothing could be done because other students had the right to speak in class. Rather, they would solve this problem by moving their seat rather than telling their classmates to be mindful about their talking directly.

Communication Skills

Pre-intervention

The students deemed listening and writing skills the most critical skills in study the law, especially in examinations. Nevertheless, they did not elaborate more on their language articulation in the pre-intervention interview.

Post-intervention

The students expressed their worries about some communication skills and language articulation in the post-intervention interview. Ellen stated that *“I am worried about using the formal language”* whereas Liam originally coming from Southern Thailand said *“I am worried about my dialect accent.”* It is important to note that the students did not express any concerns regarding specific communication skills in learning talk such as explaining, justifying, exploring and analysing in their student talk.

Challenges

Pre-intervention

Only two challenges were discussed during the pre-intervention interview. First, Liam noted that he selected *do not want to interrupt the lecturer while speaking* as one of the challenges he anticipated. He further explained that “*I want the lecturer to explain first and then I can talk.*” Another challenge expected was *do not want to be rude by challenging the lecturer or peers*. Ellen said, “*I might be reprovved.*”

Post-intervention

In the post-intervention interview, the most frequently selected challenges among the students were *language and communication problem* (4), *do not want to interrupt the flow of class discussion* (4), *fear of being judged by peers and lecturer* (4), and *fear of being wrong or not giving fully developed ideas* (3). Moreover, the students reported *their lack of topic knowledge* (1), *insufficient time to prepare to talk* (1), *shyness/ embarrassment to talk in front of classmates* (1), *do not want to be rude by challenging peers and lecturer* (1), and *do not want to interrupt the lecturer while speaking* (1) as difficulties they encountered during the intervention.

In addition to the interview schedule, the students were also asked “What would be one thing that you would like the lecturer to change in this course?” Liam first mentioned “*the students talking in class*” on which the rest of the student interviewees agreed. “*I wanted the lecturer to control the classroom manners of the students,*” Rod added. “*During some discussions about topics of my interests and other classmates talked, I could not hear the discussions,*” noted Keith. Ellen also commented, “*I could not focus.*” To sum up, it is likely that the students viewed their peers talking during the discussions problematic as it was distracting and negatively affected their concentration and learning.

Interim summary

1. Both before and after the intervention, the students viewed talk beneficial for their learning of the course content. They believed that having the opportunities to talk in discussions helped improve their understanding and they were more confident with their understanding of the course content afterwards.

2. In the pre-intervention student interview the students believed that listening to classmates during whole-class discussions helped them learn the course content and yet they doubted their peer contributions' validity.
3. After the intervention, the Law students believed that that they were encouraged to talk in Fiona's class and thus were excited and motivated. They had positive attitudes towards overall classroom climate.
4. In both pre- and post-intervention interviews, the students felt that the lecturer was kind, friendly, open-minded, and understanding. They also like Fiona's teaching style.
5. Although the students viewed peer relationships influential in their learning, they did not feel close and comfortable talking and sharing their ideas in class.
6. The post-intervention interview revealed that they felt more valued by peers and yet their perceptions of peer support were mixed.
7. In the pre-intervention interview, the students deemed listening and writing skills the most critical skills in studying law, especially for examination. In the post-intervention interview, they expressed their worries about their communication skills and language articulacy including formality and the use of dialect.
8. Only two challenges were discussed in the pre-intervention interview: *do not want to interrupt the lecturer while speaking*, and *do not want to be rude by challenging the lecturer or peers*. On the other hand, the most frequently selected challenges among the students in the post-intervention interview were *their language and communication problem*, *do not want to interrupt the flow of class discussion*, *fear of being judged by peers and lecturer*, and *fear of being wrong or not giving fully developed ideas*.

6. Findings from Lecturer Interviews

The lecturer interview analysis reveals Fiona's insightful and interesting perceptions of dialogic teaching. Even though her teaching practice did not change significantly over the course of the intervention, Fiona believed that dialogic teaching was a practical and useful teaching approach as it prompted her to monitor and scrutinise her professional practice, reconceptualise classroom talk, and strengthen the relationships with her students.

Lecturer's Perception of Dialogic Teaching and Intervention

As a research participant, Fiona was encouraged to carefully examine her pedagogical practices. Having been teaching for over five years at the university at the time of data collection, she had taught a range of courses—both compulsory law and general education (GE) courses—and has encountered various types of students. Fiona stated that her primary motivation to participate in the current study and specifically select this course as her intervention group was her preconceived assumptions about the course, the students and herself. While the students in other law courses she has taught have been highly motivated and very participatory, this general education course has been so problematic that she had always sought ways to cope with this persistent professional challenge.

During the pre-intervention interview, Fiona invited the researcher to observe her other classes beyond the current research study scope and requested for direct, explicit feedback so that she could improve and become a better lecturer.

In the post-intervention interview, Fiona commented that she learned extensively from the video-based reflective coaching sessions as they enabled her to see her actual professional practices by herself. *“So, it is clear when something happens in a class and a lecturer takes a consequential action or when he/she has a preconceived assumption and why that class. What are the factors—both positive and negative—affecting their preconceived assumption? There are so many factors involved,”* stated Fiona in the post-intervention interview. Also, she firmly believed that this dialogic teaching professional development program should take every class one lecturer teaches into consideration to gain a precise and comprehensive understanding of their pedagogical practice and decisions.

More importantly, one of the most striking differences found during the pre- and post-intervention interviews was Fiona's appearance and descriptions of the intervention class.

During the pre-intervention interview, Fiona appeared very hopeful, energetic, and highly motivated. For several times, she expressed that she was delighted to participate in the study as she considered it as a professional development opportunity. She was eager to have someone such as a researcher to investigate her teaching practice and provide her with explicit feedback and suggestions. On the other hand, during the post-intervention interview, she became remarkably drained, indifferent, and somewhat hopeless. Her voice was much calmer and lacked excitement. She also repeatedly recited some descriptive words with a negative connotation when expressing her students, lecturer-student interactions, and teaching practice. To illustrate, Fiona explicitly said that her intervention group students “*didn’t really listen,*” and “*could not stop talking to pay attention*” and as a result she “*was very disappointed*” and “*gave up halfway through the intervention program*” (post-intervention interview). She also thought it was “*a waste of time*” to discuss as a whole class, and she consequently decided to focus on the course content in preparation for the final examination.

Lecturer’s Teaching Strategies and Talk Practices

1. Wait Time

Fiona’s perception towards wait time in her teaching between before and after the intervention remained unchanged. “*It is insufficient,*” Fiona noted in the pre-intervention interview. Similarly, the wait time “*should have been longer*” as she remarked in the post-intervention interview.

2. Lecturer-student Relationship

With dialogic teaching, Fiona believed that she was able to bridge the gap between herself and her students and strengthen their relationship. As some of the students performed rather badly in their freshman year, Fiona believed that “*once they became my students, we are always teacher and students*” and thus it was her responsibility to encourage them and to help them survive and advance in their studies (post-intervention interview). Fiona often invited the students to meet her outside the class and that they were welcome to talk with her about their life and academic issues, especially when they had some problems. This aligns with Fiona’s classroom video recording and stimulated recall data that she genuinely cared about their survival in the university education and thus often explicitly addressed their academic performance as her most critical concern with these students.

Moreover, Fiona believed that dialogic teaching enabled her to build relationships with the students by successfully creating a safe, welcoming classroom climate and expressing her strong willingness to help them advance in their studies. In the post-intervention interview, she noted, “*They dared to talk and later to ask questions. Even though they did not ask questions in class, they still asked. I believe it brought us closer.*”

3. Lecturer’s Priorities and Preconceived Assumptions

The analysis of the lecturer interview data also reveals two important insights. First, Fiona prioritised students’ academic achievement and survival (pre- and post-intervention interviews). Once the main instructional objective was driven by academic outcomes, it was extremely challenging for teachers to strike a balance between knowledge transmission and knowledge co-construction. While one values students being “correct” and their ability to recall the knowledge within a short period, the other values student contributions, sharing ideas and exploring different aspects of a given topic. This, therefore, may influence Fiona’s pedagogical decisions and practice. As the lecturer wanted the students to pass the course, an extensive amount of class time was allocated to lectures and much less to whole-class discussion. Consequentially, the roles of the students inevitably differed.

Additionally, it appeared her preconceived assumptions about the course, the students and herself played a critical role in her decision and pedagogical practice. Having doubts in the course content in the first place, Fiona may unintentionally focus on ensuring she covered all the necessary content included in the course final examination. Moreover, this influenced her to use teacher initiation and follow-up moves only when she needed to make sure that the students could do well on the examination rather than to be able to work collaboratively in knowledge co-construction. This also reaffirmed her decision to predominantly lecture and only asked the students some genuine questions directly relevant to the content to help them recall the course content.

4. Ground Rules for Talk

Interestingly, when Fiona commented that the ground rules might not help mitigate the problem of students not stop talking to listen actively and participate in class because “*the ground rules would not work because they would work with people with manners. For those without manners, they would not have any*” (post-intervention interview). It should be noted

that over the twelve-week intervention program, Fiona only mentioned the ground rules once in Cycle 2.

In conclusion, her preconceived assumptions about the course, concerns with students' academic achievement and survival, and disappointment with "the most difficult students" to use her words thus far in her teaching profession could potentially cause Fiona to feel discouraged, unmotivated, and hopeless reflected in her voice and linguistic choice talking about dialogic teaching implementation with the intervention group. Fiona openly admitted that *"It's not right to blame the students alone. I have to blame myself. I should have enforced the rules more strictly for a class like this. For such class, I should have been more commanding. I mistakenly estimated them. I should have been stricter with them."* (post-intervention interview).

5. Students' Opportunities to Talk

The opportunities given to the students to talk declined over the course of the intervention. It was largely due to the amount of course content and students' motivation. Fiona noted in the pre-intervention interview that, *"I aim to have all students to talk in class during whole-class discussion activities in every class."* However, that changed over the course of the intervention due to an important factor about the students' unwillingness to participate this changed as Fiona later remarked in the post-intervention interview that *"Once the students can answer the questions, it suggests that they have sufficient understanding of the content and thus there is no need to discuss more in details,"* and *"From implying indirectly to telling them exactly they should do in class and pass the course but there were no signs of improvement in terms of their academic performance, willingness or motivation to learn. They do not even buy the textbook."*

6. Lecturer Talk to Student Talk Ratio

Fiona believed that her lecturer talk to student talk ratio remained inappropriate before and after the dialogic teaching intervention. Nevertheless, despite Fiona's plan and willingness to promote student' engagement in class discussion, Fiona's view towards classroom talk, especially student talk, changed. In the pre-intervention interview, Fiona reported that her teacher talk to student talk ratio *"is not balanced since I as the lecturer talk much more. The students should talk more."* In contrast, Fiona explained in the post-intervention interview as follows:

“At first, I wanted the students to talk a lot more but somehow I changed my mind. It was partly driven by the amount of course content. That is, for the parts that are not included in the exam, I don’t want to spend much time discussing them. In other words, it’s not worth spending time on those parts. However, when the contents are relevant or will be on the exam, more time would be spent.”

In addition, it was found that due to her strong emphasis on students’ academic performance and time constraint, Fiona noted in the post-intervention interview further as follows:

“I was disappointed in their performance, especially in the areas related to law, or they should have learned in their first year. The students seemed to not understand sufficiently or have forgotten a lot of it. It was a waste of time to wait for some students to talk more or elaborate their answers. In some cases, I know that the students would like to continue talking but I decided to stop them.”

To conclude, Fiona believed her teacher talk and student talk were not proportional prior to and after the dialogic teaching intervention. Although she was willing to encourage the students to engage more, she thought it was not worth spending the class time discussing some course contents if not included in the final examination.

Students’ Talk Practices

1. Student Participation

An important improvement was students’ awareness of their role and their increased participation. First, the students were aware of their active learner role in class meaning they were expected to contribute whenever prompted. Gradually, they became more accustomed to talking more in class, especially during the whole-class discussion. They were braver to speak in class and were willing to share and initiate more by raising relevant student initiations.

2. Student Contributions

Fiona was content with the student contributions but was concerned whether the students understood the course content or not. In the pre-intervention interview, she noted that *“If the topics of discussion are more relevant to the students’ life, they are likely to contribute more.”*

The students enjoy sharing and listening to their peers.” In the post-intervention interview, Fiona noted as follows:

“Overall, I consider the student contributions fine, but I feel like I had to repeat the questions several times and wondered why it was difficult for the students to really understand them. They did not answer or contributed as much. I doubt if they really understood the course content even after the students submitted their homework assignments and were supposed to have some understanding and thus be able to elaborate on it.”

3. Student Questions

Student initiations were frequent before and increased following the dialogic teaching intervention. *“Law students ask a lot of questions and sometimes I have to ask them to let me finish what I have to teach before they ask their questions,”* reported Fiona in the pre-intervention interview. On the other hand, she noted in the post-intervention interview that *“student questions increased but not significantly in class, but some students ask more questions outside or before class.”* This, according to Fiona, was due to a better teacher-student relationship after the intervention.

4. Student Self-nominations

Fiona believed that student nominations remained unchanged between pre- and post-intervention sessions, and it was due to the outspoken nature of law students. In the pre-intervention interview, she remarked, *“The students rarely nominated themselves to speak.”* Similarly, the lecturer noted in the post-intervention interview that *“Those who nominate themselves to talk are the ones who tend to do by their nature or habit. For example, Rod tends to speak a lot in class because he understands better when verbalising his thinking. The majority of law students is like this.”*

Challenges for Dialogic Teaching Implementation

Fiona anticipated five challenges if dialogic teaching was implemented. They were: *insufficient time to cover all course contents, teacher and student language proficiency particularly technical terms in law, teacher talk skills and teaching strategies, educational culture, especially in Faculty of Law in Thailand where the students were used to lecture-based teaching, and fear of being judged by the students.* Fiona explained that student

outcomes were the main priority in her view, Also, she believed that “*it is likely impossible to break the old culture*” of lecture-based teaching at the Faculty of Law as noted in the pre-intervention interview.

Fiona reported five important challenges she faced with when adopting the dialogic teaching approach. The first challenge was her *own talk skills and teaching strategies*. Through this professional development program, she realised that talk is essential. She believed that her own talk “*was too academic for some students to understand; for example, when she used some fundamental technical terms and jargons in law*. Next, Fiona found *her own language use and students language articulacy* challenging. In other words, there were discrepancies in her language and that of the students. This consequential caused misunderstandings and impeded teaching and learning. In the post-intervention, Fiona elaborated that “*It is like I am walking on the second floor while the students on the third. It is difficult to meet.*” Finally, *course objectives and assessment* played a role in implementing the new approach. It was a pedagogical dilemma for Fiona particularly with this group of students whose academic performance was generally low. It was difficult for her to decide whether to adopt a new dialogic pedagogy to help them develop their thinking and communicative skills while co-constructing knowledge or to stick with her own traditional teaching practice knowing that the students would have sufficient understanding of the course content to pass the exam.

Interim Summary

1. Fiona believed that dialogic teaching was a practical and useful teaching approach as it prompted her to monitor and scrutinise her professional practice, reconceptualise classroom talk, and strengthen the relationships with her students.
2. One of the most striking differences found during the pre- and post-intervention interviews was Fiona’s appearance and descriptions of the intervention class. During the pre-intervention interview, Fiona appeared very hopeful, energetic, and highly motivated. However, during the post-intervention interview, she became remarkably drained, indifferent, and somewhat hopeless. She also repeatedly recited some descriptive words with a negative connotation when expressing her students, lecturer-student interactions, and teaching practice.
3. Fiona believed that the wait time she gave to the students to think and formulate their answers were insufficient throughout.

4. With dialogic teaching, Fiona believed that she was able to bridge the gap between herself and her students and strengthen their relationship. It also enabled her to build relationships with the students by successfully creating a safe, welcoming classroom climate and expressing her strong willingness to help them advance in their studies.
5. Fiona's teaching strategies and talk practices were influenced by her priorities in students' academic achievement and survival, and her preconceived assumption about the course.
6. The opportunities given to the students to talk declined over the course of the intervention. According to Fiona, it was largely due to the amount of course content and students' motivation.
7. Fiona believed her teacher talk and student talk were not proportional prior to and after the dialogic teaching intervention. Although she was willing to encourage the students to engage more, she thought it was not worth spending the class time discussing some course contents if not included in the final examination.
8. For Fiona, an important improvement was students' awareness of their role and their increased participation. The students were aware of their active learner role in class. They became more accustomed to talking more in class.
9. Although Fiona was content with the student contributions, she was concerned about their contribution being appropriate rather than the length.
10. Student initiations were frequent before and increased following the dialogic teaching intervention. This, according to Fiona, was due to a better teacher-student relationship.
11. Student nominations remained unchanged between pre- and post-intervention. and it was due to the outspoken nature of law students.
12. An important improvement was students' awareness of their role and their increased participation. Gradually, they became more accustomed to talking more in class and were braver to share and ask questions.
13. Fiona believed that lecturer talk to student talk ratio remained imbalanced from before to after the intervention. Although she was willing to encourage the students to engage more, she thought it was not worth spending the class time discussing some course contents if they would not be included in the final examination.
14. Fiona anticipated five challenges if dialogic teaching was implemented including:
insufficient time to cover all course contents, teacher and student language

proficiency particularly technical terms in law, teacher talk skills and teaching strategies, educational culture, and fear of being judged by the students.

15. Fiona reported five important challenges she faced with when adopting the dialogic teaching approach including: *talk skills and teaching strategies, her own language use, students' language articulacy, course objectives, and course assessment.*

Chapter 7: Discussion of Findings

This chapter will answer three main and six sub-research questions using triangulated data and relevant literature. The second part of the chapter will provide a broader discussion with a focus on three fundamental factors affecting dialogic teaching implementation in the Thai higher education context followed by the evaluation of the current dialogic teaching intervention.

The study investigated the implementation and impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses in Thailand, and it explored the lecturers and students' perceptions of the pedagogical approach.

Building on the large-scale randomised control trial dialogic teaching intervention study carried out by Alexander, Hardman and Hardman (2017), this study replicated with some adaptation and applied it to the higher education context in Thailand. The study involved three lecturers Orca (Fishery Science), Mary (Language Education), and Fiona (Law) who participated in a twelve-week professional development program consisting of two workshops and five cycles of video-based reflective coaching sessions. Quantitative and qualitative data were collected pre- and post-intervention using mixed methods: live classroom observations, transcripts of video-recorded teaching sessions, student questionnaires, and lecturer and student group interviews.

As one of the first dialogic teaching intervention studies in the Eastern context, this study reveals that approach could be implemented in different ways and to varying degrees. Also, several contextual factors influencing the implementation included the collectivist culture of Thailand and the lecturers and students' attitudes. The transition from traditional teacher-dominated teaching to dialogic teaching had obvious challenges and implications.

1. Research Question 1

This section focuses on answering the first research question and its two sub-questions:

1. How is dialogic teaching implemented, and what is the impact of a dialogic teaching approach on classroom processes in undergraduate university courses in Thailand?
 - 1.1 Are there any observed changes in lecturers' teaching strategies and talk practices after the intervention?

1.2 Are there any observed changes in student talk practices and quality in whole-class discussions after the intervention?

To understand the dialogic teaching approach's impact on the teaching processes comprehensively, the findings from different analyses previously discussed were triangulated. Particularly, the results of field notes, systematic observation schedule, and transcripts analyses will be presented to demonstrate the observable changes in the lecturers' pedagogical practices. The student questionnaire, lecturer interview, and student group interview findings will be discussed to reveal the participants' perceptions of the dialogic teaching implementation.

Overall, it was found that the dialogic teaching approach changed the lecturers' teaching strategies, classroom climate, classroom activities, turn management, lecturer-student relationship, and lecturer and student talk practices. Evident in their pedagogical practices, Orca (FS) and Mary (LE) became more dialogic following the intervention, whereas Fiona (Law) remained rather traditional.

Are There Any Observed Changes in Lecturers' Teaching Strategies and Talk Practices After the Intervention?

In this study, a "teaching strategy" refers to an action or process taken by a lecturer that aims to create a safe, welcoming learning ethos. It includes (re)arranging classroom layout, negotiating, and establishing ground rules for talk, minimising distractions, supporting students, selecting classroom activities appropriate for expected outcomes, managing talk, building trust and rapport, and strengthening lecturer-student relationships. A "talk practice" refers to any lecturer or student talk that aims to accomplish verbal or behavioural practices. It includes teacher closed- and open-ended questions, follow-up questions, feedback, students' brief and extended contributions, and student questions.

1. Classroom Environment

Layout

Classroom layout is among the most noticeable, tangible change in pedagogical practice, but it can be challenging to implement in various contexts and conditions. In this study, two of three lecturers changed their classroom layouts.

The **more dialogic** lecturers, Orca and Mary, changed their classroom layout to fit their organisational contexts and facilitate the expected interaction outcomes. Consequently, the spatial barrier was minimised drastically in their classes. These changes were positive and were in accordance with Rands and Gansemer-Topf's (2017) suggestion that minimising physical barriers helps create a more stimulating learning environment and promotes student engagement and interaction. Conversely, the **more traditional** lecturer, Fiona, did not change her classroom layout after the intervention. When the physical barrier was minimised or eliminated, lecturer-student interactions improved. Everyone could see and hear each other, giving rise to a more stimulating dialogic ethos (Alexander, 2008, 2018, 2020).

2. Ground Rules for Talk

The field notes analysis indicates that all lecturers implemented the ground rules for talk to varying degrees. An essential function of classroom talk ground rules is to establish and develop a shared understanding and expected behavioural norms in class. According to Hofmann and Ruthven (2018), establishing new classroom norms requires collaborative efforts from all involved because it takes explicit effort, time, and shared understanding of the new norms. In Orca and Mary's pedagogical practices, they constantly reminded their students of the ground rules for talk. Doing so helped their students understand the new expected behaviours, led to an environment of trust (Quinlan, 2016) and thus established new classroom talk norms. Failing to make sufficient explicit efforts as in the case of Fiona was unsuccessful in establishing a new norm.

3. Supportive Environment

Wait Time

There are two types of wait time: *wait time 1* refers to pausing after a teacher asks a question and waiting for the students to answer, whereas *wait time 2* is pausing after a student response to a teacher question (Rowe, 1974). It is important to note that the current study does not distinguish between them. Instead, it focuses primarily on a pause after a teacher asks a question and the students take that time to prepare their responses *before* contributing to a whole-class discussion. Following the dialogic teaching intervention, wait time was found to be one of the most significant changes in the lecturers' teaching strategies.

For Orca, wait time was the most profound change in his pedagogical practice. Having considered himself "*swift and short-tempered*" (post-intervention interview), he reported his

wait time being progressively lengthened because of dialogic teaching (Alexander and Hardman, 2017). This finding was in line with student questionnaire and group interview findings regarding students' perceptions of Orca's teaching strategies; they stated that they had ample time to think and prepare their answers before talking.

Likewise, Mary believed that since she deliberately minimised her teacher talk, she could afford longer wait time and it resulted in her students becoming more deeply engaged in their thinking, and the quality of their responses improved (Michaels & O'Connor, 2012; Rowe, 1986). Nevertheless, the length and students' perceptions of thinking time results do not correspond with the student questionnaire and group interviews. The Language Education students noted that even longer time to think would be appreciated.

In contrast, the Law students, who only received an average of a few seconds to think, strongly believed that it was sufficient. Therefore, there was a discrepancy between the students' perceptions and thinking time.

A further analysis of Mary and Fiona's systematic observation schedule and the transcript findings were compared suggest that the more complex the teacher questions, the more time students need to think (Buranapatana, 2006; Chin, 2007; Davies et al., 2017; Hardman, 2016; Reznitskaya and Gregory, 2013a).

Humour

Humour in classroom talk effectively establishes a relaxed atmosphere (Garner, 2006). In this study, all three lecturers, regardless of how dialogic they were, used humour to varying degrees.

Orca employed humour more regularly before the dialogic teaching approach, Mary teased and played jokes with her students throughout, and Fiona used humour to prepare the students before teaching the main idea of the teaching episode.

The findings of this study confirm what Embalzado and Sajampun (2020), Forman (2011), and Promnath and Tayjasant (2016) found in their studies; that is, humour has been used as an affective psychological strategy in Thai classrooms. In accordance with Kyriacou (2018), all three lecturers in this study used humour strategically to create a more relaxed classroom

ethos, ease tension, give students time to think, and engage students with the task at hand; yet they remained skilled and professional.

Teacher-student Relationship

“Relationships between students and teachers are important in creating classroom atmospheres of trust and cooperation” (Quinlan, 2016, p. 105). All three lecturers in this study utilised different strategies to build and strengthen their lecturer-student relationships. Orca accomplished this by learning his students’ names and addressing them casually in class. Moreover, he used eye contact to express his full attention while talking with them. Similarly, Mary addressed her LE students informally by nickname and constantly maintained eye contact with them.

Notably, both FS and LE students felt a sense of closeness with their lecturers due to their friendliness and effort to learn students’ names and address them informally. These findings are consistent with Quinlan (2016).

On the other hand, Fiona’s strategies to establish and strengthen the relationship with her students were different by asking questions and listening to them attentively.

To conclude, this study confirms that emotional relationships are vital in students’ higher education experience (Quinnlan, 2016) and that warmth, trust, and respect are key to students’ perceived learning experience (Tormey, 2021). Therefore, it is essential for lecturers to be sensitive and make sufficient effort to establish and strengthen a balanced, healthy relationship with their students.

4. Classroom Activities

Talk-based Activities

Talk-based tasks like whole-class discussion highlight student talk and develop lecturers’ confidence in their students. There were talk-based activities in Orca’s pre-intervention session. It was not until the post-intervention session that the activities became more challenging and required the students to take the lead in their own learning.

Following the intervention, the talk-based activities in Orca and Mary’s classes highlighted student talk. While teacher talk was minimised, the students were free to use a range of talk

moves to direct the discussion. This reflects the high level of confidence and expectations that the lecturers had towards their students (Quinlan, 2016) in letting them lead the activity with minimal lecturer interruptions.

The situation was different in Fiona's post-intervention classes. The main activity was whole-class teaching with some teacher monologues and brief whole-class lecturer-led discussions. As a result, the Law students had opportunities to exchange their ideas, the discussion was rather limited and not authentically stimulating or challenging.

In conclusion, when lecturers carefully select stimulating talk-based activities for their students, it can contribute to the students' understanding of the course content and enhance their confidence.

5. Turn Management

Turn management and talk allocation depend on teachers' beliefs, teacher stance, curriculum, and assessment. Turn management changed considerably in Orca and Mary's classes following the intervention. However, that of Fiona's remained unchanged.

With more awareness of their teacher talk, expanded talk repertoires, and profound beliefs in student engagement and active participation, Orca and Mary successfully shifted from teacher-controlled to shared turn management. Everyone's role in their classes was fluid and shifted seamlessly throughout giving rise to student talk, initiations, and engagement.

On the other hand, Fiona's class remained traditional, and her Law student's roles rarely changed. In addition to course content and time constraints, her teaching practice was inevitably influenced by her beliefs and expectations.

6. Teacher Talk Practices

Teacher Talk to Student Talk Ratio

While the teacher talk to student talk proportion in the FS and LE classes became more balanced and appropriate after dialogic teaching, the Law class did not. According to the systematic observation schedule analysis, teacher talk and student talk increased from the pre- to post-intervention sessions across all lecturers. The most marked increase occurred in the FS class (over 250%), followed by LE and Law classes (about 40–50%). These changes

in overall talk moves in three case studies could be due to four reasons: activity types, wait time, ground rules and class environment.

Open- and Closed-ended Initiation Questions

Different question types result in different kinds of answers. While open-ended questions often lead to more extended answers, closed or display questions generate shorter answers. In this study, to initiate a new discussion topic, both the FS and LE lecturers asked more open questions than closed in their post-intervention sessions.

On the contrary, Fiona's use of questions differed greatly. Her closed questions doubled from 37 to over 70 questions while her open questions declined drastically following the intervention.

The current study confirms that some participating lecturers successfully expanded their talk repertoires and strategically employed different questions in their pedagogical practice following the intervention (Sedova et al., 2014). However, other influential factors including teacher stance, personality, positive self-perception, confidence, and attitudes towards teaching, learning and students, affected their pedagogical decision and talk practices. These factors will be discussed in detail later in this chapter.

Follow-up Moves

A "follow-up move" or an "uptake question" is used by a lecturer to probe, extend, or follow one or more student responses to their initiation question. It can be used Teacher follow-up moves in this study were coded according to the Hardman (2019) coding scheme, and the findings suggest that Orca and Mary were able to deploy follow-up moves strategically following the intervention. It can be argued that changes emerged in their follow-up moves and teacher talk repertoires expanded. Their talk possibly transitioned from discussion towards dialogue after the intervention. Nonetheless, Fiona's follow-up moves did not change much, which suggests that her teacher talk was more traditional with more strict recitation scripts. The findings suggest that when the main instruction goal is driven by course evaluation, teachers face a professional dilemma between letting students explore new ideas through talk and ensuring that they have sufficient content knowledge to do well on the exam. Fiona chose the latter.

To conclude, following the dialogic teaching intervention, some substantial changes were evident in Orca and Mary's follow-up move talk practices as they were used to sustain and extend topic discussion meaningfully. Nevertheless, with more critical constraints on course content and evaluation, Fiona did not change her follow-up moves as significantly (Gillies, 2014; Pehmer et al., 2015)

Local Language

Being able to express themselves freely in their preferred language can facilitate students' learning (Cook, 2001; Wells, 1999). Within the context of this study in Thailand, there were three common languages spoken among the lecturers and students: Thai, English and southern Thai dialects. Even though standard Thai is the primary language of instruction in the formal education setting, the students in this study were allowed or even encouraged to speak other languages in class, which affected the teaching and learning differently.

Having the freedom to code-switch when discussing new ideas and co-construct knowledge is encouraging (e.g., Dörnyei, 1995; Giles & Ogay, 2007) and can facilitate learning. In the rich multilingual context of this study, different languages were like different registers and genres available for both the lecturers and students to use. Through discussions and classroom activities, Orca, Mary and their students gradually developed specific functions for each language spoken in class. Therefore, all interactants understood and carefully shifted from one language to another as a way to shift immediately between formal academic discussion and informal chitchat.

In conclusion, it would be beneficial for students to be able to select their preferred language to speak, especially at the beginning of the dialogic teaching implementation. Both teachers and students should work to develop a common language frame of reference for their unique context.

Are There Any Observed Changes in Student Talk Practices and Quality in Whole-class Discussions as a Result of Dialogic Teaching Approach?

1. Student Contributions Improved Quantitatively and Qualitatively

Quantitative Changes

With more emphasis on teacher talk, this study explored student talk rather broadly. Each student talk turn was coded in one of the three categories (brief contribution, extended

contribution, and question) according to its function rather than form as previously discussed in the Methodology Chapter. Similar to the findings of the original study by (Alexander et al., 2017)), the current study found that student talk improved quantitatively to varying degrees across all participants following the intervention (Hardman, 2019; Jay et al., 2017). Student talk also correlated with teacher talk.

Similar improvements were found in student contributions in the FS and LE classes. Due to talk-based activities promoting student talk in the post-intervention sessions, student brief and extended contributions rose. However, two remarkable differences in student talk were found in brief and extended contributions. On the one hand, student brief contributions in the FS post-intervention session significantly outnumbered its extended counterpart at 177 and 75 times, respectively. On the other hand, the LE students made comparable totals of student brief and extended contributions after dialogic teaching. Three potential influential factors of increased student brief contribution in the FS session could be the session's instructional goals, assessment criteria, and an increase in student questions.

In contrast, the Law students' talk did not change much quantitatively. The findings indicated that student extended contributions remained unchanged. Nevertheless, the most marked change was a rise in student brief contributions which reasonably coincides with Fiona's increased use of closed questions. Therefore, it can be concluded that despite the dialogic teaching approach, the interaction remained strictly controlled by Fiona throughout.

Qualitative Changes

The quality of student talk in FS and LE classes improved while that of the Law class remained similar between before and after the intervention. In addition, the whole-class discussion in the post-intervention sessions became more diverse than just initiation-response-feedback (IRF).

First, the transcripts analyses of Orca's post-intervention session confirmed that the interactions were more dialogic. Although the student brief contributions outnumbered their extended talk moves, the Q&A discussion activity in his session was composed of several short exchanges allowing the students to explore different aspects of topic background knowledge before going into a more in-depth discussion. However, several brief exchanges were chained into one topic. In comparison, each topic in the whole-class discussion in

Mary's post-intervention session began with two main students talking about the same given term. According to the transcript findings, the discussion involved several students. Since all students seemed to have similar background knowledge, they could co-construct knowledge using talk without any designated leader or dominant speaker.

Student talk gradually and closely resembled their lecturers' teacher talk. For example, an FS student, Nick, asked the student presenter, Sam, to repeat the conservation plan before moving on to discuss the challenges in mud crab conservation using language that was almost identical to what Orca had used with the first presenter. Likewise, the LE students discussed most, if not all, technical terms in the post-intervention session following their lecturer's talk from the definition of the term to its application and examples. This essentially suggests that the students deemed their lecturers as influential models (Alexander, 2006, 2020).

Due to a combination of classroom layouts, established ground rules, and shared turn management, Orca and Mary's students were more engaged in whole-class discussions. Altogether, this reflected their newly formed understanding of "talk" due to the dialogic teaching intervention and implementation.

However, Fiona's class differed. Due to a continuing teacher-dominated turn management, the Law students were not given as many opportunities to talk in class. As a result, Fiona's questions seemed to negatively impact student talk quantitatively and qualitatively.

In summary, the FS and LE students' talk practices improved quantitatively and qualitatively following the intervention. Their discussions became more coherent, sustained, expanded, and dialogue-like. On the other hand, with limited opportunities to develop their talk practice, the Law students did not show much improvement.

One important implication from Orca's class is that teachers may refrain from intervening too soon, especially in higher education settings where the course content is often more complicated, and the students may need more time to comprehend and formulate their talk to take part in class discussions.

Another implication of dialogic teaching implementation in an Eastern country context where students are generally more passive is that lecturers should be authoritative but not authoritarian. According to Teo (2019), it is beneficial for teachers to:

take lead and leverage their role as an authority figure in the classroom to initiate, encourage and sustain student talk, instead of misusing their power by imposing their views on the students or eliciting predetermined answers from students through “display questions.” (p. 175)

As exemplified in the cases of Orca and Mary, teaching strategies can be used to create a safe, welcoming dialogic teaching ethos where students feel valued and secure enough to share their ideas; opinions in class and talk practices like a balance between closed and open-ended questions and follow-up moves can be used strategically to initiate, probe, sustain, and extend whole-class discussions and dialogues. It can be achieved by showing students value and respect, sharing authority, refining teaching talk, maximising student talk, giving them the time and space, they need, and transferring agency from teacher to students.

Student Unsolicited Contributions

After the intervention, student talk increased in Orca and Mary’s classes. Upon a closer consideration of transcript analysis findings, the FS students’ talk accumulated and extended the discussion topic with fewer lecturer prompts or interventions. Similarly, Mary’s students engaged in a post-intervention whole-class discussion when Mary deliberately excluded herself. Unlike the case of FS, the students could collectively carry out this stimulating talk-based activity without any prompts, intervention, or assistance from the lecturer.

To sum up, the cases of Orca and Mary, with more freedom and opportunities to talk, stimulating talk-based tasks and fewer teacher interventions or interruptions, student unsolicited talk improved quantitatively and qualitatively. These results concur with Boyd and Markarian (2011), O’Connor, Michalels, Chapin, and Harbaugh (2017), and Teo (2013); that students were enculturated into the norm where they were listened to, respected, and therefore, participated actively.

Student Questions

One of the most significant changes in student talk practices occurred with regard to student questions. First, Orca and Mary’s students were encouraged to talk and initiate questions, and they asked many more questions in the post-intervention sessions. Also, student questions in Mary’s class increased significantly. Their questions, both initial and follow-up, are like those of their lecturers ranging from asking peers to explain, elaborate, and exemplify to

arguing and challenging each other. These striking surges suggest the students' greater engagement in the whole-class discussion activities and highlight the agency successfully handed over from the lecturer to their students.

Although the students talked much more in the post-intervention Law session, student questions rose only marginally, especially when compared to those found in the FS and LE classes.

To conclude, student questions in Orca and Mary's classes rose suggesting the higher levels of student engagement and agency after the dialogic teaching intervention.

2. Research Question 2

This section focuses on answering the second research question and its two sub questions:

2. What are lecturers' perceptions of dialogic teaching?
 - 2.1 What do the lecturers think of the effects of dialogic teaching on their teaching strategies and talk practices?
 - 2.2 What challenges did the lecturers face during the dialogic teaching implementation?

In this section, the perceptions of Orca (FS) and Mary (LE) will be discussed first as they shared several similarities. Fiona's (Law) perception of dialogic teaching will be presented later. The internal and external factors influencing their pedagogical decisions will also be explored.

Overall, all three lecturers had a positive perception of dialogic teaching. Similar to Alexander et al. (2017), the lecturers found dialogic teaching an effective pedagogical approach and are likely to employ it in the future. Specifically, the lecturers believed that dialogic teaching raised their awareness of professional practices, improved their teaching strategies, talk practices, student engagement and student talk quality, and it helped them achieve their instructional goals.

What Do the Lecturers Think of the Effects of Dialogic Teaching on Their Teaching Strategies and Talk Practices?

1. Increased Self-awareness

Dialogic teaching raised Orca and Mary's professional awareness. First, Orca believed that he became more mindful and adaptive of his teaching to cater to his students' individual needs. Similarly, Mary became more aware of her facial expressions and attempted to smile more and be more conscious when making eye contact with her students.

Altogether, both Orca and Mary reflected their increased awareness of themselves as models (Alexander, 2008) and became more careful in communicating with their students and using teacher talk. This does not imply that they were not aware of their pedagogical practice before; however, dialogic teaching might have triggered them to critically reflect upon their teaching more deeply.

This study concurs with the assertion that professional development is an effective way to enhance teachers' practices by promoting reflection (Cochran-Smith and Lytle, 1999) and that action research positively increases teachers' self-awareness professionally (Cabaroglu, 2014).

2. Lecturer-student Relationship

Another positive perceived effect of dialogic teaching was improved lecturer-student relationships. Even though Orca believed that the relationship with his students had always been close, and that the dialogic teaching approach did not strengthen it; however, he observed the students appearing more comfortable participating in class discussions. This is in line with Rungwarapong's (2019) suggestion that it is vital for Thai lecturers "to act in ways conducive to students feeling safe" (p. 19). Moreover, Mary reported that dialogic teaching helped improve the lecturer-student relationship as it established trust between them. A recent systematic review study by Tao et al. (2022) reported that teacher support and student achievement correlate positively. Therefore, lecturer-student relationship is another influential factor in student learning.

3. Student's Opportunities to Talk

While Orca and Mary firmly believed that the students were given markedly increased opportunities to talk after dialogic teaching, Mary was concerned about the students' perceptions of her teaching and their language proficiency.

First, the shift in his personal view of and expectation towards his students may have influenced Orca's pedagogical practice. Prior to the approach, he noted that his students were not brave and thus he rarely asked them to talk. So, he would answer his own questions. Nevertheless, his expectations of the students changed. Orca confidently asserted that his students were given many more opportunities to talk in class after the intervention, supporting the notion that a teacher's pedagogical practice is influenced by their perception of the students' capabilities.

In the same vein, Mary's perception of opportunities for the students to talk changed slightly after dialogic teaching. Initially, she viewed her questions as learning opportunities for the students. With dialogic teaching, the students had more opportunities to initiate talk by themselves in addition to her questions (Hardman, 2016a). However, this coupled with Mary's emphasis on dialogue became a concern for her; she worried that the students might have had too many opportunities that consequently exhausted them cognitively. Additionally, Mary was concerned about striking a balance between giving insufficient and overproviding opportunities to the students to talk. Nonetheless, she stated that despite excessive opportunities to talk, some could still be held back in discussions by their low confidence (Engin, 2017) and English language proficiency (Rungwarapong, 2019).

4. Lecturers' Talk Practices

Both Orca and Mary became more aware and conscious regarding their talk practices, especially their questioning strategies. After dialogic teaching, Orca believed that his talk better facilitated students' learning and development by challenging the students with more thought-provoking questions, assigning them more stimulating tasks, and supporting them socially, emotionally, and academically so that they could realise their potential.

Mary demonstrated a significant improvement in her pedagogical practices and class interaction. Her talk practices (questions and follow-up moves) were more strategic and thus the overall class interaction was extended and sustained.

5. Lecturer Talk to Student Talk Ratio

Orca and Mary's teacher talk to student talk ratios became more balanced after dialogic teaching. Orca attempted to minimise his own talk and let his students lead the discussion while he became a moderator only summarising key points or providing them essential information. Doing so enabled him to increase their student talk successfully. Likewise, Mary significantly minimised her teacher talk and utilised questions to challenge and increase her students' engagement and contributions.

To sum up, Orca and Mary's perceptions of dialogic teaching were well reflected in modifications and improvements in their teaching strategies and the talk practices modifications reported above. They also suggested the positive impact of dialogic teaching. That is, given the main foci of the intervention, establishing ground rules to facilitate and govern classroom talk (Cycle 2), refining repertoires (Cycle 3), and maximising student contributions (Cycles 4-5), several changes were observed and these improvements also correspond well with the quantitative and qualitative analyses findings reported in the previous chapters. Therefore, it can be concluded that the intervention succeeded in raising the participating lecturers' awareness of talk and teaching strategies as to harness talk, value student contributions, and create a dialogic teaching ethos for students to co-construct knowledge collaboratively.

On the other hand, Fiona's perception of dialogic teaching and pedagogical practices differed considerably in several aspects. To understand Fiona's perception of dialogic teaching, it is important to discuss her initial motivation to participate in the study. Fiona decided to participate in this study in an attempt to solve her persisting professional challenges (course assessment and content irrelevance) of teaching the course *Way of Life*, unlike Orca and Mary who did so for their personal interests in self-development. Additionally, Fiona discussed her preconceived assumptions about the course being content-heavy and exam-focused, and the students being unmotivated as her concerns in both pre- and post-intervention interviews.

Dialogic teaching brought about some positive effects on Fiona's teaching strategies and talk practices. First, like Mary, Fiona believed that dialogic teaching helped her create a safe, welcoming classroom climate and thus improved the lecturer-student relationship. To Fiona, the students became more comfortable interacting with her outside the class. However, this did not transfer to class interactions nor was it evident. Thus, it is yet questionable whether

the approach in fact helped build a better lecturer-student relationship between Fiona and her students as claimed.

Furthermore, even though she realised its importance, Fiona reported that her wait time remained unaffected. This was mainly due to the amount of course content she needed to cover and thus she could not afford to prolong it. In addition, the students' reportedly low academic achievement, motivation and willingness to participate may have negatively impacted Fiona's teaching. Consequently, Fiona shifted to focus primarily on the exam-related content.

In summary, despite her numerous attempts, Fiona did not successfully incorporate dialogic teaching into her teaching strategies and talk practices and eventually fell back to teaching to the test to ensure that her students could pass the course. Altogether, her teaching context and personal interests seemed to diverge bringing about a professional dilemma between the students' academic survival and her professional development (Segal et al., 2017). Therefore, Fiona selected the students' academic outcomes over pursuing her self-development.

This lends support to a better understanding of Fiona's teaching context, which was markedly different from the other two lecturers in this study. Even though Fiona's motivation was high, her low self-efficacy and perception of students' academic achievement affected her pedagogical decisions and practices (Hofmann et al., 2021). In other words, transitioning from teacher-dominant knowledge transmission teaching to student-centred teaching through dialogue requires much more than one's motivation. Rather, students, classroom conditions, course content, and curriculum seem to be indicative of dialogic teaching implementation success. In other words, like in Fiona's classroom, the classroom conditions made it difficult to change to suit the instructional goals. The one-size fits all content-based assessment and evaluative system of the curriculum also added another challenge to Fiona's professional dilemma. In addition to considering the teaching context, teachers, and students, it is crucial for teachers to have a sufficient understanding of dialogic teaching so they can set realistic expectations (Reznitskaya and Gregory, 2013b). Sedova (2017) also points out that due to its complex epistemic stance, dialogic teaching can be challenging to implement.

What Challenges Did the Lecturers Face During the Dialogic Teaching Implementation?

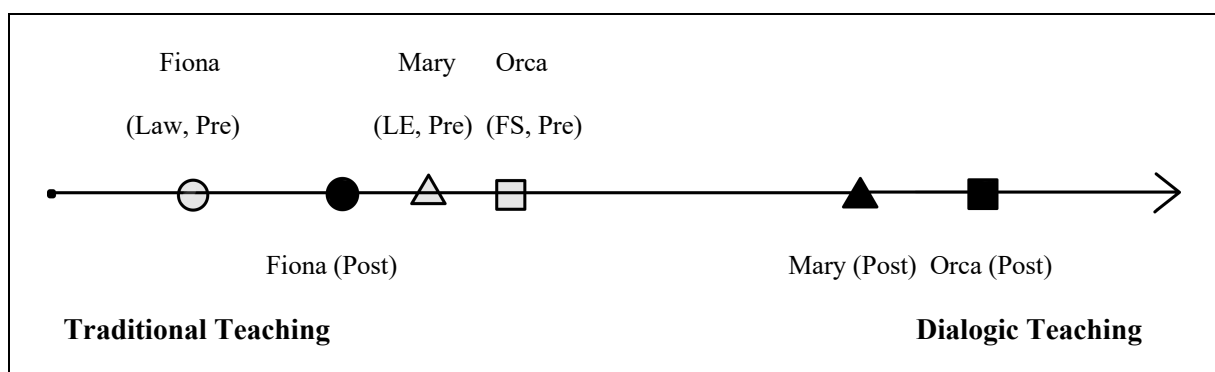
When it comes to dialogic teaching implementation in actual classrooms, especially in different teaching contexts and conditions, it is important to consider key factors including

teacher beliefs, confidence, and instructional stance, students' prior classroom learning experiences and motivation, course information, and assessments. This section will explore the participating lecturers' reported challenges while implementing dialogic teaching.

The three participating lecturers' teaching strategies and talk practices could be positioned on a traditional-to-dialogic teaching spectrum as illustrated below.

Figure 7.1

The departure and arrival points of three lecturers on the traditional to dialogic teaching spectrum



It is interesting how each lecturer's developmental stage coincides with their pedagogical practice. As a more dialogic teacher, Orca reported two challenges: *lesson structure* and *student dynamics*, in his dialogic teaching implementation; both are related to his willingness to better facilitate students' learning and development. He constantly came up with new ideas and put them into practice, which led to several class activities in one session. Doing so could potentially exhaust his students. The other challenge was *student dynamics*. As a lecturer, Orca sought ways to cater to individual students' needs. Thus, he constantly needed to adjust his talk practices and teaching strategies, which can be labour-intensive and time-consuming for planning and teaching contingently in situ. Taken altogether, his challenges not only corresponded well with his pedagogical practices being closer to the dialogic teaching end of the spectrum, but they also reflected his perception of dialogic teaching, his confidence in his practice, and his dialogic teaching stance (Boyd & Markarian, 2011, 2015).

According to Dwyer et al. (1991), in the U-shape model of professional development in education, there are five stages: *survival*, *exploration*, *adaptation*, *conceptual change*, and *invention*. Given Orca's perceptions and professional practices, he appeared to be at the

fourth stage of *conceptual change* where he focused more on the intellectual and psychological objectives.

Next, Mary's challenges in dialogic teaching implementation included *classroom activities*, *classroom layout*, *insufficient time to cover course content*, *students' language proficiency*, and *students' lack of topic knowledge and understanding*. The first challenge was *class activities* essentially because she was not confident in her understanding of dialogic teaching, especially at the beginning of the intervention. Like one teacher in Sedova's (2017) study, Mary's tasks were "not only the appropriation of individual tools, but also a meta-appropriation in the sense of creating harmony among the elements of the frame" (p. 288). To cope with these complex tasks, Mary dominantly employed whole-class discussion activities, which required students to be active and always pay attention.

Classroom layout was another challenge for Mary. This was related to classroom conditions rather than the lecturer or the students. Although her students were able to rearrange the classroom successfully to match whole-class discussion activities, Mary noted that the limited space of the classroom and the weight and size of student desks made it difficult for the students to rearrange.

Having insufficient time to cover all course content was another challenge. Both class activities and insufficient time to cover the course content reflected Mary's lack of confidence and understanding of dialogic teaching. To ensure that she could cover most course content, she preferred relying solely on whole-class discussion activities that she was familiar with to trying out different class activities.

Furthermore, *students' lack of topic knowledge and understanding* was another pedagogical challenge due to the amount of course content and English as the main language of instruction. Given these factors, it is crucial for the students to have enough knowledge and proficiency to participate in open exchanges of ideas, joint inquiry, and knowledge construction (Alexander, 2008).

Together, Mary's pedagogical practices reflected her current stage in professional development in education of *adaption*. According to Dwyer et al. (1991), Mary applied the pedagogical knowledge from the dialogic teaching professional development program, examined it, and adapted it to the needs of her students. To illustrate, she relied on her

teaching expertise and introduced a student-led whole-class discussion activity transferring the agency to the students, which was a drastic change from the pre-intervention session.

As the most traditional teacher, Fiona encountered five challenges while implementing dialogic teaching including *teaching strategies and talk practices, language use, students' communication skills, and course objectives and assessment constraints*. Fiona encountered two challenges concerning her *teaching strategies and talk practices*. This corresponded well with her current stage on dialogic teaching and traditional teaching continuum presented in Figure 7.1 above.

Due to the *course objective, assessment constraints* and perceived students' low motivation, it appeared that Fiona might have to focus more on students' academic survival and less on moving from monologic script to dialogic teaching. Thus, the teacher-dominant interaction persisted and thus limited opportunities were given to the students to talk and a slight chance for the lecturer to become a sincere listener (Alexander, 2008) and dialogic teacher (Boyd & Markarian, 2011, 2015). The students may not articulate when asked to contribute and therefore *students' communication skills* became another challenge for her.

Consequently, Fiona's professional development stage could be classified as *exploration and bridging*. Having moved beyond the entry *survival stage*, she was yet preoccupied with herself and teaching strategies and talk practices in this intervention. So, modifications of professional practice occurred occasionally rather than substantially.

These also reflect each lecturer's pedagogical stance. That is, Orca and Mary seemed to hold the dialogic stance whereas Fiona adhered to the monologic stance (Boyd & Markarian, 2011, 2015).

In conclusion, all three participating lecturers viewed dialogic teaching an effective teaching approach and intended to use it in their future teaching. All three lecturers' teaching strategies, talk practices, and perceptions of the dialogic teaching approach highly correlated with their current pedagogical stance and professional developmental stage.

3. Research Question 3

This section focuses on answering the third research question and its two sub questions:

3. What are students' perceptions of dialogic teaching?

- 3.1 What do the students think of the effects of dialogic teaching on their learning experiences?
- 3.2 What challenges did the students face during the dialogic teaching implementation?

It will begin with a discussion of the first sub-question as follows:

What Do the Students Think of the Effects of Dialogic Teaching on Their Learning Experiences?

Like research question 2 above, there are several aspects that Orca (FS) and Mary's (LE) students shared with respect to the effects of dialogic teaching on their learning experiences. Therefore, this section will be presented in two parts, the discussion of Orca and Mary followed by that of Fiona.

Overall, the students had a positive view towards their learning experiences throughout, and their perceptions of talk, listening, classroom climate, understanding of the course content and communication skills were progressively positive after dialogic teaching. Particularly, the effects of dialogic teaching can be categorised into cognitive and thinking benefits, socio-emotional benefits, and language and communication skills development.

1. Cognitive and Thinking Benefits

Better Understanding of the Course Content and Improved Knowledge Retention

Orca and Mary positioned their students as “thinkers.” This was well reflected in their choices of teaching strategies and talk practices. With increased awareness, both lecturers employed talk-based activities and more balanced open-and-closed, thought-provoking questions and follow-up moves. Consequently, the FS and LE students felt strongly positive about their understanding of the course content after dialogic teaching.

Orca and Mary's students believed that talking and listening to whole-class discussions helped deepen their understandings of the course content. Furthermore, Mary's students believed that they were encouraged to think more with Mary's stimulating teacher questions and follow-up moves, and more diverse, thought-provoking student questions. This corresponds well with an increase in Mary's open questions and student questions. Also, the students' perception of their own questions and talking with peers aligns with Mary's comment that their questions became more complex and stimulating.

To conclude, due to their dialogic stance highlighting students' engagement and contributions, Orca and Mary considered their students to be competent. This was well reflected in their teaching strategies and practices from gradually transferring the agency to the students, facilitating their learning, creating dialogic teaching ethos, sharing the power with the students, and eventually withdrawing from their previous role. Correspondingly with directed foci of the dialogic teaching intervention cycles, the students' perceptions of speaking and listening to their understanding of the course content improved from the pre- to the post-intervention sessions. This indicates another positive impact of the dialogic pedagogy.

2. Socio-emotional Benefits

Orca and Mary's students believed that dialogic teaching brought about socio-emotional benefits to their learning environment.

Lecturer Support: Teaching Strategies and Talk Practices

The FS students' high regard for Orca was reflected in the student questionnaire results in terms of his support of their learning and engagement. Apart from his humour, friendliness, and approachability, the students felt valued and appreciative of him.

Likewise, the LE students felt strongly positive towards Mary following dialogic teaching. The highest increases in student questionnaire analysis findings were "*The lecturer asks questions to help me think and elaborate my answers,*" and "*The lecturer encourages me and my peers to talk more.*" These findings correlate well with those of the systematic observation schedule analysis that Mary employed more open-ended questions and follow-up moves after the intervention. The findings from the lecturer interview analysis also confirms that Mary was more aware of her talk, especially question and follow-up techniques, to better engage the students in whole-class discussions.

Behavioural Support

Both Orca and Mary's students deemed their lecturers supportive. The student questionnaire analysis findings reveal increases in their perceptions of the lecturers. Likewise, the post-intervention student interview analysis findings suggest that the students felt valued, respected, and supported. Their lecturers strategically used several non-verbal strategies to

show their support including nodding, smiling, listening to them nonjudgmentally, and making and keeping direct eye contact with them. Altogether, these talk practices promoted a sense of belonging and acceptance among the students and they gradually felt safe and secure in class.

Wait Time

The FS students' views towards wait time changed after dialogic teaching. The students reported that since Orca lengthened his wait time and let more ready students talk first, they had adequate time to think before talking. This corresponds well with the findings of transcripts, field notes, and lecturer interviews.

Even though the LE students did not feel strongly positive towards Mary's wait time, they felt encouraged when they were told to take time to think. They would have appreciated having a more time to think because many LE students were used to thinking in Thai and translating that into English before talking.

Peer Support

As the most marked increases in both Orca and Mary's student questionnaire analysis findings, peers were a key factor in student learning. Both classes felt positive towards their classmates as they felt valued, made others comfortable to talk, and asked questions to help others think.

Another important socio-emotional benefit found in Mary's class was that the students supported their peers in whole-class discussions. The transcript findings reveal that the students supported each other by asking questions. Having been listening to their classmates attentively, the students were able to probe or even finish a sentence another classmate started. Potentially, it could be due to the nature of education students and the strong peer-to-peer relationship they had developed throughout their four years of study together.

3. Language and Communication Skill Benefits

Confidence

Orca's students became more conscious of and confident in their communication skills following dialogic teaching. A quiet student like Nick became more confident and

contributed frequently to class discussions. Similarly, in his post-intervention lecturer interview, Orca talked about Nick's increased confidence and participation following the dialogic approach.

More Opportunities for Practice and to Improve Their Language Skills

Having more opportunities to express themselves in a foreign language enabled Mary's students not only to learn course content but also to acquire and improve their English language skills simultaneously. Referring to Vygotsky's (1978) sociocultural hypothesis, in this context peers and lecturer were more competent counterparts who provided scaffold and support for students' learning in their zone of proximal development (ZPD). In addition, in this safe, secure learning ethos, the fourth year highly motivated LE students were able to develop their language proficiency and boost their self-confidence in a low filter environment as suggested by Krashen's (1982) affective filter hypothesis. To conclude, dialogic teaching enabled Mary to create a dialogic space for her students to interact and negotiate using talk as a tool to co-construct knowledge and develop their language skills at the same time.

5. The Unique Case of Fiona (Law)

Unlike the findings of Orca and Mary who were more dialogic teachers, the Law students' perceptions of Fiona should be discussed with caution. Although both quantitative and qualitative findings from student questionnaires and group interviews reveal highly positive perceptions of the effects of the approach, it could be inaccurate or misleading for two reasons. First, the students who answered the post-intervention questionnaire appeared to be highly motivated and thus, they were likely to view their learning experience with the lecturer as positive. Furthermore, it is important to consider Fiona's teaching strategies and talk practices before and after the intervention. Referring to the spectrum in Figure 7.1 presented above, her professional practices remained rather traditional with only a few subtle changes after the intervention.

In contrast, according to the student questionnaire analysis, the Law students' perceptions of their learning experiences and Fiona's teaching improved quite significantly in all three categories. Specifically, the Law students felt the most strongly about their communication skills followed by classroom climate and their understanding of the course content through talking and listening. These findings were generally higher than those of Orca and Mary, which appear to be somewhat contradictory in terms of their lecturers' pedagogical practices.

Also, it was found that the Law students felt strongly about their talk contributing to their understanding of the course content. However, it seems contradictory to the students' opportunities to talk in class discussions given Fiona's lecturer talk to student talk ratio of 2:1. Altogether, these suggest that the students rarely had opportunities to use talk extensively to construct knowledge collaboratively.

Interestingly, Fiona's students believed listening to their classmates talk during whole-class discussions beneficial to their understanding of the course content, and yet they doubted their validity. The lack of two key principles—reciprocal and collective—were reflected in student questionnaire and interview findings. They also correlate with Fiona's post-intervention interview finding that the students did not pay attention to their peers during class discussions.

Lecturer Support

The students' perception of Fiona's teaching and support was averaged at a perfect five in all items and yet the student interview findings appear to suggest their role as "listeners" in class. The Law students particularly favoured Fiona's warmth, friendliness, and teaching style. Superficially, asking several questions, encouraging talk, providing feedback, and creating a safe dialogic space seemed to align with dialogic teaching principles. Nevertheless, this in combination with her open and closed questions and follow-up moves seem to suggest that whole-class discussions were more like interactive teacher-led exam-oriented discussions. Even in a friendly classroom environment with good lecturer support, Fiona's teaching strategies cannot transform didactic IRF to dialogues without students being positioned as active contributors. As suggested in the literature, dialogic teaching can be challenging to implement in actual teaching due to its complexity (Sedova, 2017; Sedova et al., 2014), a teacher's epistemological beliefs (Boyd and Markarian, 2011), and sufficient professional understanding (Reznitskaya and Gregory, 2013b).

Peer Support

Another important difference in Fiona's class (compared to Orca and Mary's classes) was student-student relationships. Although the Law students believed that their classmates were influential in their learning, their relationships did not appear to be as strong before and after the intervention.

When the students only trust their lecturer and not their classmates, classroom conditions may not encourage dialogue. Therefore, lack of agreed upon, established ground rules could contribute to the students feeling ignored in class. Seemingly, the relationship among students was not prioritised while that between the lecturer and students was emphasised and developed. Every relationship takes time to build, grow, and flourish; however, without sufficient focus or attention, this cannot happen. Without this fundamental element in Fiona's class, the students may not have felt as safe, and no further developments to create an appropriate dialogic ethos could be achieved.

The highest increase in Law students' perceptions of dialogic teaching was found in their communication skills. Nonetheless, some students were worried about formal language. With limited opportunities to talk and elaborate extensively in class, it seems questionable how student communication skills developed during the intervention. The topic of discussions appeared to play an essential role here given the students' concerns about formal language. Since most, if not all, discussion topics were common everyday issues as opposed to more critical academic ones, the language of discussion required was rather simple. Therefore, the students' concerns seem valid given the results discussed above.

What Challenges Did the Students Face during the Dialogic Teaching Implementation?

While Orca and Mary's students were concerned about *having insufficient content and background knowledge* to share, the Law students were most concerned about *being judged by peers*. The FS and LE students shared *fear of being wrong or not giving fully developed ideas* as the top challenge selected by most or all students. This suggests that the students may prioritise their content knowledge before other issues. Other shared challenges included *their communication skills*, and *fear of being judged by peers and lecturer*.

On the other hand, Orca's students reported that *shyness and embarrassment to talk in front of peers in class* as their top challenge. This potentially means that even though they felt safe in their class and valued by the lecturer, it was yet difficult to feel fully confident in front of the class. As one internal factor and given the length of the intervention program and the nature of the Thai education context, it appears that culture may still have a strong influence on self-perception. Confidence can be deemed negative or arrogant. The classroom is the place for students to learn how to listen rather than talk. Thus, to ensure that everyone is on the same page, goals made explicit by the lecturer is key.

Additionally, Mary's students third-ranked challenge was *insufficient time to prepare before talking in class*. This appears to contradict Mary's teaching strategies found in the field notes, transcript, and interview analyses. In fact, all highlighted Mary's extended wait time and yet the LE students viewed it as insufficient. This, along with the concern of *fear of being wrong or not giving fully developed ideas*, seems to suggest that the students still needed more time and perhaps more content or background knowledge so that they could be more confident and take less time to formulate their answers. Given the nature of Mary's class throughout the intervention as documented, the students had to rely heavily on their own background knowledge to participate in whole-class discussions. Interestingly, that coupled with Mary's focus on talk-based activities and her strong willingness to create dialogue may have led her to focus on creating a dialogic space, emphasising students' role as thinkers and facilitating discussion using newly learned talk practices. Although the students were encouraged to help one another in class discussion, they could benefit more from various content-based activities such as reading, researching, lecturing, pair work, and group discussion before engaging in whole-class discussions. With sufficient background as the essential foundation, dialogue could be even richer and more fruitful for the students.

These factors point to students' needs to be heard and addressed by the lecturer. Besides challenging talk-based tasks and thought-provoking questions, probing and follow-up moves, it is essential for the students to have sufficient topical knowledge to build on and discuss so that they can engage more meaningfully in classroom dialogues.

4. Broader Discussion

As one of the first dialogic teaching intervention studies in Thai higher education, this study has shown how dialogic teaching was implemented through the intervention and a positive impact on classroom processes and interactions the approach brought about. In this section, the dialogic teaching implementation in this research context will be discussed followed by an evaluation of the dialogic teaching intervention.

Dialogic Teaching Implementation in Higher Education in Thailand

This section presents insights on dialogic teaching implementation in Thailand and suggestions will be made.

Given the complexity of dialogic teaching implementation, three main factors should be considered and made prominent for dialogic teaching intervention programs in the context of

Thai higher education: teacher stance, classroom norms, and student perspectives on their teachers, peers, teaching, and learning.

1. Teacher Stance

Since teacher stance governs teacher's pedagogical decisions and practice, it is crucial to identify each teacher's instructional stance as early as possible in any professional development. Evident in their talk patterns, teachers' instructional stance can be categorised into *monologic* and *dialogic* (Boyd & Markarian, 2011; 2015). Dialogic teachers, like Orca and Mary in this study, appear more willing to embrace their new role as facilitators, create a collaborative learning environment for students, engage them in challenging talk-based activities and transfer agency to them whereas more monologic teachers, like Fiona, expect their students to follow their lead. Moreover, despite high motivation and willingness to change their professional practice, for more monologic teachers, like Fiona, this study has shown that personal drive alone cannot lead to dialogic teaching implementation success without dialogic stance (Mercer et al., 2009).

2. Classroom Norms

Another key factor of dialogic teaching implementation in this study is classroom norms. The cases of Orca and Mary have shown that to establish new classroom norms in the collectivist context of Thai higher education was possible and successful. By taking advantage of the culture that Thai students regardless of age are interdependent within groups, prioritise shared objectives, follow cultural norms and be concerned with relationships (Triandis, 2001), Orca and Mary successfully changed the classroom norms. Evidently, Thai students altered their behaviours from being passive to being actively engaged in their learning using talk. It is essential to emphasise that both lecturers took their time and made an effort to know their students, to strengthen their teacher-student relationship and to nurture the relationships among their students from the beginning and throughout the intervention. Additionally, Orca and Mary initially established and made the ground rules explicit with their students, and constantly reminded their students of them as the literature suggests (Mercer, 2000; Michaels et al., 2008; Michaels & O'Connor 2015). Making new classroom norms, i.e., expected student behaviours explicit using ground rules is particularly helpful for Thai students because it is in line with the rule compliance they are accustomed to (Embalzado & Sajampun, 2020; Tao et al., 2022).

Nevertheless, this study again highlights how complex dialogic teaching implementation is as evident in the case of Fiona. With the weaker lecturer-student and student-student relationships and a lack of consistent, clear communication, the new dialogic classroom norms were not established successfully and that potentially led to her unsuccessful attempt to transition from teacher-fronted teaching to dialogic teaching.

3. Students' Perspectives on Their Teachers, Peers, Teaching and Learning

Of importance, students' perspectives on their teachers, peers and teaching and learning plays a significant role in the success of dialogic teaching implementation. Since Thai university students highly value lecturer supportive talk, effective communication with clear objectives and expectations, good relationships among classmates, and a safe classroom environment (Rungwarapong, 2019), dialogic teaching implementation in the Thai education context should focus on developing respectful relationships, creating a safe, secure, welcoming classroom environment, and communicating clearly and effectively. As this study has confirmed, the two successful cases of Orca and Mary were those who attempted to apply five key principles by gradually creating conditions conducive for talk and using different dialogic teaching tools in their teaching. This, however, would not thrive if Orca and Mary did not take into account their students' views towards them, their classmates and teaching and learning. With these in mind, not only did both lecturers gradually embed dialogic teaching in their pedagogical practice but they also searched for ways to support their students before, during, and after each teaching session. From selecting suitable activities to making changes contingently in situ and providing the students with continued support, this well reflected how Orca and Mary valued their students' views and their teacher-student collective effort throughout the dialogic teaching implementation in this study.

In summary, dialogic teaching implementation in higher education in Thailand was complex, non-linear, and labour-intensive. It is, therefore, suggested that for effective, sustainable dialogic teaching implementation, the professional development program i.e., the intervention emphasises three key influential factors of teacher stance, classroom norms, and students' perspectives on their lecturer, classmates, teaching, and learning. Without these fundamental features, dialogic teaching implementation can be challenging in this East Asian context.

Evaluation of Dialogic Teaching Intervention

Three main training elements in the intervention were a one-day dialogic teaching workshop, a two-hour individual workshop, and four individual video-based reflective coaching sessions. At the end of the intervention, all three lecturers received approximately 16.5 hours of training: 5.5 hours of dialogic teaching workshop, 2 hours of individual workshop, and 9 hours of individual video-based reflective coaching sessions. Consequently, they employed different ways and degrees of dialogic teaching.

1. One-Day Dialogic Teaching and Two-hour Individual Workshops

The one-day dialogic teaching workshop aims were: 1) to raise the awareness of the central role of classroom talk as a tool for teaching and learning, 2) to introduce dialogic teaching, and 3) to understand the lecturers' thinking about the potential implications and applications of talk and dialogic teaching in their teaching contexts. It focused primarily on the development of a safe classroom culture of talk, and the use of open and follow-up questions.

All lecturers attended an individual two-hour workshop session that aimed to discuss the dialogic teaching intervention in more detail including their roles and structures of each cycle meeting, to discuss their personal goals for the intervention, and to agree on dates of data collection and meetings in each cycle.

After these workshops, the lecturers were expected to have developed a foundational understanding of dialogic teaching. What follows is another key component of the intervention.

2. Video-based Reflective Coaching Sessions

As one of the most vital training elements, the video-based reflective coaching sessions were the most time-consuming and labour-intensive, but they contributed to the improvements in the lecturers' pedagogical practices in several ways.

Preparation

After every live classroom observation, the video, field notes, and systematic observation schedule data were reviewed by the researcher. A few video segments were selected in accordance with the cycle's foci and the lecturer's personal aims, and personalised questions were prepared. Altogether, each session preparation took approximately four to six hours.

Coaching Sessions

Following the original study by Alexander et al. (2017), this study adopted a similar action research cycle with some modifications. The five-stage cycle (*recap, reflect, focused reflect, coach* and *plan*) was effective for this group of participants because the lecturers were able to recall their previous session, relive the moment, reflect on their teaching practices, consider possible actions, and plan for their future. Although the transcripts were not used in this study due to time constraints, the materials, especially the systematic observation schedule, video footage, and personalised questions were particularly useful. While the systematic observation enabled the lecturers to see how frequently they used each type of talk move, the video footage allowed them to see how their teaching or individual moments unfolded. The personalised questions prepared by the researcher critically analysed, evaluated, and found ways to develop the lecturer's own teaching practices. The coaching sessions led to fruitful discussions, and the lecturers became more aware and critical of their own practices. They could then make improvements in the following session.

Results

The dialogic teaching intervention went well as the training elements brought about a positive impact of dialogic teaching on classroom processes in different ways and to varying degrees. Changes in the lecturers' teaching strategies and talk practices, classroom interaction, and quality of student talk were observable and gradually became apparent from Cycles 2 through 5. Given the different levels of dialogicity, personal factors and external conditions at the beginning of the intervention, all three lecturers arrived at three different points on the traditional to dialogic teaching spectrum in Figure 7.1 discussed in detail above.

The most dialogic lecturer, Orca (FS) was able to move the farthest towards the dialogic teaching end of the spectrum. He was the most vibrant, well-rounded, observant lecturer whose dialogic teaching enactment was profound, confident, and strategic.

Among several changes and improvements, Orca's strength was the use of initiation and follow-up moves. With his friendly and approachable personality, Orca was able to make the class climate safe and welcoming to the students early and throughout the intervention. Also, he was able to extend dialogue and deepen students' thinking and understanding by employing a balance of open and closed questions, and follow-up moves effectively in talk-

based activities. Compared to his pre-intervention session, Orca was able to change his teaching from teacher-dominant to student-dominant successfully as he became a moderator, facilitator, lecturer in the post-intervention session.

The second most dialogic lecturer, Mary (LE) whose talk repertoire improved the most among all employed a range of teaching strategies and talk repertoires effectively and strategically following the intervention. Like Orca, Mary's strength was her questioning techniques both initiation and follow-up moves, which she employed to create, extend, and expand dialogues and challenge the students' thinking in a very engaging way.

In fact, both Orca and Mary were highly comparable in their teaching strategies and talk practices. With their friendly, approachable personalities coupled with the dialogic teaching tools, they were able to establish a safe, welcoming dialogic space for their students as early as Cycle 2 of the intervention.

However, a distinct difference between Orca and Mary was their confidence. Orca was much more confident in his teaching, especially in classroom activities. Mary, on the other hand, admittedly stated that she was not confident in her understanding of dialogic teaching and tended to use only whole-class discussion activities until the end of the intervention.

Finally, the more traditional lecturer, Fiona, appeared to hold a monologic stance rather firmly despite her continued efforts to apply dialogic teaching principles into practice. Although the students felt safe and welcomed in her class, it was challenging for Fiona to move away from traditional recitation teaching and embrace dialogic teaching more.

To conclude, all three lecturers developed their understanding of dialogic teaching differently. Those who had positive attitudes and were more open to the approach tended to adopt the dialogic stance leading to more likelihood of success in dialogic teaching implementation. Without these, it would be difficult for them to bring dialogic teaching into their practice. There were, however, external influential factors hindering their dialogic teaching implementation.

Conclusion

It can be concluded that the implementation of dialogic teaching in multidisciplinary university courses in Thailand was complex and the impact of the approach was positive albeit in different degrees. Quantitative and qualitative improvements were found in

classroom climate, teaching strategies and talk practices, quality of student talk and lecturer-student relationships. The lecturers and students had a positive perception of dialogic teaching. In addition, the three main influential factors in dialogic implementation in higher education context in Thailand included teacher stance, classroom norms, and students' perspective on their lecturer, classmates, and teaching and learning. The dialogic teaching intervention used in the current study was effective in improving teaching processes and increasing the lecturers' awareness of their own professional practice.

Chapter 8: Conclusion

This chapter concludes the current dialogic teaching intervention study. It presents a summary of the key findings, the research's strengths and limitations, possible future research directions, contributions of the study's research, pedagogical applications, and pedagogical implications.

1. Research Aims and Questions

This intervention study aimed to investigate the impact of dialogic teaching on classroom processes in multidisciplinary undergraduate courses in Thailand and to explore the lecturers and students' perceptions of the pedagogical approach. Motivated by the Thailand's outcome-based education system, the discrepancy between current classroom practices and national education goals, and a lack of effective professional development for Thai university lecturers, this study replicated, with some adaption, the large-scale randomised control dialogic teaching study carried out by Alexander, Hardman, and Hardman (2017) in UK primary schools. It addressed the following three research questions:

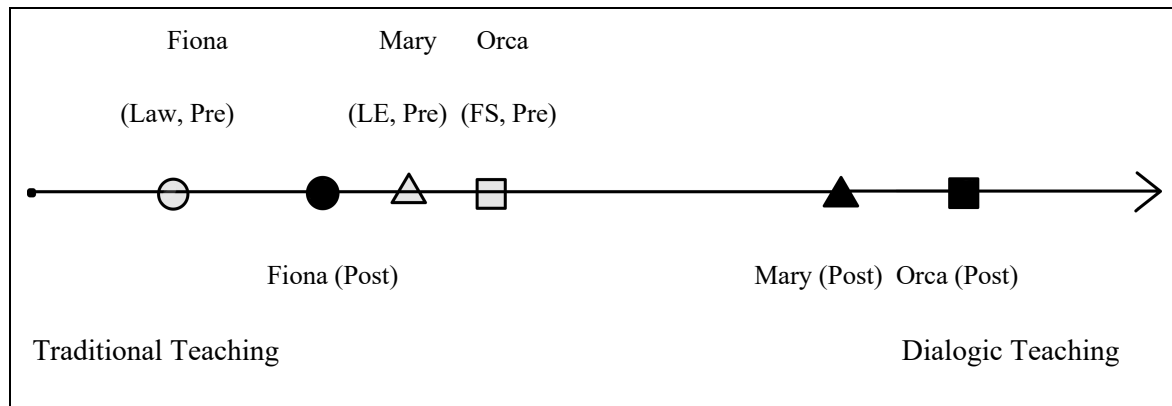
1. How is dialogic teaching is implemented, and what is the impact of dialogic teaching on classroom processes in undergraduate university courses in Thailand?
2. What are lecturers' perceptions of dialogic teaching?
3. What are students' perceptions of dialogic teaching?

2. Key Findings

The dialogic teaching intervention in this study progressed well and brought about a positive impact on classroom processes in different ways and to varying degrees among the participating lecturers: Orca (Fishery Science), Mary (Language Education), and Fiona (Law). After the twelve-week intervention, changes and improvements were evident in the participating lecturers' teaching strategies and talk practices and the quality of their students' talk. Particularly, Orca and Mary became more dialogic while Fiona remained quite traditional. Due to differences in their personal characteristics and external conditions at the beginning and throughout the intervention, the lecturers' points of departure and arrival can be illustrated in the traditional to dialogic teaching spectrum presented below.

Figure 8.1

The departure and arrival points of three lecturers on the traditional to dialogic teaching spectrum



As illustrated in Figure 8.1, Fiona, Mary, and Orca's points of departure before the intervention were closer to the traditional teaching end of the spectrum with Fiona being the most traditional. After the intervention, Fiona's teaching strategies and talk practices improved marginally, but could still be considered quite traditional. More improvements were observable in Orca and Mary's pedagogical practices.

Research Question 1: The Dialogic Teaching Implementation and Its Impact on Classroom Processes

1. Observed Changes in Lecturers' Teaching Strategies and Talk Practices

There were many observable changes in the participating lecturers' teaching strategies and talk practices. The more dialogic lecturers, Orca and Mary, improved the classroom environment (classroom layout and the establishment of and compliance with ground rules for talk), supportive environment (wait time, humour, and lecturer-student relationship), classroom activities (talk-based activities), turn management, and extended teacher talk repertoires (appropriate teacher talk to student talk ratios, increased open-ended questions, decreased closed questions, and local language use). On the other hand, Fiona's teaching strategies and talk practices changed only marginally and thus, remained quite traditional.

2. Observed Changes in Student Talk and Quality in Whole-class Discussions

Similar to the findings of the original study by Alexander et al. (2017), it was found that student talk and classroom interaction quality improved quantitatively and qualitatively to varying degrees (Hardman, 2019; Jay et al., 2017). Orca and Mary's student talk improved in their brief and extended contributions and in their unsolicited talk and questions.

Consequently, Orca and Mary's classroom interactions became more dialogue-like, and were coherent, expanded, and sustained. On the other hand, with limited opportunities to talk, Fiona's student talk did not show much improvement quantitatively and qualitatively.

Research Question 2: The Lecturers' Perception of Dialogic Teaching

1. The Effects of Dialogic Teaching on Teaching Strategies and Talk Practices

Overall, all three lecturers had a positive perception of dialogic teaching. Similar to the participants in Alexander et al. (2017), the lecturers found dialogic teaching an effective pedagogical approach and are likely to employ it in the future. Specifically, dialogic teaching raised their awareness of professional practices and improved their teaching strategies and talk practices; it helped them achieve their instructional goals and improved student engagement and the quality of student talk.

However, despite her positive perception of the dialogic pedagogy, Fiona's professional practice remained traditional. It is important to understand that her initial motivation to participate in the study was her preconceived assumptions about the course being content-heavy and exam-focused and the students being unmotivated. Unfortunately, due to several influential factors, Fiona did not successfully become more dialogic and fell back into "teaching to the test."

2. Challenges the Lecturers Faced during the Dialogic Teaching Implementation

As a more dialogic teacher, Orca reported two challenges, *lesson structure* and *student dynamics*, in his dialogic teaching implementation; both are related to his willingness to better facilitate students' learning and development. He constantly came up with new teaching ideas to cater to individual students' needs and put them into practice, which led to several class activities in one session; therefore, he needed to adjust his talk practices and teaching strategies, which can be labour-intensive and time-consuming for planning and teaching contingently in situ.

Next, Mary noted five challenges in dialogic teaching implementation. First, *classroom activities* and *insufficient time to cover all course content* were essentially related to her confidence in her own understanding of dialogic teaching and time constraints. To cope with these challenges, Mary primarily employed whole-class discussion activities that she was familiar with instead of trying out others. *Classroom layout* was another challenge that was

related to classroom conditions rather than the lecturer or the students. *Student's language proficiency* and *lack of topic knowledge and understanding* were other important challenges. Having to use English for class discussions, it is crucial for the students to have enough knowledge and proficiency to participate in activities.

Finally, as the most traditional lecturer, Fiona encountered five challenges while implementing dialogic teaching. Two challenges concerning her were *teaching strategies* and *talk practices*. Furthermore, due to the *course objective*, *assessment constraints* and her perception that the students were not motivated, made Fiona feel that she had to focus more on students' academic survival and less on moving from monologic scripting to dialogic teaching. As the teacher-dominant interaction persisted, limited opportunities to talk were given to the students; therefore, *students' communication skills* was another challenge for her.

According to Dwyer, Ringstaff, and Sandholtz, (1991), in the U-shape model of professional development in education, there are five stages: *survival*, *exploration*, *adaptation*, *conceptual change*, and *invention*. Given Orca's perceptions and professional practices, he appeared to be at the *conceptual change* stage where he focused more on the cognitive and psychological objectives. Mary followed him at the *adaptation* stage as she applied the pedagogical knowledge from the dialogic teaching professional development program, examined it, and adapted it to the needs of her students. Fiona's development stage could be classified as *exploration and bridging* as she was able to apply dialogic teaching only occasionally.

In conclusion, despite some challenges, the three participating lecturers viewed dialogic teaching an effective teaching approach and intend to use it in their future teaching. All three lecturers' teaching strategies, talk practices, and perceptions of the dialogic teaching approach highly correlated with their current professional developmental stage.

Research Question 3: The Students' Perceptions of Dialogic Teaching

1. The Effects of Dialogic Teaching on Students' Learning Experiences

Orca and Mary's students had a positive view towards their learning experiences throughout, and their perceptions of talk, listening, classroom climate, understanding of the course content, and communication skills were progressively positive after dialogic teaching. Particularly, the effects of dialogic teaching can be categorised into cognitive and thinking benefits, socio-emotional benefits, and communication skills development.

Although both the quantitative and qualitative findings of Fiona's student questionnaires and group interviews reveal highly positive results, the students' perceptions of Fiona should be discussed with caution. Given that Fiona's teaching strategies and talk practices remained rather traditional after the intervention, and the students who answered the post-intervention questionnaire were self-selected and appeared to be highly motivated, they were likely to view their learning experience with the lecturer as positive.

2. Challenges the Students Faced during the Dialogic Teaching Implementation

All three groups of students share similar challenges including 1) *having insufficient content and background knowledge*, 2) *fear of being wrong or not giving fully developed ideas*, 3) *their communication skills*, and 4) *fear of being judged by peers and lecturer*.

3. Strengths and Limitations of the Study

As one of the first dialogic teaching intervention studies in higher education in Thailand, this study presents strengths and weaknesses in research design, analysis methodology, and instruments.

Strengths

The strengths of the current study were its empirically proven research design, the dialogic teaching intervention, and the data analysis methodology.

First, as it was built upon the original large-scale randomised control trial study by Alexander et al. (2017), the research design of this study was sound and rigorous. With the underpinning of sociocultural theory, this study replicated the original study with some adaptation and utilised a broader range of data collection methods and instruments.

Another strength of the study was the professional development program and the training materials used with the permission of Alexander et al. (2017) and under the supervision of the former key researcher, Professor Jan Hardman. This maximised the effectiveness of the intervention and minimised possible intervening and confounding factors. Therefore, the results were likely to reflect the impact of the dialogic teaching intervention accurately.

Additionally, the mixed methods research design improved the research validity and minimised subjectivity. The data collected by means of quantitative and qualitative methods were rich and improved the understanding of the impact of the intervention and dialogic

teaching more comprehensively. For instance, to identify changes or improvements in the lecturers' teaching strategies and talk practices and student talk, the design of this study enabled triangulation between qualitative transcript and quantitative systematic observation data. Quantitative findings revealed *what* changes occurred in teaching strategies, talk practices, and perceptions of the approach made case comparison feasible, while qualitative results were drawn through observations, field notes, and interviews and showed *how* and *why* changes and improvements occurred.

Limitations

Despite several attempts, there were some limitations of the current study including the intervention length, participant dropouts and missing data, research instruments, and the researcher's lack of experience.

1. Intervention Length

Similar to Jay et al.'s (2017) evaluation of the original study, the twelve-week intervention in this study is deemed insufficient for the implementation of an approach as complex as dialogic teaching. The intervention in Alexander et al. (2017) expanded over two school terms (20 weeks). Despite the rigorous intervention design, the dialogic pedagogy is complex and thus, the length seemed far too short for the lecturers to incorporate dialogic teaching in their teaching practices fully or transition from their teaching styles to a more dialogic method.

2. Participant Dropouts and Missing Data

Due to the research scope and nature of the intervention and the mixed methods research design, it was possible to include only three case studies. More importantly, this study experienced a significant change caused by student participant dropouts in one of the three classes. From 22, there were only 10 law students remaining in Fiona's class at the end of the intervention. This unforeseen situation consequently affected the data collection causing missing data and analysis, particularly in student questionnaires and group interviews. Therefore, the quantitative analysis results should be approached with some caution.

3. Linguistic Problems in the Lecturer Interview Schedule

Some linguistic problems were found in the lecturer interview schedule. Although it was devised carefully and piloted, some linguistic differences and translation nuances were not

identified and persisted in the actual data collection. As a result, some of the collected pre-intervention lecturer interview data were not as rich as expected.

4. A Small Number of Classes Included

Raised by one of the lecturer-participants, Fiona, it is important to note that this study only included a small number of lessons with one group of students per lecturer. Given the uniqueness and complexity each classroom presents, such snapshots may not represent all aspects of one's professional practice comprehensively.

5. Lack of Research Experience

Due to the limited research and interview experience of the researcher, the participants were not prompted or probed adequately or effectively in some questions. Therefore, even though the interview data were rich and extensive, they could have been richer. Comparisons of the participants' experiences and perceptions of dialogic teaching could have been improved.

4. Recommendations for Further Studies

This study presents various opportunities for future research in the context of higher education and other levels in Thailand and other Eastern countries. First, this study only investigated the impact of dialogic teaching in the higher education context in Thailand. It might be beneficial to carry out research following the same or similar methodology at different educational levels or disciplinary areas in order to contribute to the existing dialogic teaching and professional development literature.

Next, a longitudinal study is recommended to better understand the impact of the approach and intervention on practitioners' teaching strategies, talk practices, and class interaction quality. A dialogic teaching intervention could span over one to two academic years or two to four semesters so that a better understanding of how the approach unfolds or develops could be obtained. This could potentially lead to effective professional development models suitable for Thailand's context.

Additionally, although the present study did not intend to include students' learning outcomes as a part of the impact of dialogic teaching, it is suggested for future research to consider these. It is inevitable that one of the key educational goals is learning gains and thus, it is worth investigating the quantifiable results in addition to the qualitative findings to understand the approach even more comprehensively.

Finally, since this study focused on investigating the impact of dialogic teaching on classroom practices, primary attention was paid to teacher talk and overall classroom processes and less on student talk. Therefore, it is recommended that future studies explore student talk further and include what type of questions students initiate and the quality and frequency of student contributions both brief and extended. This will contribute to the literature on student talk not only in Thailand but in other similar educational contexts.

5. Contributions of the Study

The present study provides examples in theoretical, practical, and methodological aspects. It contributes to research, practice, and professional development to several groups of educational stakeholders: university lecturers, professional development researchers and providers, institution leaders, and educational policy makers.

Theoretical Contributions

Theoretically, this study contributes to the existing international literature of sociocultural theory, dialogic teaching, and teacher professional development.

First, the present study has shown that the Western theory of learning, the sociocultural theory works in an Eastern context, that is, higher education in Thailand. Through the dialogic teaching intervention, a positive impact was substantially evident in improved teaching processes, classroom interaction quality, and students' learning experiences. Key influential factors of dialogic teaching implementation particularly in Thai university context were also identified.

Moreover, this study effectively contributes to the teacher professional development (PD) literature. Replicating the Alexander et al. (2017) model for in-service lecturers with some adaptations, this study provided the participating lecturers with research-informed theoretical background through workshops and meaningful discursive tools like the *Planning and Review Form Handbook* and supplementary handouts. Doing so gave them opportunities to evaluate and reflect on their everyday professional practice systematically. Altogether, this PD model, to varying degrees, built lecturers' self-efficacy, and brought about positive changes in pedagogical practices suitable for the individual teaching context.

In addition, with respect to research methodology contribution, this study points to the advantages of obtaining students' perceptions by means of questionnaire and group

interview. Not only did these methods contribute to better understandings of what the students thought of the new teaching approach, but they also brought about interesting new insights in terms of their thinking behind their perceptions.

Pedagogical Applications

With respect to the pedagogical applications for university lecturers in higher education in the Thai collectivist culture, this study suggests that a key to success in dialogic teaching implementation depends principally on lecturers, students, and classroom norms. First, and most important, without the awareness of their own professional practice, the realisation of the importance of classroom talk to learning and ground rules for talk, dialogic teaching is unlikely to occur. With these as a foundation, lecturers can reflect internally upon their own epistemological stance and professional personality, build their confidence, and shape their attitudes towards teaching, learning, and their students, teachers can then transform their teaching into a more dialogic approach.

Equally important, in the Thai collectivist culture, it is vital for lecturers to provide extensive professional and emotional support for students to help Thai students transition from the longstanding established norms of traditional teacher-talk/student-listen classrooms to a more active approach of dialogic teaching. To do so, it is suggested that lecturers begin with spending ample time on and putting effort into establishing and strengthening their lecturer-student and student-student relationships to create a strong sense of belonging and safe, welcoming learning community, establishing new classroom norms using ground rules, and considering students' perceptions of teachers, peers, teaching and learning.

Pedagogical Implications

This study raises the critical issue of lack of professional development not only for pre-service but in-service lecturers in the research context of southern Thailand's higher education but potentially at a broader national level. Of the three participating lecturers, only one had prior teacher training experience as an undergraduate student in education. Knowing the importance of classroom interaction impact on students' learning experiences and outcomes, more professional development training programs should be available for pre- and in-service lecturers. In addition, the nature of professional development should be carefully considered given the findings of this study. The program duration, participant involvement,

and training elements and materials should be carefully designed and developed to better suit different teaching contexts of different lecturers.

This study has informed the policy makers and institution leaders about possible solutions to bridge the gap between the national education goals and current classroom practices.

Informed by the findings from the current study, to create a considerable, long-lasting impact on lecturers' teaching practices with dialogic teaching, will require a collective effort and support from several stakeholders including lecturers themselves, researchers, institutions, and policy makers at the institution level. That is, it is crucial for institution leaders to understand the complexity of dialogic teaching implementation and the nature of effective professional development so that sufficient and appropriate resources and support can be allocated, and realistic expectations and short- and long-term plans can be made accordingly.

At the institution level, practitioners should be encouraged to work collaboratively with their fellow lecturers who are motivated and share similar professional development interests and goals. Together from both institution and lecturers, collective and sustained efforts are necessary to establish a welcoming, nurturing community of practice for lecturers so that they can critically reflect upon their own professional practices and support each other in their professional development. If possible, practitioners and researchers in dialogic teaching should monitor and mutually support each other by taking part and developing more effective professional development together.

6. Concluding Remarks

This study expands the understanding of the impact of dialogic teaching on classroom processes in higher education in an Eastern context, that is, Thailand. Moreover, it reveals the lecturers and students' perceptions of dialogic teaching.

The main arguments of the present study are that dialogic teaching brought about a positive impact on classroom processes in multidisciplinary undergraduate courses in Thailand to varying degrees, and the participating lecturers and students viewed the approach positively. Additionally, this study sheds light on the effectiveness of sociocultural theory in Thailand's higher education context, the relationship between classroom environment, the lecturers' attitudes, teaching strategies, and talk practices, and quality of classroom interaction. Finally, it highlights the importance of professional development and presents dialogic teaching

intervention as a potentially effective way to promote and improve teaching and learning in undergraduate education in Thailand

Appendices

Appendix A: Information Sheet - Lecturers



Information Sheet - Lecturers

Dialogic Teaching in Higher Education in Thailand

Dear Sir or Madam,

My name is Onsutee Wattanapruck Sudwan, a PhD student in the Department of Education, the University of York. As a part of my doctoral studies, I am currently conducting a research project entitled 'English Language Teaching in Pre-service English Teacher Education in Thailand.' I would like to invite you to take part in this research project.

Before agreeing to take part, please read this information sheet carefully and let me know if anything is unclear or you would like further information.

Purpose of the study

This study is designed to investigate the adoption of a teaching approach and its impact on teacher-student interactions in the context of English as a foreign language (EFL) in pre-service teacher education in Thailand. It also aims to explore the participants' perceptions of this pedagogical approach.

What would this mean for you?

Great care will be taken ensure that any unplanned disruption to the university routine and normal classroom practice will be minimal.

To take part in the study, you will be required to participate in a professional development program, which includes attending a one-day professional development workshop, three personalized video-based reflective coaching sessions and two individual interviews. In addition, five of your classes will be observed and video/audio-recorded.

The types of data to be collected for this study are observation notes, classroom video/audio recordings, audio recordings of stimulated-recall sessions and audio recordings and transcripts of teacher interviews.

Participation is voluntary

Participation is optional. If you do decide to take part, you will be given a copy of this information sheet for your records and will be asked to complete a participant information form. If you change your mind at any point during the study, you will be able to withdraw your participation by contacting the researcher without having to provide a reason.

Processing of your data

Under the General Data Protection Regulation (GDPR), the University has to identify a legal basis for processing personal data and, where appropriate, an additional condition for processing special category data.

In line with our charter which states that we advance learning and knowledge by teaching and research, the University processes personal data for research purposes under Article 6 (1)(e) of the GDPR:

Processing is necessary for the performance of a task carried out in the public interest

Anonymity and confidentiality

The data that you provide i.e., video/audio recordings, observation notes, audio recordings of the interview and one-on-one coaching sessions will be stored by code number. Any information that identifies you will be stored separately from the data. You are free to withdraw from the study at any time during data collection and up to four weeks after the data are collected by contacting the researcher without having to provide a reason.

Information will be treated confidentially and shared on a need-to-know basis only. The University is committed to the principle of data protection by design and default and will collect the minimum amount of data necessary for the project. In addition, I will anonymise or pseudonymise data wherever possible.

Storing and using your data

Data will be stored in secure filing cabinets and/or on a password-protected computer. Data will be kept for the duration of the research project until 2022, after which time any personally identifiable data will be destroyed.

Anonymised data may be kept and used for future analysis and shared for research purposes up to ten years, but participants and your institution will not be identified. The videos/images from the observations will be shared only between the researcher and the participants during the coaching sessions.

I will put in place appropriate technical and organisational measures to protect your personal data and/or special category data. Data will be stored in secure filing cabinets and/or on a password-protected computer

The data that I collect (videos/audio recordings, observations notes, and transcripts) may be used in *anonymous* format in different ways. Please indicate on the consent form attached with a if you are happy for this anonymised data to be used in the ways listed.

Sharing of data

Data will be accessible to Onsutee Wattanapruck Sudwan and Dr. Jan Hardman.

Anonymised data may be used for future analysis and shared for research or training purposes. If you do not want your data to be included in any information shared as a result of this research, please do not sign the consent form.

Transfer of data internationally

It is possible that the data is transferred internationally. The University's cloud storage solution is provided by Google which means that data can be located at any of Google's globally spread data centres. The University has data protection compliant arrangements in place with this provider. For further information see, <https://www.york.ac.uk/it-services/google/policy/privacy/>

Your rights

Under the GDPR, you have a general right of access to your data, a right to rectification, erasure, restriction, objection or portability. You also have a right to withdrawal. Please note, not all rights apply where data is processed purely for research purposes. For information see, <https://www.york.ac.uk/records-anagement/generaldataprotectionregulation/individualrights/>

Questions or concerns

If you have any questions about this participant information sheet or concerns about how your data is being processed, please feel free to contact Onsutee Wattanapruck Sudwan by email (ows503@york.ac.uk) or by telephone on (01904)323455, or the Chair of Ethics Committee via email education-research-administrator@york.ac.uk. If you are still dissatisfied, please contact the University's Data Protection Officer at dataprotection@york.ac.uk

Right to complain

If you are unhappy with the way in which your personal data has been handled, you have a right to complain to the Information Commissioner's Office. For information on reporting a concern to the Information Commissioner's Office, see www.ico.org.uk/concerns

I hope that you will agree to take part. If you are happy for you to participate, please complete the form attached and hand it into the researcher.

Please keep this information sheet for your own records.

Thank you for taking the time to read this information.

Yours Sincerely,

Mrs. Onsutee Wattanapruck Sudwan (Researcher)

Appendix B: Information Sheet – Students



Information Sheet - Students

Dialogic Teaching in Higher Education in Thailand

Dear Sir or Madam,

My name is Onsutee Wattanapruck Sudwan, a PhD student in the Department of Education, the University of York. As a part of my doctoral studies, I am currently conducting a research project entitled 'English Language Teaching in Pre-service English Teacher Education in Thailand.' I would like to invite you to take part in this research project.

Before agreeing to take part, please read this information sheet carefully and let me know if anything is unclear or you would like further information.

Purpose of the study

This study is designed to investigate the adoption of a teaching approach and its impact on teacher-student interactions in the context of English as a foreign language (EFL) in pre-service teacher education in Thailand. It also aims to explore the participants' perceptions of this pedagogical approach.

What would this mean for you?

Great care will be taken ensure that any unplanned disruption to the university routine and normal classroom practice will be minimal.

Since your lecturer was agreed to participate in this study, you are invited to take part as well. To do so, you will be required to fill in pre-and post-questionnaires. You may also be invited to take part in an interview. In addition, please be noted that five of your classes will be observed and video/audio-recorded as a part of this study. Kindly inform the researcher in advance if you do not wish to be seen in the video so that the camera arrangement can be set up accordingly. The types of data to be collected for this study are questionnaires, observation notes, classroom video/audio recordings, audio recordings of stimulated-recall sessions, and recordings and transcripts of teacher and selected student interviews.

Participation is voluntary

Participation is optional. If you do decide to take part, you will be given a copy of this information sheet for your records and will be asked to complete a participant information form. If you change your mind at any point during the study, you will be able to withdraw your participation by contacting the researcher without having to provide a reason.

Processing of your data

Under the General Data Protection Regulation (GDPR), the University has to identify a legal basis for processing personal data and, where appropriate, an additional condition for processing special category data.

In line with our charter which states that we advance learning and knowledge by teaching and research, the University processes personal data for research purposes under Article 6 (1)(e) of the GDPR:

Processing is necessary for the performance of a task carried out in the public interest

Anonymity and confidentiality

The data that you provide i.e., questionnaires, and video recordings and notes from observations will be stored by code number. Any information that identifies you will be stored separately from the data.

Information will be treated confidentially and shared on a need-to-know basis only. The University is committed to the principle of data protection by design and default and will collect the minimum amount of data necessary for the project. In addition, I will anonymise or pseudonymise data wherever possible.

Storing and using your data

Data will be stored in secure filing cabinets and/or on a password-protected computer. Data will be kept for the duration of the research project up to seven years from now, after which time any personally identifiable data will be destroyed.

Anonymised data may be kept and used for future analysis and shared for research purposes up to ten years, but participants and your institution will not be identified. The videos/images from the observations will be shared only between the researcher and the participants during the coaching sessions.

I will put in place appropriate technical and organisational measures to protect your personal data and/or special category data. Data will be stored in secure filing cabinets and/or on a password-protected computer.

The data that I collect (questionnaires, videos/audio recordings, and observations notes) may be used in *anonymous* format in different ways. Please indicate on the consent form attached with a if you are happy for this anonymised data to be used in the ways listed.

Sharing of data

Data will be accessible to Onsutee Wattanapruck Sudwan and Dr. Jan Hardman.

Anonymised data may be used for future analysis and shared for research or training purposes. If you do not want your data to be included in any information shared as a result of this research, please do not sign the consent form.

Transfer of data internationally

It is possible that the data is transferred internationally. The University's cloud storage solution is provided by Google which means that data can be located at any of Google's globally spread data centres. The University has data protection compliant arrangements in place with this provider. For further information see, <https://www.york.ac.uk/it-services/google/policy/privacy/>

Your rights

Under the GDPR, you have a general right of access to your data, a right to rectification, erasure, restriction, objection or portability. You also have a right to withdrawal. Please note, not all rights apply where data is processed purely for research purposes. For information see, <https://www.york.ac.uk/recordsmanagement/generaldataprotectionregulation/individualrights/>

Questions or concerns

If you have any questions about this participant information sheet or concerns about how your data is being processed, please feel free to contact Onsutee Wattanapruck Sudwan by email (ows503@york.ac.uk) or by telephone on (01904)323455, or the Chair of Ethics Committee via email education-research-administrator@york.ac.uk. If you are still dissatisfied, please contact the University's Data Protection Officer at dataprotection@york.ac.uk

Right to complain

If you are unhappy with the way in which your personal data has been handled, you have a right to complain to the Information Commissioner's Office. For information on reporting a concern to the Information Commissioner's Office, see www.ico.org.uk/concerns

I hope that you will agree to take part. If you are happy for you to participate, please complete the form enclosed/attached and hand it in to the researcher.

Please keep this information sheet for your own records.

Thank you for taking the time to read this information.

Yours Sincerely,

Ms. Onsutee Wattanapruck Sudwan (Researcher)

Appendix C - Consent Form - Lecturers

Dialogic Teaching in Higher Education in Thailand

Please tick each box if you are happy to take part in this research.

I understand that I am invited to participate in a research study conducted by a PhD student from the Department of Education, the University of York.	<input type="checkbox"/>
I understand that the purposes of this research study are to investigate the adoption of a teaching approach and its impact on teacher-student interactions in the context of English as a foreign language (EFL) in pre-service teacher education in Thailand; and to explore the participants' perceptions of this pedagogical approach.	<input type="checkbox"/>
I understand that data will be stored securely in a locked filing cabinet or on a password protected computer and only Onsutee Wattanapruck Sudwan and Dr. Jan Hardman will have access to any identifiable data.	<input type="checkbox"/>
I understand that participation in this study is voluntary. If I change my mind at any point during the study, I will be able to withdraw my participation by contacting the researcher without having to provide a reason.	<input type="checkbox"/>
I understand that my identity will be protected by use of a code/pseudonym.	<input type="checkbox"/>
I understand that my data will not be identifiable and the data may be used:	<input type="checkbox"/>
in publications that are mainly read by university academics	<input type="checkbox"/>
in presentations that are mainly attended by university academics	<input type="checkbox"/>
in publications that are mainly read by the public	<input type="checkbox"/>
in presentations that are mainly attended by the public	<input type="checkbox"/>
I understand that data will be kept for seven years after which it will be destroyed.	<input type="checkbox"/>
I understand that data could be used for future analysis or other purposes (e.g., research and teaching purposes).	<input type="checkbox"/>

Name _____

Signature _____

Date _____

Appendix D - Consent Form - Students

Dialogic Teaching in Higher Education in Thailand

Please tick each box if you are happy to take part in this research.

I understand that I am invited to participate in a research study conducted by a PhD student from the Department of Education, the University of York.	<input type="checkbox"/>
I understand that the purposes of this research study are to investigate the adoption of a teaching approach and its impact on teacher-student interactions in the context of English as a foreign language (EFL) in pre-service teacher education in Thailand; and to explore the participants' perceptions of this pedagogical approach.	<input type="checkbox"/>
I understand that data will be stored securely in a locked filing cabinet or on a password protected computer and only Onsutee Wattanapruck Sudwan and Dr. Jan Hardman will have access to any identifiable data.	<input type="checkbox"/>
I understand that participation in this study is voluntary. If I change my mind at any point during the study, I will be able to withdraw my participation by contacting the researcher without having to provide a reason.	<input type="checkbox"/>
I understand that my identity will be protected by use of a code/pseudonym.	<input type="checkbox"/>
I understand that my data will not be identifiable and the data may be used:	<input type="checkbox"/>
in publications that are mainly read by university academics	
in presentations that are mainly attended by university academics	<input type="checkbox"/>
in publications that are mainly read by the public	<input type="checkbox"/>
in presentations that are mainly attended by the public	<input type="checkbox"/>
I understand that data will be kept for seven years after which it will be destroyed.	<input type="checkbox"/>
I understand that data could be used for future analysis or other purposes (e.g., research and teaching purposes).	<input type="checkbox"/>

Name _____

Signature _____

Date _____

Appendix E: Handout for Cycle 2

Handout 1: Talking about Talk

Directed Focus Task: Establishing ground rules to facilitate and govern classroom talk

This cycle makes students aware that during the coming term, talk is going to be in its way as important as reading and writing, and that in a setting like a classroom where many people are involved, they must listen carefully to each other, respect different points of view, respond constructively to what others say and feel able and happy to contribute, supporting those who are reticent (quiet, introvert or appear unconfident).

Context and conditions

Dialogic teaching is facilitated and supported when:

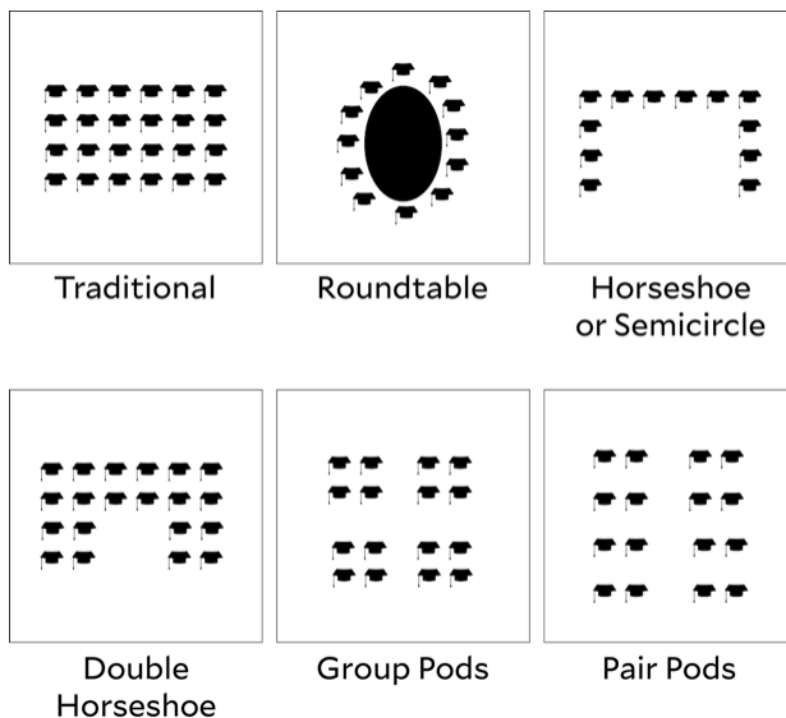
- different organizational settings and tasks-whole class, collective group, collaborative group, and individual- are deployed to meet different educational goals;
- teachers are prepared to change classroom lay out to meet the requirements of different kinds of learning task and different kinds of learning talk;
- to aid concentration, and distractions and interruptions are kept to a minimum;
- lesson introductions, transitions and conclusions are economically managed, and care is taken to avoid letting lesson episode (especially writing tasks) extend beyond (a) the time they require and (b) the students' concentration span;
- Tasks are planned with an eye to their potential to provoke and benefit from talk-based as well as text-based and written activities;
- time is viewed as a precious resource and there is close attention to time on task;
- teaching demonstrates pace in terms of cognitive ground it enables students to cover, not merely in the speed of its organization or interaction;
- teachers seek to shift from interactions which are brief and random to those which are longer and more sustained;
- relatedly, more and better use is made of oral assessment, and teachers become more skilled in assessing students' understanding on the basis of what they say;
- teachers are sensitive to the way their expression, gesture, body language, physical stance and location in the classroom can affect the type and quality of classroom talk;
- teachers work with their students to develop: a rich and discriminative vocabulary; the ability to speak confidently, clearly, informatively, expressively and succinctly; the capacity to engage with, and communicate in, different registers and genres; the ability – and will – to listen;
- teachers recognize that in all aspects of classroom talk they themselves are influential models.

(Alexander, 2017, pp. 41-42)

See the classroom arrangement diagrams and discuss.

- What type of tasks and interactions these classroom arrangements can generate?
- What is the most suitable for dialogic teaching class, if any?

Organisation of Interaction



Further Discussion Questions

- Why should we encourage student to participate in talk?
- How can you encourage students to participate in talk?
- How can you create a **safe classroom climate** in which students feel comfortable to participate in talk?
- In class where talk is the focus, how can you make students respect and support each other, especially those who are reticent or introvert learners?
- What kinds of task can generate the following type of interaction?
 - teacher-student interaction
 - student-student interaction
 - student-led interaction
- How can you encourage students to listen actively?
- What can you do to help your students to think about what they hear more critically?

Examples of ground rules:

- We share our ideas and listen to each other.
- We talk one at a time and look at the speaker.
- We respect each other's opinions.
- We give reasons to explain our ideas.
- If we disagree, we ask 'why?'
- We try to agree in the end as a group – consensus.

Scenario

Your students have a heated debate about a recent case of genetically modified organism in human beings. While one group appears to be convinced that it is a scientific breakthrough, the other believes it is ethically unacceptable. Their debate has become close to a fight where students speak loudly trying to convince the other teams with evidence and supporting justifications. What will you do to encourage them to be more receptive to different viewpoints?

Appendix F: Handout for Cycle 3

Handout 2: Whole class teaching interaction: Refining Repertoires

Directed Focus Task: This cycle is about revisiting and refining the basic element of whole class teaching with particular attention to the agency, talk and actions of the teacher.

The following are four categories of talk repertoires ranging from everyday life talk to talk for teaching, learning. Since each teaching context is unique and requires different talk repertoires, teachers should be exposed to different types of talk and become skillful to utilize them strategically to achieve their instructional goals.

Repertoires (i): talk for everyday life

- transactional talk
- expository talk
- interrogatory talk
- exploratory talk
- expressive talk
- evaluative talk

Repertoires (ii): talk for teaching

- rote
- recitation
- instruction
- discussion
- dialogue

Repertoires (iii): talk for learning

- narrate
- explain
- instruct
- ask different kinds of question
- receive, act and build upon answers
- analyze and solve problems
- speculate and imagine
- explore and evaluate ideas
- discuss
- argue, reason and justify
- negotiate
- listen
- be receptive to alternative viewpoints

- think about what they hear
- give others time to think

Repertoires (iv): organizational contexts

- whole class teaching (teacher and class)
- collective group work (teacher-led)
- collaborative group work (student-led)
- one-to-one (teacher and student)
- one-to-one (student pairs)

(Alexander, 2017)

Questioning is commonly used to initiate and generate talk in class. Regardless of the initiator and talk formats (whether in whole class, group or individual interactions), questioning in dialogic teaching:

- is anchored in the context and content of the lesson;
- builds on previous knowledge;
- elicits evidence of students' understanding;
- appropriately combines invitations for closed/ narrow and open/ discursive/ speculative responses (*what is?* and *what might be?* questions);
- combines the routine and the probing;
- uses cued elicitations and leading questions **sparingly** rather than habitually;
- prompts and challenges thinking and reasoning;
- balances open-endedness with guidance and structure in order to reduce the possibility for error;
- achieves consistency between form and intent (e.g., where questions are questions rather than instructions, and open questions are **genuinely open**, rather than invitations to guess the one *right* answer);
- gives students time to think – aka *wait time*.

(Alexander, 2017)

Talk formats

Different talk formats create opportunities for students to talk and allow for different kinds of participation and practice.

1. Teacher-guided whole group discussion
2. Small group work
3. Partner talk: '*think-pair-share*'

Scenario

A student Kate has just finished her teaching demonstration for 30 minutes while the rest of the class including the teacher observed. With talk repertoires and talk formats in mind, how can you provide constructive feedback to Kate involving both all students and you as the lecturer in a safety, friendly class environment? One or a combination of the talk formats can be applied.

Appendix G: Handout for Cycle 4

Handout 3: Whole Class Interaction: Maximizing student contribution (1)

From rote and recitation to dialogue

Directed Focus Task: This cycle shifts attention from the teacher back to the students, and from recitation to dialogue. It expands and refines ways to ensure that we can use but also go beyond informative feedback to elicit different and deeper levels of student contribution, using discussion and dialogue to probe and build upon these.

Discussion versus dialogue

- *Discussion* (teacher-class, teacher-group or student-student): the exchange of ideas with a view to sharing information and solving problems.
- *Dialogue* (teacher-class, teacher-group, teacher-student, or student-student): achieving common understanding and discussion which guide and prompt, reduce choices, minimize risk and error, and expedite ‘handover’ of concepts and principles.

Teacher Feedback

T acknowledge/reject	Teacher simply accepts or rejects a pupil’s contribution – e.g. repeat exactly the given answer, ‘yes’, ‘ok’, ‘thank you’, ‘not quite the answer’, ‘incorrect’
T praise	Teacher praises a pupil’s contribution – e.g. ‘well done’, ‘good’, ‘brilliant’
T comment	Teacher remarks, summarizes, reformulates, builds on and/or transforms a pupil’s contribution

Teacher Follow-up Talk Moves

Unlike teacher feedback, teacher follow-up talk moves keep the sequence or topic open and at the same time invite more and extended student talk. The following are teacher follow-up talk moves definitions and examples.

T add on question	Teacher asks pupils to add on to another pupil's contribution - e.g. 'Can anyone add on to ...?', 'Can anyone follow on from...?', 'Any comments on that?', 'What else can we ...?'
T agree/ disagree question	Teacher asks if a pupil or pupils agree or disagree with another pupil's contribution - e.g. 'Do you agree/disagree (and why?)', 'Does anyone want to respond to that?'
T expand question	Teacher stays with the same pupil and asks to say more - e.g. 'What do you mean by that?', 'Can you give an example?', 'Okay, tell me more about that', 'how could that be...?'
T rephrase question	Teacher asks a pupil to repeat or reformulate own or another pupil's contribution - e.g. 'Can you say that again?', 'Who can repeat what X just said in their own words?', 'What did your partner say?'
T revoice question	Teacher verifies own understanding of a pupil's contribution, which requires a student response - e.g. 'So, are you saying...?', 'Then I guess you think...?'
T why question	Teacher stays with the same pupil (or asks another pupil) and asks for evidence or reasoning - e.g. 'Why do you think that?', 'What is your evidence?'
T challenge question	Teacher provides a challenge or a counter-example - e.g. Does it always work that way?', 'What if...?', 'Is that always true?'

(Alexander et al., 2017)

Appendix H: Handout for Cycle 5

Handout 4: Whole Class Interaction: Maximizing student contribution (2)

From rote and recitation to dialogue

Directed Focus Task: This cycle the focus is still on students in dialogues. It seeks ways to further expand and refine ways to ensure that we use discussion and dialogue to elicit different and deeper levels of student contribution to probe and build upon these. The lecturer should also gradually withdraw the intervention in whole class discussion and give the floor to students to promote extended contribution and increase their confidence.

Read the excerpt below and think about how the teacher minimizes her intervention with the student dialogue. Also, pay close attention to teacher turns and how the discussion progresses.

In the following extract, which occurred at the end of the unit, the teacher (T) revisited the issue of predicting by asking the class to consider the relationship between predicting, estimating, and guessing: “Are they essentially the same activity or are there important differences between them?” This question may appear to be somewhat tangential to the curricular unit on mass in which it occurred. However, the teacher was quite clear that the distinction she was asking the students to consider was central to the practice of doing science in general.

The extract starts a few turns into the discussion, which continued for some 30 minutes, as students Emma (Em), Arthur (Ar), Jenny (Je), Brian (Br), William (Wi), Candace (Ca), and Ss considered various scenarios in their attempt to clarify the differences and similarities between the three “mental activities.” By the end, as the teacher commented later, there was really nothing further for her to add; between them, the students had made all the distinctions that were found when they subsequently consulted the *Concise Oxford Dictionary*:

1 T: You heard somebody who says they're not the same . now there's a whole bunch of <you> who say they're [predicting and estimating] two different mental activities . What do YOU think, Emma?

- 2 Em: I think that- well I don't agree with Peter because I think that they are two different things .. 'predict' is sort of like guess what will happen . and then 'estimate' is like you estimate the mass using a form of weight, centimeters . and it's not just with mass, you estimate other things .
- 3 T: OK [nominating Arthur]
- 4 Ar: I don't agree with Peter either because 'predict' sort of means like what WILL happen and 'estimate' is the er- do it- estimating something that's already there, but taking it further
- 5 T: Now, listen to both answers . none of the answers are right or wrong . Will someone make a distinction? Arthur has made a little- even a more-greater distinction . OK?
- 6 Je: I don't agree with Peter [laughs] because he said that 'estimate' is guessing .and 'predicting' is ALSO guessing but . um- actually guessing is also different from those two because when you guess you don't have very much information about the object or the thing
- 7 T: uh-huh
- 8 Je: - and so you're just making a- like a wild guess . but when you predict you're- you're actually you're maybe doing an experiment . and you are trying- using the information, you are trying to find out what would happen-
- 9 T: mm
- 10 Je: - and estimating is um different from guess because . you have um certain information, for instance if you estimate the mass, you get the object in your hand and you . you have the weights in the other hand and you can sort of . like estimate the . mass, so it's not guessing
- 11 T: OK . Brian?
- 12 Br: Um- I-I don't agree with Peter . um as well and I think that 'predicting' . is . if you predict then you're saying that . um . I'm predicting what's going to happen to me tomorrow - what I'm going to do tomorrow and with 'estimating' you would- it would just be something like um . if . um . you would- you would est- you would estimate um . um .. estimate how heavy er something is
- 13 T: OK, that's a good attempt again
Emma?
- 14 Em: I'd really like to revise it a little . but I started by <changing a little>and so we get a little information and then you go further, see what will happen next . I think it's true and . for estimating we also . like- . <for anything> you look at the object . and then you guess- well you DON'T guess but then you try to like you have a- some weights and then you . like try to feel the um- see what it weighs or that's how I think it is (trailing off)
- 15 T: OK .William?

- 16 Wi: I don't agree with um . Peter because . um in our math book it says estimate to the nearest tenth but it didn't- it doesn't say PREDICT to the nearest tenth
- 17 T: That's right . so what's the distinction? Good, you're using your experience in math . to help you make a distinction
- [Several more sequences of the same kind follow, in the last of which Brian makes a lengthy contribution in which he uses a tennis ball as an example. In what follows, others work with his example.]
- 25 T: Yes . so what happens is- Brian was saying if I say 'estimate' . 'estimate The mass of a tennis ball' . you're talking about a feature of the object . but if I say 'predict what will happen to the tennis ball if I threw it at a speed of ten kilometers' I'm asking you to tell about what HAPPENS . to the tennis ball . not something ABOUT the tennis ball .. and that ties back to right at the beginning Arthur says . 'predict' is what WILL happen .
- 26 Em: I think Brian was right and so in a sort of way his answer was right . but then . like I'm going to say . like I'm going to estimate it and predict- well 'estimate' is usually asking . something where you like already learned or have some information about the- like, say we use the tennis ball again, but then 'predict' is . what will happen AFTER you do something to a tennis ball or like maybe you might . bounce it and say how- what will happen
- 27 T: OK. [points to Brian]
- 28 Br: Um . if- . 'estimated' would be . that um- if- if you estimate the ball- the ball's . um . mass . and then you would predict whether it would be the same weight . after you- (trails away)
- 29 T: OK, you can say- . OK .. he- er Brian is trying to bring in a closer distinction .. he was saying estimating the mass of a tennis ball . now predict what would the mass of the tennis ball be if I put- if I attach, say, .. two feathers to the tennis ball-
- 30 Br: uh-huh
- 31 T: -would you say 'predict' or 'estimate'?
- 32 Ca: And also I agree with Brian because um 'predict' can be used like in two ways, like um- Brian said also . like you can- you can predict a weight or something . but it won't be so accurate, or you can ADD something to a weight and predict . what it will be . **
- 33 T: OK
- 34 Em: You know . when . Brian said like . it will be 'predict' . what the weight is if you added feathers, I sort of agree and sort of don't . because . it's also um . estimating the weight or the mass because . you're <just adding> something but you still have to estimate the mass, you're not really predicting what will happen

Appendix J: Post-intervention Lecturer Interview Schedule

PART 1: Improvements on Student-Lecturer interaction

ปฏิสัมพันธ์ระหว่างอาจารย์และนักศึกษา

Based on your teaching in this course: จากการสอนรายวิชานี้

1. คุณสังเกตเห็นการเปลี่ยนแปลงของปฏิสัมพันธ์ (interactions) ที่เกิดขึ้นระหว่างคุณและนักศึกษาระหว่างรายวิชานี้หรือไม่ อย่างไร

Have you noticed any changes in the interactions between you and your students during the course?

2. คุณสังเกตเห็นความเปลี่ยนแปลงเกี่ยวกับการพูดของนักศึกษาระหว่างการอภิปรายทั้งชั้นในรายวิชานี้หรือไม่ อย่างไร

Have you noticed any changes in student talk in class discussion during this course?

3. คุณคิดว่านักศึกษาเข้าร่วมการอภิปรายทั้งชั้นเพิ่มขึ้นกว่าเดิมหรือไม่ อย่างไร

Do you think your students participated more during the class discussion than before?

4. ในความคิดเห็นของคุณ คุณคิดว่านักศึกษาถามคำถามมากขึ้นกว่าเดิมหรือไม่ อย่างไร

In your opinion, did your students ask more questions than before?

5. คุณให้โอกาสนักศึกษาได้พูดคุยและร่วมอภิปรายระหว่างการอภิปรายทั้งชั้นมากขึ้นหรือไม่ อย่างไร

Did you give your students more opportunities to talk in the discussion?

6. คุณให้โอกาสนักศึกษาได้แสดงความคิดและความคิดเห็นระหว่างการอภิปรายทั้งชั้นมากขึ้นหรือไม่ อย่างไร

Did you give your students more opportunities to share their ideas and opinions?

7. คุณให้โอกาสนักศึกษาอธิบายในเรื่องที่ไม่ชัดเจน เพื่อให้กระจ่างมากขึ้นระหว่างการอภิปรายทั้งชั้นมากขึ้นหรือไม่ อย่างไร

Did you give your students more opportunities to explain?

8. คุณสังเกตเห็นความเปลี่ยนแปลงเรื่องการนำเสนอตนเองเพื่อพูดในชั้นระหว่างการอภิปรายทั้งชั้นเรียนของนักศึกษาหรือไม่ อย่างไร

Have you noticed any changes in students' self-nomination?

9. คุณสังเกตเห็นความเปลี่ยนแปลงเรื่องการเสนอชื่อเพื่อนร่วมชั้นให้มีส่วนร่วมพูดคุยระหว่างการอภิปรายทั้งชั้นของนักศึกษาหรือไม่ อย่างไร

Have you noticed any changes in students' peer nomination?

10. คุณสังเกตเห็นความเปลี่ยนแปลงเรื่องความพยายามที่จะเสนอหรือทำให้ตัวเองได้พูด (bidding for turns) ของนักศึกษาระหว่างการอภิปรายทั้งชั้นหรือไม่ อย่างไร

Have you noticed any changes in students' bidding for turns to talk?

11. คุณคิดอย่างไรเกี่ยวกับการพูด อภิปรายของนักศึกษา (students' contribution)

What do you think about students' contribution?

12. คุณสังเกตเห็นความเปลี่ยนแปลงเรื่องความยาวของการพูดอภิปรายของนักศึกษาหรือไม่ อย่างไร

Have you noticed any changes in their contribution in terms of length?

13. คุณสังเกตเห็นความเปลี่ยนแปลงเรื่องความถี่ของการมีส่วนร่วมในการพูดอภิปรายทั้งชั้นของนักศึกษาหรือไม่ อย่างไร

Have you noticed any changes in their contribution in terms of frequency?

14. ในความคิดเห็นของคุณ คุณคิดว่าคำตอบของนักศึกษามีความละเอียดหรือซับซ้อนมากขึ้นกว่าเดิมหรือไม่ อย่างไร

In your opinion, do you feel that students' responses are more elaborate than before?

15. ในความคิดเห็นของคุณ สัดส่วนของการพูดของอาจารย์ต่อนักศึกษามีความสมดุลหรือเหมาะสมหรือไม่ อย่างไร

In your opinion, are teacher talk and student talk balanced or in a good proportion?

16. โดยรวมแล้ว คุณคิดว่าการจัดการเรียนการสอนแบบ dialogic teaching ช่วยพัฒนาให้ปฏิสัมพันธ์ (interactions) ระหว่างคุณในฐานะอาจารย์และนักศึกษาดีขึ้นหรือไม่ อย่างไร

Overall, do you think dialogic pedagogy has helped to improve your interactions with students? How?

PART 2: Improvements on Lecturer's Teaching Practice

สิ่งที่ดีขึ้นหรือได้รับการพัฒนา ปรับปรุงเกี่ยวกับการสอนของอาจารย์

1. การสอนของคุณในปัจจุบันเป็นอย่างไร

How is your teaching now?

2. คุณชอบสิ่งใดบ้างเกี่ยวกับการสอนของคุณในปัจจุบัน

What do you want to change in your current teaching practice?

3. คุณสังเกตเห็นความเปลี่ยนแปลงเกี่ยวกับการสอนของคุณระหว่างก่อนและหลังการเข้าร่วมโครงการพัฒนาอาจารย์นี้หรือไม่ อย่างไร

Have you noticed any changes in your own teaching between before and after this professional development program?

4. การสอนแบบ dialogic teaching ช่วยให้คุณตระหนักเรื่องการสอนของตัวเองหรือไม่ อย่างไร

Has dialogic teaching helped you to become more aware of your own teaching practice?

5. คุณชอบอะไรเกี่ยวกับ dialogic teaching บ้าง

What do you like about dialogic teaching?

6. คุณเชื่อว่า dialogic teaching ช่วยให้คุณสามารถบรรลุเป้าหมายการสอนของคุณหรือไม่ อย่างไร

Do you believe dialogic teaching helps you to better reach your instructional goals?

7. คุณถามคำถามประเภทไหนบ้างในห้องเรียน: คำถามปลายปิด มีคำตอบเพียงคำตอบเดียว
คำถามที่แท้จริง อาจารย์หรือผู้เรียนไม่ทราบคำตอบ หรือทั้งสองแบบ

What kind of questions do you use in your class: closed or open question or both?

8. คุณให้ฟีดแบ็คที่แก่นักศึกษาเป็นแบบใด formative หรือ summative

What kind of feedback do you give to your students: formative or summative?

9. คุณให้เวลานักศึกษาได้คิดก่อนตอบคำถามของคุณอย่างเพียงพอหรือไม่ อย่างไร

Do you give your students ample time to think before answering your questions?

10. คุณคิดว่า dialogic teaching ช่วยเพิ่มความมั่นใจให้คุณในการพูดภาษาอังกฤษหรือไม่ อย่างไร
In your opinion, does dialogic teaching help you develop your confidence in speaking English?

11. คุณคิดว่า dialogic teaching มีส่วนช่วยให้ภาษาอังกฤษของคุณโดยรวมพัฒนาขึ้นหรือไม่ อย่างไร
In your opinion, does dialogic teaching help you develop your overall English proficiency?

12. โดยรวมแล้วคุณคิดว่าการสอนแบบ dialogic teaching ช่วยพัฒนาการสอนของคุณหรือไม่ อย่างไร
Overall, do you think dialogic pedagogy has helped to improve your teaching? How?

13. คุณจะสอนแบบ dialogic teaching ต่อไปหรือไม่ เพราะอะไร
Will you continue teaching with a dialogic pedagogy?

PART 3: Possible Challenges for Lecturers

สิ่งที่อาจเป็นความท้าทายต่อคุณในฐานะอาจารย์

What challenges did you find in implementing dialogic teaching in your teaching practice?
Please select five of the options that apply to you and rank them in order from 1 to 5 in which **1** being **the most important** and number **5** being **the least important**.

คำชี้แจง โปรดเลือก 5 ข้อที่คุณพบว่าเป็นปัญหาและอุปสรรคที่คุณเจอในฐานะอาจารย์ผู้สอนเมื่อนำการสอนแบบ dialogic teaching ที่เน้นให้นักศึกษามีส่วนร่วมในการอภิปรายทั้งชั้น (whole class teaching) ไปประยุกต์ใช้ในการสอนของตนเอง ทั้งนี้ไม่จำกัดเฉพาะภาษาอังกฤษเท่านั้น แต่รวมไปถึงการอภิปรายในชั้นทั้งภาษาไทยและภาษาอังกฤษ

โปรดเลือก 5 ข้อที่คุณคาดว่าจะเป็ความท้าทายที่คุณจะเจอและจัดลำดับความสำคัญ โดยให้ **หมายเลข 1** หมายถึงสำคัญที่สุด และหมายเลข **5** สำคัญน้อยที่สุด พร้อมทั้งอธิบายเหตุผลประกอบ

- a. โครงสร้างการจัดกิจกรรมการเรียนการสอน (Lesson structures)
- b. รูปแบบการจัดที่นั่งในชั้นเรียน (Classroom layouts)
- c. วัฒนธรรมการศึกษาของไทย (Educational culture)
- d. ขาดความร่วมมือจากนักศึกษา (Lack of students' participation)
- e. ระดับความสามารถทางภาษาของนักศึกษา (Students' language proficiency)
- f. ระดับความสามารถทางภาษาของตนเอง (Your own language proficiency)
- g. ทักษะการพูดและการสอนของตนเอง (Your own talk skills and teaching strategies)

- h. การกลัวการถูกตัดสินจากนักศึกษา (Your fear of being judged by students)
- i. ข้อจำกัดเรื่องประเมินผลรายวิชา (Constraints in relation to assessments)
- j. ข้อจำกัดเรื่องวัตถุประสงค์การเรียนรู้ (Constraints in relation to lesson objectives)
- k. การพูดคุยในการอภิปรายไม่เหมาะกับเนื้อหาวิชานี้
(Talk is not suitable for this course content)
- l. เวลาไม่เพียงพอสำหรับเนื้อหาทั้งหมดของรายวิชา (Insufficient time to cover all course contents)
- m. เวลาไม่เพียงพอให้นักศึกษาเตรียมตัวในการพูด (Insufficient time for students to prepare to talk)
- n. นักศึกษาขาดความรู้ความเข้าใจเกี่ยวกับเนื้อหาหรือหัวข้ออภิปราย
(Student's lack of topic knowledge and understanding)
- o. ธรรมชาติของนักศึกษา เช่น นักศึกษาที่ชอบแสดงความคิดเห็น หรือนักศึกษาที่เขินอาย
(Student dynamics e.g., dominant students, shy students, etc.)
- p. รูปแบบกิจกรรมที่นักศึกษาทำในห้องเรียน เช่น กิจกรรมและแบบฝึกหัดต่างๆ
(The tasks carried out by students (classroom tasks, activities or exercises))
- q. อื่น ๆ โปรดระบุ _____

Appendix K: Post-intervention Student Questionnaire Questions

Part 1 (Likert rating scale)

Instructions: Following are a number of statements with which some people agree and other disagree. Please indicate your opinion after each statement by putting an “X” in the box that best indicates the extent to which you agree or disagree with the statement.

Perceptions of dialogic teaching

Benefits of talk on students’ understanding of the course content

I like to participate in class discussion in this course.

I find talking helpful to my understanding of this course.

My ideas become clearer when I talk with my peers and lecturer in this class.

I feel comfortable to share my ideas with my peers and lecturer during the discussion in this course.

Benefits of listening to peers on their understanding of the course content

I like to listen to my peers’ ideas and opinions.

I find listening to my peers helpful to my understanding of this course.

I learn from my peers when they share their opinions during the discussion in this course.

I understand the topic better even when I observe the class discussion without participating through talk.

Classroom Environment

Overall

I am encouraged to talk in this course.

I feel comfortable speaking in this course.

I am motivated to come to this course than other courses.

I feel comfortable to share my ideas in Thai in this course.

I feel comfortable to share my ideas in English in this course.

I have more opportunities to share my ideas than other courses.

I have enough time to think and prepare my answer before sharing it with the class.

I like when the class discusses a topic in depth and in details.

Lecturer

The lecturer values my opinion.

I like the lecturer's teaching style in this course.

I feel comfortable to share my ideas with the lecturer in this course.

The lecturer asks questions to help me think and elaborate more.

The lecturer encourages my peers and me to talk more in this course.

The lecturer makes me feel safe and welcome to share my ideas in this class.

Peers

My peers value my opinion.

I feel comfortable to share my ideas with peers in this course.

My peers ask questions to help me think and elaborate more.

My peers make me feel comfortable to share my ideas in this class.

Students' Communication Skills

After this course, I speak more fluently.

After this course, I am more confident to speak.

After this course, I am more motivated to speak.

After this course, I learn English better than before.

After this course, I want to speak English more fluently.

Part 2: Rank ordering

Instructions: Please select and place these statements in rank of the most and the least important challenges, by putting the position (1-5) against each of the following statements, number 1 being the most important and number 5 being the least important:

Challenges for students (Rank 1-5)

- a. Language problem
- b. Lack of opportunities to talk
- c. Belief that other students will talk
- d. Insufficient time to prepare to talk
- e. Fear of being judged by peers and lecturer
- f. Lack of topic's knowledge and understanding
- g. Fear of being wrong or not giving fully developed ideas
- h. Shyness to talk in English in front of peers in English classes

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