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Chao-Chen Chen
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The Theory and Practice of Group Discussion with Quality Talk

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The Theory and Practice of Group Discussion with Quality Talk

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Foreword

Quality Talk (QT) is a pedagogical approach aimed at facilitating students' discussions and critical-analytic thinking of a text to achieve high-level comprehension. It has been adopted in various learning contexts, including English as a Foreign Language. English has, for decades, been a compulsory course offered at the tertiary level in Taiwan, though the required credit hours and course contents can vary greatly among universities. Some programs emphasize language skills such as reading and writing; others focus predominantly on linguistic elements like lexical and grammatical analyses. There are also programs that focus on academic skills and contents (English for Academic Purposes, EAP; or English for Specific Purposes, ESP). The publication of this book, which focuses on small-group discussion in university English language classes, is a milestone. The contributors of the chapters in this book all taught in the same English program and adopted QT to promote in-depth reading, idea-sharing, and critical thinking.

QT was introduced to the group by Professor Karen Murphy from the Pennsylvania State University. Prof. Murphy gave workshops and provided support to a group of English teachers who were teaching one of three-semester required courses for first- and second-year university students at National Taiwan Normal University (NTNU). Following the workshops, a group of English teachers who were seeking to improve form-focused Freshman English instruction implemented the ideas of QT in their classes and wrote up their classroom cases. The chapters in this book showcase the results of this classroom implementation results.

In the first chapter, Prof. Karen Murphy sets the tone for QT by introducing the theories and empirical studies conducted by the QT Team at the Pennsylvania State University. The subsequent chapters were contributed by English teachers in the Common Core Program of NTNU. They explore how QT was perceived by their students and how students' English language proficiency levels and academic backgrounds affected the type of questions they asked. Chapter 2, written by Wan-Hsin Lee, describes how lower-proficiency English learners perceived QT's discussion-based learning mode vs. traditional teaching approaches as well as how different media such as comic strips and videos affected their discussion. Along the lines, in Chapter 3, Mei-Lan Lo and Kason Chien explore students' perceptions of QT

and factors contributing to the quality of their discussion. In Chapter 4, Hsiao-Ling Hsu examines the different types of questions used by students from different academic disciplines, i.e., Science and Engineering, Humanities and Liberal Arts, and Social Science and Education. In Chapter 5, Li-Hsin Ning explores how text types as well as students' personality traits—for example leadership—affected students' choices of question types. In Chapter 6, Hung-chun Wang, explores the effects of QT by analyzing students' questions and their perceptions. The final two chapters were contributed by (Bess) Yu-Shien Tzean; the first focuses on the extent that QT enhanced students' perspectives on the text content they read and, in turn, their critical thinking and verbal communication skills. The second chapter focuses on exploring relationships between students' background knowledge of the content and the variety, depth, and scope of the questions.

One distinctive feature of the book is that the contributors are all experienced teachers in the English program at NTNU but have all started afresh with the QT approach. They themselves are reflective teachers and learners who look for evidence of the effects of this new approach. Despite the encouraging results of these studies, the teachers and students still had to deal with the ingrained expectations of the traditional approach, one that is lecture-based and test-oriented. Nevertheless, the QT emphasis on group exploration and meaningful discussion is being considered for curriculum-wide implementation in NTNU's English program. I would like to commend the contributors for taking the initiative and striding forward to try a new approach that broadens their own as well as their students' views on language learning.

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From Theoretical Roots to Empirical Outcomes: The Interdisciplinary Foundations of Quality Talk in Taiwan

P. Karen Murphy and The Quality Talk Team

Abstract Critical, reflective dialogue is essential for enhancing students' interactions with text and content. During productive discussions, students learn to reflect, refine, and expand their understandings through collaborative and challenging exchanges with teachers and peers. Such exchanges demand a discourse-intensive and contextually responsive pedagogical approach. In this chapter, we introduce such an approach to productive small-group discussions called Quality Talk (QT). Specifically, we delineate QT's theoretical roots and summarize its empirical foundations. After which, we present the core elements of QT as well as our iterative refinement of QT to meet the needs of teachers and students across various contexts. We highlight the importance of recontextualization when *remaking* QT and present QT implementation in various domains or cultural contexts. Further, we provide empirical findings for each version of QT implementation from our program of QT research. Finally, we summarize why QT has worked effectively over time.

1 Introduction

Critical, reflective dialogue is vital to the health and the well-being of the human condition. It is what fuels human ingenuity, compassion, questioning, learning, and knowing, and mitigates the potential for the oppressive dehumanizing of others (Shor & Freire, 1987). It is a function as old as language and utterly central to the socially-situated pursuit of understanding shared by teachers and students. Within a classroom setting, productive dialogues or discussions are predominantly collaborative, open-ended episodes of talk among all members of a learning community. The goal

Members of the Pennsylvania State University Quality Talk Team contributing to the writing of this chapter include: Liwei Wei, Rachel M. V. Croninger, and Sara E. Baszczewski.

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of such discussions can vary from encouraging reasoning and problem-solving to comprehension or literary appreciation (Murphy, Wilkinson et al., 2017). Regardless of these varied goals, productive classroom discussions welcome multiple voices and diverse perspectives, transforming teaching and learning into an experience that is more dialogic than didactic, more transactional than transmissionary, and more irresolute than resolute (Murphy, 2018).

Although there are various techniques designed to foster classroom dialogue (e.g., Book Club, Raphael & McMahon, 1994; Questioning the Author, Beck & McKeown, 2006), we focus our attention in this chapter on a theoretically-driven and empirically-supported approach to small-group, classroom discussion called Quality Talk (QT). QT is a teacher-facilitated discussion approach whose central pedagogical aim is to foster students' critical-analytic thinking and reasoning *about*, *around*, and *with* text and the ideas it conveys. We begin the chapter with a select theoretical grounding of discussion as it relates to classroom learning. Given the focus of this volume, we attend primarily to the disciplines of philosophy, psychology, and education, paying particular homage to three transformative thinkers whose writings ground QT, John Dewey, Lev Vygotsky, and Paulo Freire. The insights of these three have proven especially influential as we set out to plant the seeds of QT in South Africa and Taiwan, environs socioculturally unique from the United States where QT first took root. With an awareness born of years of scholarly partnership and collaboration, we appreciate that even small differences in the environment can bring about subtle but relevant changes in what is implanted. Therefore, we first describe the empirical roots of the QT intervention, including the models for discussion and professional development that grew out of the empirical grounding. Then we consider the variants of the QT intervention that have sprung forth in the diverse sociocultural environs where that intervention has been implemented, and the empirical findings that have been reaped. Finally, we close with thoughts on the promising new developments emerging in Taiwan and about the future of QT as a way to sustain meaningful dialogue and fuel positive human interaction.

2 Justifying Quality Discussions

Recordings of discussion or talk as a pedagogical tool for enriching students' thinking date to the earliest written documents in both Eastern and Western traditions (Palmer, 2001). Indeed, we find praise for quality discussions in the writings of Eastern and Western philosophers spanning the course of history from ancient times to the Medieval period and into the Modern era. Whether the sources are the words of Confucius or Plato in the fourth- and fifth-century BCE, the Hindi Canon from second-century CE, the treatises of Locke and Hume in the seventeenth century, or Dewey's essays that span the nineteenth and twentieth centuries, there is ample justification for embedding quality discussions in learning environments (see Murphy, Wilkinson et al., 2017 for extended overview of these traditions).

A key understanding gleaned from this extensive body of writings is that responding to humanity's most vexing questions is, in part, a social endeavor that demands sound justification—justification that can withstand a barrage of counterarguments. Further, it becomes evident that fruitful discussion must be cultivated over recurring points in time such that ideas can be revisited, reexamined, and refined given the changing nature of the human condition. Indeed, discussions can transcend the boundaries of a person's lifetime. Although it seems that there are basic quandaries, such as the relation between language and thought or mind/body dualism, that may never be resolved through critical, reflective dialogue, there are untold questions that can be fruitfully explored through quality discussions. As John Dewey (1916) explained: "Discussion is…bringing various beliefs together; shaking one against the other and tearing down their rigidity…it is conversation of thoughts; it is dialogue—the mother of dialectic…" (pp. 194–195). Through this *conversation of thoughts*, individuals singularly or as part of a *social assemblage* begin to develop a sense of logic and embrace the value of meaning-making. Dewey (1916) held that with repeated exposure to critical, reflective discussions, individuals would internalize this type of weighing and evaluating of evidence as a habit of mind.

3 Conceptualizing and Recontextualizing Quality Talk

While philosophical writings lend support for the use of critical, reflective discussion, the array of psychological theories—be they cognitive, sociocultural, or dialogic—elucidates the mechanisms by which discussion contributes to thinking and reasoning. From a cognitive perspective, discussion is seen to promote active engagement in meaning-making from text and content (McKeown et al., 2009), elaboration and explanation of understanding (Fonseca & Chi, 2011; Hatano & Inagaki, 2013), and evaluation of claims and evidence (Greene et al., 2016). From a sociocultural perspective, a particularly high value is placed on language as a mechanism for thinking (Vygotsky, 1978). Essentially, Vygotsky (1978) held that children develop language to express their ideas or thoughts using the tools and signs of their culture. With repeated exposure to critical, reflective discussions, children eventually internalize the discourse community as the voice of "social others" guiding their thoughts. Thus, like Dewey, Vygotsky valued discussion for its ability to foster students' co-construction of knowledge and understandings about content, to internalize ways of thinking that promote knowledge acquisition and refinement, and to forge habits of mind needed for meaningful learning (Cobb, 1999; Wells, 2007).

In addition to the rich lineage of work exploring discussion enacted as pedagogy and mental processing, there have been substantial considerations of discussion or dialogue that traverse philosophy, psychology, and education as they unfold within and across social and cultural boundaries. Among the notable thinkers who have contributed to our understanding of the social and cultural implications of discussion are Karl Marx (Marx & Engels, 2004) and Charles Cooley (1902). Although the scholarship of these two individuals emerged from vastly different fields, their

writings richly and independently established the powerful role that discussion plays when individual, society, and culture are not treated as separate entities. As we have asserted (Murphy,Wilkinson et al., 2017), one of the remarkable advantages of discussions about text and content is that it exposes students to a variety of views and perspectives—views that cannot be disentangled from the society or culture from which the views arose. Indeed, what we read in Dewey, Vygotsky, and Cooley is that critical-analytic discussions provide a "looking glass" through which students become cognizant of the extent to which their interpretations, explanations, perceptions, or understandings are intimately intertwined in the fabric of their socially- and culturally-embedded experiences.

As we have begun to collaborate with colleagues to recontextualize QT for diverse contexts, we have had numerous opportunities to consider and reconsider what constitutes QT's core elements and needs to be treated as foundational and what is more reflective of our Western social and cultural dispositions. In these considerations, we have been profoundly influenced by the writings of Paulo Freire (2000). Like Dewey and Vygotsky, Freire held that dialogue is an epistemic position. That is to say, the process of coming to know, while an endeavor of an individual mind, requires a social, dialogic component where ideas and understandings could undergo social rumination. This social rumination, as Freire tells us, "seals the relationship" between the learner (i.e., "cognitive subjects"), the knower (i.e., "the subjects that know"), and those trying to learn (i.e., "who try to know") (p. 13). Beyond sealing the relationship, dialogue exposes understandings to the knowledge and experiences of the participants, which necessarily enriches and situates the object of knowledge within a cultural context. Dialogue also provides a forum for achieving a socially verifiable accounting of what one knows—a reckoning and parsing of the claims, reasons, and evidence of group members leading to co-constructed, examined understandings (i.e., *knowledge*; Murphy, 2007, 2018).

As an educator, key aspects of Freire's written work pertained to the processes of knowing and coming to know as it occurred in schools, particularly through students' interactions with teachers and text. In *Pedagogy of the Oppressed* (Freire, 2000) and subsequent work (e.g., Shor & Freire, 1987), Freire avers that schools are plagued by narrativity and that far too many schools and teachers endorsed and enacted a "banking concept" of education. In the banking concept, the role of the teacher, the authoritative, narrative storyteller, is to make knowledge deposits in the bank, which students can then withdrawal. Freire (1998) warns that this banking conception gives way to a "mechanical transference from which results machinelike memorization" (p. 22). By contrast, Freire proposes a problem-posing conceptualization of teaching and learning in which learning is theorized as "…a process where knowledge is presented to us, then shaped through understanding, discussion and reflection" (p. 22). In such a scenario, the roles of teachers and students are multi-faceted (Wei & Murphy, 2018). The teacher, as a knowledgeable other, still plays a primary role as information presenter, but the goal is for students to critically examine the information as a central feature of coming to know or comprehend. Necessarily, this process of comprehending is achieved through meaningful, productive discussions about text and content.

As Freire suggested, this is not a natural or easy process for teachers or students. "Comprehension needs to be worked, forged, by those who read and study…it [comprehension] is a patient and impatient exercise on the part of someone whose intent is not to know it all at once but to struggle to meet the timing of knowledge" (Freire, 1998, p. 23). Through this process, the teacher and students participating in the dialogic process of examination, jointly and individually, taking part in a transaction about, around, and with the text or content. Importantly, the dialogic transaction with the text or content provides opportunities for students to compare and position the new knowledge within and against their prior knowledge and experiences. In so doing, students construct or co-construct new texts and new content that reflect their knowledge and experience (Wells, 1989).

Moreover, Shor and Freire (1987) insisted that dialectical teaching should not just be considered a "mere technique" (p. 13) used to achieve some result or to make students our friends. Rather, the purpose and intent of dialectical teaching should be to enhance critical reflective thinking thereby coming to know what we know and do not know through challenging communication. In essence, dialectical teaching should enable students to know what they know and do not know, and over time it should contribute to students' capacity to transform their reality. Although it is difficult to gauge the extent to which a given form of dialogic pedagogy will enhance students' ability to transform their reality (i.e., longer-term distal effects), it is possible to gather proximal indicators regarding the extent to which dialogic methods transform the ways that students examine their understandings using critical, reflective talk (i.e., academically productive). Indeed, what is evident in the extant, contemporary literature is that methods of discourse-intensive teaching (e.g., classroom discussions) vary greatly, with some forms of dialogic talk leading to academically productive communications and others maintaining didactic communication (Mehan, 1979; Murphy et al., 2009).

Freire (2000) also often wrote about the extent to which pedagogy is intricately interwoven with culture and context. A pedagogical approach cannot simply be packaged in one place and transported to another place with the expectation that it will operate identically. Dialogic pedagogies must be useful to teachers and students within a given culture or context, embodying the lived experience of those within that community. Freire eloquently exclaimed that people should not simply try to *make* his notions of dialogic pedagogy work in their new context, but rather people should *remake* his dialogic pedagogy to be meaningful for their cultural context (i.e., situated pedagogy). It is this goal of collaborative remaking of QT to meet the needs of the educators in a given context and culture that have steered our international work with scholars in South Africa, mainland China, and Switzerland, and as is evidenced by the remarkable scholarship in this volume, Taiwan.

4 Empirical Bases for Quality Talk

The initial conceptualization of the Quality Talk discussion model grew out of a series of empirical investigations exploring: (1) the characteristics of text-based classroom discussion approaches, including key instructional parameters, such as who leads the discussion (Wilkinson et al., 2019); (2) the effectiveness of the various approaches in promoting comprehension and critical thinking (Murphy et al., 2009); and (3) the nature of the discourse that unfolds during the enactment of each approach (Soter et al., 2008).

4.1 Instructional Parameters in Classroom Discussion

Discussion approaches can be characterized by a set of parameters that establish the instructional boundaries regarding its enactment (e.g., small-group or whole-class discussion). In essence, each parameter references a key decision that the researchers make about how discussions about text should transpire. Wilkinson et al. (2019) characterized the instructional parameters of nine discussion approaches that have undergone empirical testing (i.e., Collaborative Reasoning, Paideia Seminar, Philosophy for Children, Instructional Conversations, Junior Great Books Shared Inquiry, Questioning the Author, Book Club, Grand Conversations, and Literature Circles).

Thirteen specific parameters were analyzed for each of the aforementioned approaches, including (1) whether an expressive (i.e., gain a lived-through experience), efferent (i.e., gather information), or critical-analytic (i.e., weigh and evaluate the information presented) stance toward text (i.e., the goal for reading) is being promoted. It was also noted who (2) has interpretive authority, (3) controls turn taking, (4) sets the topic of discussion, (5) chooses the genre, (6) selects the specific text to be read, and (7) determines when reading actually occurs. The parameters also included (8) whether the structure is whole class or small group, (9) how groups are composed, (10) whether discussions are teacher or peer led, and (11) the degree of emphasis on the author's intentions. Wilkinson et al. found that the nine approaches varied the most in terms of their stance toward text, who is given interpretive authority, and who controls turn taking during discussion. Moreover, there appeared to be a relation between the predominant stance and whether teacher or students had interpretive authority or regulated turn taking. Specifically, discussions espousing an expressive stance were more likely to give greater control of discussion to the students, whereas approaches espousing an efferent stance were characterized by greater teacher control. What cannot be surmised from this detailed characterization that Wilkinson et al. proffered was whether the differences among discussion approaches were aligned with documented growth in students' text-based learning.

4.2 Meta-Analysis of Discussion Approach Effectiveness

As a complement to the Wilkinson et al. review (2019), Murphy et al. (2009) conducted an exhaustive meta-analysis of the effects of those nine discussion approaches on the frequency and duration of student and teacher talk and students' basic and high-level comprehension. A key finding derived from this meta-analysis was that while most discussion approaches were effective at promoting student talk and decreasing teacher talk, not all discussion approaches were effective at promoting high-level comprehension. That is, increases in students' talk were not necessarily accompanied by concomitant increases in students' comprehension or critical-analytic thinking. What appeared to be critical in enhancing students' high-level comprehension was not the frequency of student and teacher talk but the *kind* of talk that was occurring. Specifically, what was most associated with high-level comprehension was *shared control* of the discussion and interpretive authority between the teachers and students, and *productive talk*, which is talk that promoted critical analysis of text.

4.3 Discourse Analysis of the Talk

Subsequently, Soter et al. (2008) obtained discourse examples from the identified discussion approaches to analyze their discourse features, attempting to identify the specific discourse elements that characterize productive talk. After analyzing and evaluating the vast amount of discourse transcripts, the authors identified discourse features that serve as proximal indices of high-level comprehension. These discourse features included the use of open-ended authentic questions (i.e., questions with no pre-specified or expected, correct response), uptake of previous talk (i.e., a question that builds upon something a previous speaker said), individual and co-constructed explanations, and the presence of reasoning words (i.e., words thought to signal student reasoning like because, so, or if-then). Taken together, these empirical findings served as the foundation for the initial conceptualization of the QT discussion model.

5 The Quality Talk Intervention

As stated, the QT intervention is a teacher-facilitated approach to text-based discussions aimed at increasing students' critical-analytic thinking and reasoning *about*, *around*, and *with* text and content. As shown in Fig. 1, the QT intervention encompasses three interrelated dimensions: (1) a professional development (PD) model, (2) teacher professional competence, and (3) a discussion model.

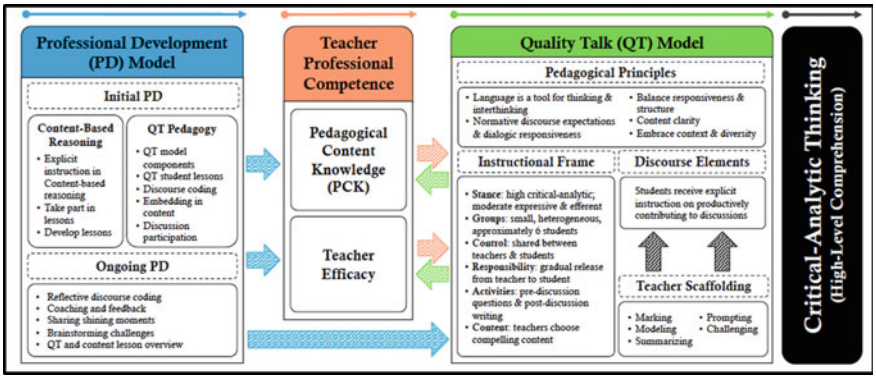

Fig. 1 Theoretical model of the QT intervention

As elucidated in the ensuing sections, these three dimensions interact reciprocally to promote students' critical-analytic thinking. Teachers receive initial professional development pertaining to content-based reasoning and the QT discussion model, which helps to establish teachers' initial competence for facilitating QT discussions in a given content area (e.g., chemistry or literacy). As teachers begin to implement the QT model and face the challenges associated with altering their approach to guiding instruction in a specific content domain, and their students work to modify the ways they interact with their teacher and their classmates through discussion, we provide teachers with individualized, ongoing professional development. The implementation of QT with ongoing support reciprocally enhances teachers' pedagogical competence and subsequently improves their discourse-intensive pedagogy. As teachers' discussion pedagogy transforms and their students become more accustomed to these new ways of interacting with each other around and with text and content, their ability to think critically and analytically undergoes development.

5.1 Professional Development Model

QT does not occur organically. For many teachers, engaging in QT discussions requires a significant change in how they conceptualize the role of classroom dialogue in teaching and learning (Wilkinson et al., 2007). As such, teachers often have to reconceptualize teacher and student roles and make corresponding shifts in their pedagogical practices when implementing QT. The QT professional development model was designed to support such shifts, and is comprised of two components: initial and ongoing professional development (for details of the professional development, see Murphy & Firetto, 2018; Murphy, Greene, & Butler, 2017; Murphy, Greene, & Firetto, 2018).

As displayed in Fig. 1, during the *initial professional development*, teachers become familiar with the QT discussion model, and learn how to implement the

model in their classroom. To aid in implementation, teachers are provided with a set of lessons plans and accompanying slide presentations (i.e., QT discourse lessons) that are used to teach students how to: (1) ask various types of questions, (2) make well-reasoned, justified responses, (3) meaningfully consider the positions of others, and (4) alter their positions when warranted based on the available evidence.

During this initial PD, teachers also learn how to analyze the quality of the talk that takes place during their small-group discussions using a tool called *DRIFT* (i.e., Discourse Reflection Inventory for Teachers). By learning how to code their discussions, teachers come to recognize when students' talk is reflective of critical-analytic thinking. Over time, this awareness enhances teachers' ability to facilitate more meaningful discussions by utilizing discourse moves—utterances that teachers make to ensure students are engaging in critical, reflective dialogue (e.g., prompting or challenging). Teachers take part in practice discussions with other teachers both in the role of facilitator and participant. This interactive practice helps teachers understand what it is like to lead and participate in QT discussions. Finally, teachers collaborate with our research team to explore better ways to infuse the QT intervention into their instructional environment and their lesson-based content (i.e., QT-enhanced lessons).

To further support teachers' pedagogical competence, we provide *ongoing professional development*, approximately once per month during implementation. During these sessions, discourse coaches (i.e., individuals trained in the QT intervention) and the teachers use *DRIFT* to examine a 10-min segment of a discussion video from the teacher's classroom. This form of coding and coaching provides a non-judgmental environment for teachers to assess the quality of their discussions, identify strengths of the discussions, engage in collaborative problem-solving, and set goals for future discussions. Ongoing professional development also provides teachers with opportunities to review upcoming QT and content lessons.

5.2 Teacher Professional Competence

Teachers' professional competence encompasses their pedagogical content knowledge and efficacy. Teachers' *pedagogical content knowledge* (PCK) is content knowledge that "goes beyond knowledge of subject matter per se to the dimension of subject matter knowledge for teaching" (Shulman, 1986, p. 9); that is, teachers' understanding of how to facilitate discussion-specific pedagogy in a particular academic domain (e.g., mathematics) with a certain group of students. Rooted in Bandura's (1977) self-efficacy theory, we understand teacher efficacy as teachers' perception of their ability to facilitate productive discussions in a given content area (Tschannen-Moran & Hoy, 2001). In our view, as teachers increase their PCK, they are increasingly able to perceive and codify meaningful patterns of talk, which allows them to successfully explain, model, and demonstrate productive talk as well as facilitate meaningful interactions with and between students and subsequently, along with

ongoing professional development, increases their efficacy. Indeed, there is convergent evidence that teachers' PCK and efficacy impacts students' learning during discussions (Murphy, Greene, & Butler, 2017; Murphy, Greene, Allen et al., 2018; Murphy, Greene, Firetto, 2018).

5.3 Discussion Model Components

The final dimension of the intervention is the QT discussion model (Fig. 1). The QT discussion model consists of four components: instructional frame, discourse elements, teacher scaffolding, and a set of pedagogical principles. The *instructional frame* gives prominence to a critical-analytic stance supported by moderate levels of the expressive and efferent stances. Teachers and students share control of the discussion with teachers choosing compelling texts and content while gradually releasing control of the discussion to students, affording students interpretive authority and control of turn taking. Students also participate in pre-discussion activities (e.g., generating questions, scientific models, or main ideas). As part of the instructional frame, discussions take place in small, heterogenous groups.

Discourse elements refer to the indicators of productive talk within students' verbal interactions. For instance, during productive discussions students pose authentic questions about, around, and with the text and content that are meaningful to them and that elicit high-level thinking (e.g., generalization, analysis, or speculation) as well as forge affective and intertextual connections. During productive discussions students also ask questions that build on what has already been said (i.e., *uptake*) and engage in argumentation to explain and justify their thinking while also challenging others' reasoning, evidence, or justifications. During the intervention, teachers implement a set of discourse-specific lessons designed to bolster students' discursive skills including how to ask and respond to questions. Over time students internalize productive discursive practices about text and content including how to activate relevant content knowledge, scrutinize sources of reasoning and evidence, justify their thinking, or modify their understandings to accommodate new or refined knowledge.

The third component, *teacher scaffolding,* emphasizes a set of moves (i.e., marking, modeling, summarizing, prompting, and challenging) that teachers can use to facilitate productive talk during QT discussions. *Pedagogical principles*, the fourth component, refers to a set of guiding principles that provide a foundation for fostering a discursive environment that empowers students' perspectives and ideas. Foremost among these are: recognizing language as a tool for thinking and interthinking, setting normative discourse expectations that balance responsiveness and structure during discussion (i.e., discussion rules), establishing shared responsibility and interpretive authority, and embracing context and diversity. Together these four components establish the foundation for a dialogic community within the classroom

where teachers and students possess the knowledge of how to take part in content-based productive discussions that lead to deeper, more meaningful thinking and reasoning.

6 Quality Talk Implementation

Over the last 15 years, we have collaborated with teachers and other educational stakeholders to implement the QT intervention in a multitude of settings that varied in school type, teacher experience, content area, student age, language, socioeconomic strata, culture, and continent, which are key aspects to the context of implementation. As Shor and Freire (1987) suggested, it has been necessary to collaborate with key educational stakeholders to "remake" aspects of the QT intervention such that it is useful and sustainable in a given context. Through this collaborative remaking, however, we also found that some aspects of QT implementation are fundamental to the success of the intervention. With this section, we highlight what we perceive as core aspects of QT intervention implementation procedures as well as how implementation has varied to meet the needs of teachers and students across different contexts.

Within our program of research, we have implemented QT in multiple domains following a set of procedures central to the QT intervention approach (see Fig. 2). For instance, initial and ongoing professional development was present in all of our studies. During professional development, teachers were able to acquire QT pedagogy that informed the knowledge, understanding, and enactment of the multi-faceted teacher and student roles as the intervention unfolded. Next, QT discussion lessons and texts or QT-enhanced content lessons were used as teachers delivered content necessary for students to bolster their knowledge of discourse practices as an engaged learner. Every implementation of the intervention, encouraged teachers to use some form of instructional materials to scaffold students' participation in the discussion (i.e., pre-discussion activities: writing questions about the text or activity), establish and reinforce normative expectations for discussion (i.e., ground rules like "if we don't understand we ask 'why'"), and craft activities that encourage independent examination of their understanding (i.e., post-discussion activity: written response to a thought-provoking, content-related question). Finally, it was fundamental that students take part in a sufficient number of facilitated discussions to allow for the

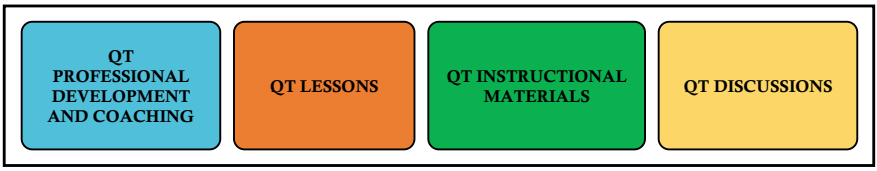

Fig. 2 Key implementation procedures for QT

acquisition of the discourse skills and the epistemic abilities (e.g., critical, reflective thinking). Our own experience has been that teachers and students must take part in at least 10 discussions, in conjunction with teacher professional development and students' explicit instruction in QT discourse elements, to maximize teachers' professional competence and students' critical-analytic thinking and reasoning. For QT interventions implemented in the content domains of language arts and science as well as multilingual contexts, we highlight the "remaking" of the QT intervention by showcasing how the content of the domain was interwoven into the QT approach.

6.1 Language Arts

Our QT elementary language arts projects included a series of QT writing lessons to align with the instructional goals and teachers' needs in the context of language arts. Students utilized QT literacy journals with vocabulary activities as well as scaffolds and graphic organizers to practice their writing of various genres (e.g., argumentative or comparative). Indeed, a promising transfer effect of the QT intervention is its influence on students' written argumentation (Firetto et al., 2019; Long et al., 2014; Wei et al., 2019). After receiving explicit QT writing lessons, students become more familiar with these argumentation components and how they can be represented in the written form. In so doing, students enhance oral argumentation as well as written argumentation about discussed and non-discussed or novel texts.

6.2 Science

Although QT was originally conceptualized for use in language arts instruction, the intervention has also been "remade" for high-school science. A recontextualization of QT for high-school physics and chemistry learning was accomplished through the revision of the QT lessons on discourse elements. These QT lessons, initially designed for language arts, were subsequently modified to include science-specific content and examples for physics and chemistry students. Further, QT science implementation also incorporated QT-enhanced science lessons that emphasize the importance of model building and reasoning in teaching scientific concepts and phenomena. Instead of using QT literacy journals, a QT catalyst was designed and developed as a way to prepare students for discussions with places to write authentic questions, record observations from experiments, and organize their scientific arguments.

6.3 Multilingual Contexts

As QT has been implemented in various multilingual contexts such as South Africa, Taiwan, and mainland China across an array of domains, recontextualizations specific to QT implementation were prevalent (see other chapters in this volume for examples regarding QT implementation in Taiwan). An example would be the training of student discussion leaders in South Africa and mainland China. In these two contexts, classroom resources were limited due to large classes. A consequence is that the teacher cannot sit with each discussion group to facilitate their discussion. Therefore, to ensure effective implementation of QT discussions, student discussion leaders were trained to help facilitate their respective discussion group. In the study conducted in mainland China, periodic feedback was also provided to student discussion leaders to help them *transform* into effective facilitators in their group. Another recontextualization essential to these multilingual contexts is based on the fact that students' limited language proficiency in the target language may impede their participation in QT discussions. In fact, in the study conducted in mainland China, QT discussions were conducted in two languages, namely Mandarin and English with Mandarin-speaking eighth-grade students in their English learning classroom. The discussions took place alternately during the intervention, making it easier for low-English proficiency students to adjust to the climate of small-group discussion and engage as best as they could (Wei, 2019; Wei & Murphy, 2019; Wei et al., under review). Similarly, in South Africa, code switching and students scaffolding language for each other was encouraged (Murphy, 2018).

7 Empirical Support for the Quality Talk Intervention

As described in the previous sections, the QT discussion model was developed based on empirical results of the most effective classroom practices for fostering productive discussion. Since its inception, QT has been implemented in a variety of domains and cultural contexts, where the components of QT model were stressed and followed. The findings from these studies have been used to further refine and recontextualize QT to fit the aims and perspectives appropriate for each setting. For example, when first implemented in elementary language arts classrooms for the purpose of promoting high-level comprehension, we tested the effectiveness of QT to improve comprehension. In that study QT was compared to the TWA reading strategy (Mason, 2013) and to a hybrid of the two (Li et al., 2016). Results indicated that students participating in the QT intervention and hybrid approach showed promising gains in oral reading fluency and individual reading comprehension, measures indicative of basic and high-level comprehension, while students in the TWA condition did not. Further, students in the QT and hybrid conditions both showed growth in the number of authentic questions asked and in the number of elaborated explanations posed and

exhibited significantly more discourse elements than students in the TWA condition. These results suggested that the design of QT with its emphasis on questions that instigate critical-analytic thinking and on shared interpretive authority played a significant role in facilitating students' comprehension development.

Building from these findings, a second QT language arts study examined the effects of homogeneous versus heterogeneous ability grouping on students' reading comprehension (Murphy,Wilkinson et al., 2017). Students were grouped in either heterogeneous or homogeneous low-, middle-, and high-ability groups to participate in QT discussions. Overall results were consistent with previous findings in that QT significantly increased students' basic and high-level comprehension. Moreover, students in heterogeneous groups experienced, on average, greater gains in high-level comprehension than those in homogeneous groups. Interestingly, low-ability students displayed the greatest gains in basic comprehension, even outpacing high-ability students, although their gains in high-level comprehension were the lowest. An examination of student and teacher discourse revealed that low-ability students in homogeneous groups tended to ask questions *about* the text rather than questions *around* or *with* the text. Teachers also tended to facilitate these groups differently in ways that likely reinforced this orientation toward discussion. In effect, when working with the low-ability groups, teachers' prompts or challenges were focused on the explicit meaning of the text, whereas with high-ability students those prompts and challenges reached beyond the literal text to critical questions about that textual content or what it implied.

In a last, quasi-experimental study focused on QT in elementary language arts, Murphy, Greene, Firetto et al. (2017) examined the effects of students' participation in QT compared to students receiving a literacy intervention with a strong empirical record of effectiveness in increasing students' comprehension and writing (i.e., Guided Reading Intervention and Leveled Literacy Intervention [LLI]; Fountas & Pinnell, 2010, 2017). Results indicated that while all participants showed growth in high-level comprehension during the first half of the implementation, only QT treatment students continued to grow over the second half of the implementation. Further, teacher feedback indicated that they strongly believed in QT as a method for increasing students' critical-analytic thinking in language arts, and that they saw QT as a viable intervention for other content areas. As with those participating teachers, we had come to recognize the potential for QT in other academic subjects, as well as with older students, and had undertaken studies in high-school chemistry and physics classrooms.

Specifically, we set out to test the effectiveness of QT in fostering high-school students' discussion patterns, conceptual understanding, and written argumentation in chemistry and physics classes (Murphy, Greene, Allen et al., 2018). What we found was that students in the treatment group asked more authentic questions, their responses were more elaborate and informative (i.e., elaborate explanations), they verbally collaborated with group members to achieve deeper understanding (i.e., cumulative talk), and were more likely to challenge or counter the remarks of others (i.e., exploratory talk). Students receiving the QT intervention also manifested more indicators of critical-analytic thinking in their discourse, and showed more substantial

improvement in their written argumentation than non-QT students. Specifically, the QT students were able to craft higher-quality, scientifically accurate arguments to support their understanding of scientific phenomena than their non-QT peers.

In addition to results indicating the positive effects of QT on students' productive discourse and ability to engage in scientific argumentation, an analysis of teacher discourse from the quasi-experiment revealed that incidence of treatment teacher questions and teacher moves decreased over time, while comparison teacher discourse displayed no such changes, and in fact asked more test questions at posttest (Murphy, Greene, Allen et al., 2018). This underscores the importance of not only initial but also ongoing professional development in supporting teachers' ability to effectively facilitate student discussions. It is also important to note, however, that treatment teachers did utilize a relatively high number of questions and teacher moves even at posttest, which highlights the challenges of implementing QT with struggling learners. These students have little experience with science learning environments in which they are asked to actively participate in scientific practices and construct their own understanding. As such, teachers' professional vision for cultivating productive discourse with low-achieving students must be nurtured in order to ensure that students' contributions to discussion are not devaluated while also ensuring that their understanding is aligned with normative science explanations (Schneider & Plasman, 2011).

Another study examining QT science discussions indicates that teacher presence has an additional impact upon the discussion groups' social regulation of learning (Dragnic-Cindric et al., 2018). Small-group discussions with intermittent versus full teacher presence were compared for student engagement and regulation of learning, with results suggesting that teacher presence moderated students' engagement with each other and their participation in group-level regulation. For example, when teachers were fully present for a discussion, they were likely to set goals for the group and monitor progress throughout the discussion; however, without the teacher present, students had the opportunity to take on these roles for themselves. The findings indicate that teachers' regulation of group processes may also be important to discuss during initial professional development and ongoing coaching.

As QT has expanded into international settings, the intervention has been recontextualized to meet the needs of different academic contexts and cultures. In an effort to build collaboration and foster participatory action in recontextualizing the QT intervention for use in a remote, rural South African school setting, we conducted a yearlong descriptive case study of the literacy practices in three secondary school English language classrooms. During this study, we identified a number of constraints in the context that would likely influence the success of the QT intervention including "teaching and learning resources, class size and teacher workload, limited teacher training, insufficient support for teachers and a mismatch between the national curriculum and assessment guidelines" (Sefhedi, 2019, p. 207). Although the teacher in this study valued the pedagogical principle of talk as a tool for thinking and interthinking, she struggled to overcome the traditional culture of pedagogy in which education is enacted through the transmission of knowledge. Much like Freire's

(2000) banking concept of education, the teacher was seen as the depositor of knowledge and the student was tasked with making withdrawals. Other challenges were that the students did very little reading or writing in English or speaking in class. However, we also found that there were a number of factors that would enable the teachers and, consequently, the QT intervention to be resilient in the face of such constraints. For example, supportive and knowledgeable school leadership was identified as essential to meeting the needs of a teacher attempting to implement QT, teachers' enthusiasm for altering their pedagogy to help their students, students' eagerness to learn how to engage in critical-analytic talk, as well as strong relationships between the researchers and teachers (Leask, 2019).

Initial results from our ongoing implementation of the QT intervention in a low-resourced rural school in South Africa appear promising with dramatic decreases in teacher talk, dramatic increases in student talk, and descriptive gains in comprehension outpacing a comparison classroom (Leask, 2019). As one student noted, QT altered the dialogic culture in the classroom: "…when Mam [teacher] was teaching us because I was afraid to raise a hand and tell Mam that I don't understand somewhere but now with my group I can tell them that guys, help me I don't understand here…" (Leask, 2019, Appendix E. 7: Interview, L40). Perhaps most telling, however, are the teachers' and students' expressions regarding how QT was different from their prior instruction and how it changed the learning the classroom: "It is different because we…in Quality Talk we ask certain questions and the other way that we used to learn is just, we read the story and read the question, go back to the story that's the way we used to understand the story so with QT we go deeper, relate the story with the outside world and yha [sic] that's it" (Leask, 2019, Appendix E.7: Interview, L19). A clear take-away from our work in South Africa is that the compatibility of QT with the current classroom culture is essential to bringing about change in teachers and students.

In mainland China, QT was implemented with a group of native Mandarin-speaking eighth-grade students taking English language classes (Wei, 2019). In a quasi-experimental study examining the effect of QT on Mandarin-speaking students' English language proficiency (i.e., reading, writing, listening, and speaking), students in the treatment condition participated in a total of ten QT discussions: five in Mandarin, and five in English. Results showed that the implementation of QT did not significantly impact students' English reading, listening, and speaking. It is possible that increasing the number of discussions in English may have led to significant findings in this area, as our own research has shown that students participate in at least 10 discussions in the target language in order to see improvement in the quality of the talk (Murphy & Firetto, 2018). Notably, the study revealed that the QT intervention had positive effects on the quality and quantity of students' written argumentation in English, particularly their ability to craft written arguments in a literacy journal. These findings suggest that QT may be a fruitful intervention approach to improve students' written argumentation skills even in the context of foreign language learning.

Finally, despite the clear need for recontextualization of the QT intervention approach to ensure successful implementation in a given cultural setting, a study

comparing QT outcomes from the United States, South Africa, and mainland China suggests that there are marked similarities between the progression of QT discussions in all three contexts (Croninger et al., 2018). One example of this is teacher and student talk patterns. At baseline, teachers control the discussion and ask the majority of the questions. As the implementation progresses, however, students generally take on more interpretive authority, so that by the final discussion, students are asking the majority of the questions and are interacting directly with each other as opposed to just the teacher. Additionally, student talk tends to become more sophisticated over time, with students gradually increasing their use of evidence and reasoning to support their conclusions; by the end of the intervention, students are often engaged in sophisticated talk moves such as using counterarguments and rebuttals as they interact with peers. It is also interesting to note similarities between South Africa and mainland China not present in the United States, such as the occurrence of students' code switching when engaging in sophisticated discourse that requires critical-analytic thinking.

Moreover, we have every reason to believe that similar results will emerge from our esteemed Taiwanese collaborators who take part in "remaking" QT to optimize its utility for their college-level students in their English-language learning classes. Indeed, as these scholars will describe in this volume, in some cases the remaking gave way to impressive changes in students' critical-analytic thinking and reasoning as evidenced in their dialogue and their written responses. In other cases, more "remaking" of QT will be necessary to achieve the long-term goals of the larger university community. In turn, it is our intention to explore ways that what is learned from the contextualizations and varied instantiations of QT can inform future uses of the pedagogy in our own communities.

8 Summary and Conclusion

What is overtly clear from the available empirical findings is that QT works. Regardless of the content area (e.g., elementary language arts or high-school science), school (e.g., rural), or culture (e.g., South Africa or mainland China), implementation of QT fosters students' critical, reflective discussion and transactions about, around, and with text and content. While there are likely a number of factors contributing to the success of QT, we would like to highlight just a few. QT worked in such diverse contexts because we collaborated with teachers, invoking their knowledge of their students, content area, school, and community, to flexibly yet methodically "remake" QT to fit the needs and nature of the educational context, including what counts as knowledge and knowing (Shor & Freire, 1987). QT worked because teachers provided explicit instruction in discussion and gradually released responsibility and interpretive authority to students as they worked to co-construct understanding through critical, reflective discussion. QT worked because it provided a forum where students could collectively shake each other's ideas, beliefs, and understandings against one another and test their rigidity (Dewey, 1916; Freire, 2000;

Vygotsky, 1978). Finally, it worked because teachers abandoned what Freire (2000) referred to as a banking concept of pedagogy in favor of a problem-posing pedagogy where the responsibility for transacting with text and content lies both with teachers and students. Moreover, we have every reason to believe that participation in QT will have the long-term effects that Freire (2000) called for in his writings. That is, ultimately, participation in QT will give way to classroom communities in which teachers and students engage in critical, reflective dialogue that transforms reality. What follows are the highlights of this chapter:

- To successfully implement a discourse-intensive pedagogical approach such as Quality Talk, it is essential that researchers form a collaborative partnership with the teachers to recontextualize the intervention in accordance with the context of classroom, domain, community, and culture.
- To help students successfully conduct productive discussions, teachers need to provide explicit student instruction on how to formulate thought-provoking questions and reasoned arguments and gradually release responsibility and interpretative authority to students during discussions.
- To ensure the effect of small-group discussions on promoting students' thinking, it is crucial that such reflective discourse takes place in an open participation mode and with the understanding that knowledge lies in the transaction between students and the text or content rather than the transmission of information from teachers to students.
- As teachers recontextualize Quality Talk intervention for a given domain or culture, they may consider adapting the materials for explicit instruction, pre- and post-discussion activities as well as texts or content selected for discussions to ensure they are domain- or culture-relevant.
- With respect to specific classroom context such as large classes, teachers may assign student discussion leaders to facilitate respective small-group discussion. Notably, student discussion leaders also need feedback and coaching such as teacher modeling of effective discourse moves to facilitate a productive student discussion.
- In a school or cultural environment where open participation mode of instruction is rare, it is important that school leaders and teachers recognize the importance of students engaging in critical and reflective dialogue and consider using discourse-intensive approaches to transform teacher and student talk in the classroom.

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"Some Questions Are Sophisticated, So I Have to Answer Them in Sophisticated English": On Quality Talk in Low-Achieving EFL Classes

Wan-Hsin Lee

Abstract Quality Talk (QT) has been adopted in classroom discussion to facilitate critical-analytic thinking (Murphy et al., 2014) and to create a student-centered learning environment through peer interaction. Classroom discourse is thus indicative in that it indexes how much students have learned. In EFL classrooms, the implementation of QT positions English discourse as both a subject and a medium. The chapter records how the instructor followed the instructional frame and discourse levels of the QT components in low-achieving EFL courses at the university level in Taiwan. The chapter aims at addressing pedagogical concerns which students and instructors may encounter. Specifically, this chapter discusses the implementation of QT from three dimensions: (1) how the students' linguistic/discourse elements were built to engage in English discussion, (2) how classroom materials, other than readings, facilitated QT implementation, and (3) how QT as a new pedagogy was viewed by students.

1 Introduction

Quality Talk (QT henceforth), a social constructivist learning approach which can be traced back to Vygotsky (1978) and which advocates that learning takes place in social context, emphasizes the facilitative role of in-class discussion in achieving higher-level comprehension (Murphy, 2018; Murphy et al., 2018). This pedagogical approach, adopted in a variety of disciplines such as science (e.g., Murphy et al., 2017) and reading (e.g., Li et al., 2016) on a native-language basis, was incorporated in an EFL context in this study. This study reflects on the year-long implementation of QT in two Freshman English courses in a university in northern Taiwan to address the related pedagogical concerns. Drawing from the discussion recordings, the students' feedback and the instructor's observation, this reflection chapter addresses feasibility and difficulty of implementing QT in EFL contexts. It will be presented that English

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serving as both a subject and a medium in EFL classes makes QT implementation doubly challenging and rewarding.

This reflection chapter was inspired by the realization that language barriers could potentially be a hurdle, as shown in one student's feedback in (1) and an extract of in-class discussion from one of the two Freshman English courses in (2) (Chinese Romanization is in italics, and English in bold).[1]

(1) *Some questions are sophisticated, so I have to answer them in sophisticated English.*
(2)

Turn	Speaker	Notes	Code/Types
2	Zoe	**Why did Joey and Chandler leave the baby,** ('Why did Joey and Chandler leave the baby,')	**TQ**
3	Elaine	**O?** ('Oh?')	
4	Iris	**In the bus?** ('in the bus?')	
5	Zoe	*En***?** ('hmm?')	
6	Debbie	**On the** ('On the')	
7	Iris	**[On** (.) **on.]** ('On, on')	
8	Debbie	[*Eh*?] ('Eh?')	
9	Elaine	**On=**	
10	Zoe	**=In the bus** (.) **on the bus.**	
11	Debbie	[*Eh*?] ('Eh?')	
12	Zoe	**[On] the bus.**	
13	All	*((laugh))*	
		…(17 turns omitted)…	

(continued)

[1] The discourse coding follows the coding manual by Murphy et al. (2017). The transcription conventions adopted from Stivers, Mondada, and Steensig (2011) are shown below.

(.)	short pause
=	latching,
[ ]	overlapping
underlined	stress and loudness
((laughter))	Non-speech sounds

(continued)

Turn	Speaker	Notes	Code/Types
30	Iris	*Shi* **in** *ma*? *Hai shi* **on**? ('Is it 'in' or 'on'?')	
31	Elaine	**In the bus** *ba*? **On** *dehua* (.) *bujioushi* (.) *dao che waimian? Jiu* **on** [*shi zai*] *biaomian.* ('It should be 'in the bus.' If it's 'on,' doesn't it mean that we are on the top of the bus? I mean, 'on' means surface, right?')	
32	Debbie	[*Keshi,*] *wo yizhi jeude you* **on** [*zhe ge*] *yinxiang.* ('But I somehow vaguely remember it should be 'on.")	
33	Iris	[*Dui a.*] *Hoaxing shi* **on** *ye.* ('Yeah. It seems to be 'on'.')	
34	Elaine	*Eh*? ('Eh?')	
35	Iris	*Hao xiang she* **on** *ye* (.) *Suiran haishi zai limian.* ('It seems to be 'on,' though they are still in the bus.')	
36	Elaine	*((laughs))*	
37	Zoe	*Haoxiang dou dui ye.* ('Both seem correct.')	
38	Debbie & Elaine	*((laugh))*	
39	Iris	*Dou keyi ba* (.) *yinggai.* ('Then both are fine, I suppose.')	
40	Elaine	*((laughs)) Hao* (.) *na women jiu bu jiujie xijie.* ('OK. Then let's not fuss about minor details.')	
		…(2 turns omitted)…	
43	Zoe	**So** (.) **Joey and Chandler leave the baby** (.) **on** (.) **the bus,** ('So Joey and Chandler left the baby on the bus.')	
44	Debbie	*((laughs))*	
45	Elaine	**On the bus** ('On the bus.')	
46	Zoe	**or in** (.) **the bus.** ('or in the bus.')	

A student in (1) reflected on how sophisticated language is required to answer sophisticated questions. A group of students in (2) attempted to settle a grammatical issue regarding "on" or "in the bus." These demonstrate that implementing QT in EFL classrooms poses additional difficulties and that quality of language is not the sole concern. Research has shown that increase in quantity of talk does not indicate higher comprehension (Murphy et al., 2009, 2014) and that quality, not quantity, cultivates critical thinking ability (Croninger et al., 2018). However, when students probably find English difficult and distant, how to remove discouraging obstacles and

to engage them in English discussion deserves an instructor's attention during the QT implementation. Starting from acknowledging potential language barriers, this reflection chapter addresses pedagogical concerns of practicing QT in low-achieving EFL classrooms, including linguistic barriers, multimedia materials, and students' feelings of disorientation.

This chapter contains five sections. Section 2 specifies the students' background, data sources for analysis, and the implementation procedures. Section 3 presents the findings and discussion. Pedagogical implications and the conclusion are presented in Sect. 4.

2 Methods

2.1 Participants

The QT approach was implemented in two freshman English courses for two semesters (36 weeks in total). The students were assigned to classes for learners at Basic English proficiency level according to their English scores at the college entrance exam. The majority of the students came from colleges of education, liberal arts, arts, technology and engineering, and music. The two classes consisted of mainly Taiwanese students and also overseas students from Malaysia, South Korea, Macau, Hong Kong, and Mainland China. Mandarin Chinese is used as a common language among the students. The classroom instruction was chiefly in English, sometimes followed by Chinese. Only data from students who stayed for two semesters and signed the online consent forms were analyzed in this study. Due to privacy concerns, pseudonyms are used.

2.2 Design

The instructor followed and adapted the instructional frame and the discourse elements in QT implementation. Though QT works as a complete pedagogical framework, the implementation was necessarily adapted in response to the pretest and an information sheet the students completed. Most students shared negative comments on their past learning experiences and considered speaking English frightening. Moreover, the pretest showed that the students seldom read beyond the texts. They took essentially efferent stances toward course materials (see Rosenblatt, 1978 for stances toward texts). The instructor took these into consideration and set the implementation goals. The students were expected

1. to distinguish between test questions and authentic questions,
2. to raise and answer authentic questions in English, and
3. to further comment on each other's responses to authentic questions.

QT was incorporated in different in-class activities with repeated demonstrations by the instructor and by the other classmates. The mini-lessons were not used because the instructor could keep the instruction language contextual, and less metalinguistic to adjust to the students' proficiency levels. The discussion format was broken down into smaller tasks. This allowed the instructor to familiarize the students with both discursive elements and the structure of discussion within a controllable time in a class meeting. During the in-class discussion the instructor walked around to offer help but did not intervene much. The procedures in the fall and spring semesters are described below.

2.2.1 Procedure in the Fall Semester

To create a light-hearted learning environment and to motivate the students to discuss, QT was first implemented through introducing sitcom clips and English songs. With visual information, the students were expected to comprehend when they missed linguistic cues. Increased comprehension could prepare them better for later engagement in discussion.

Clips from the U.S. sitcom *Friends* were used for QT implementation. The discourse in *Friends* corresponds largely to naturally occurring communication (Quaglio, 2008). Its' portrait of daily life in apartments and at a café could guide students to learn to take expressive stances (see Rosenblatt, 1978). The clips were played to the students without subtitles several times before they were presented a number of questions from the instructor. In the first half of the fall semester, the students worked collaboratively to answer mainly factual questions in English. The concepts of test questions and authentic questions were introduced in the second half of the fall semester. The instructor divided questions into two groups on the slides and explained how they were different. Two weeks later, the students started to practice raising questions and answering those from peers. The students discussed in groups to come up with one test question and one authentic question during the practice session. The students recorded their discussion and the instructor walked around to offer further guidance. These questions were collected and shown to the class. The students then chose one test question and one authentic question from their peers to discuss. The discussion was recorded.

The introduction of English songs was also separated into two stages. Initially, songs were presented with more emphasis on vocabulary. The distinction between test questions and authentic questions was introduced in the second half of the semester. The students were presented with questions on the slides or handouts. Then, the students took turns to present an English song in a group of four. They were required to prepare handouts with lyrics and questions for comprehension (test questions) and questions for discussion (authentic questions). Examples of their questions are shown in (3a, 3b).

(3a) *What would you do when you face the challenge? To persist or to give up of your dream that hurt you a lot, what would you choose?*

(3b) *What will you do when being alone?*

In the fall semester, the discussion remained formulaic in a question-and-answer pattern.

2.2.2 Procedure in the Spring Semester

Sitcom clips and English song presentations were replaced with comic strips in the spring semester due to the following concerns. First, comic strips allowed the instructor to emphasize speaking as the students learned to describe individual pictures and then to summarize stories in their own words. They needed to generate longer utterances, which were an obvious sign of improvement for the students. This helped build their confidence and further motivated them to engage in discussions. Second, because an enormous amount of information remains unspoken in comic strips, the students took more interpretive control, which prompted more in-depth thinking and discussion (see Murphy & Firetto, 2018; Wei & Murphy, 2018; Wu et al., 2013). Third, though comic strips were expected to pose more challenges to students compared to English songs and sitcom clips, the students could still rely on pictures for comprehension (Hadley & Terry, 2001; Liu, 2004).

In the first half of the spring semester, the students learned to describe single pictures and then a sequence of pictures. The ideas of factual information, inferential meanings, and personal feelings were gradually introduced to the students toward the second half of the spring semester. These instructions aimed at enriching the contents of their discussion. They practiced narrating and expressing how they felt about these comic strips. The students also learned to provide reasons to their statements, to ask and answer hypothetical questions, and to respond to others' answers. The instructor provided expressions and patterns which helped students organize complex sentences. For example, grammar patterns of the subjunctive were reviewed and placed next to comic strips on the slides.

The procedures of QT training were also adapted. The number of students in one group was lowered to 2–3 peers they were familiar with to prompt a higher degree of willingness to communicate, as identified by Cao and Philip (2006), Mullen and Copper (1994), and Wu et al. (2013). Though the design contradicted with the heterogeneous grouping advocated in QT, the instructor expected the students to acknowledge their improvement through sustaining longer speech turns and producing longer utterances in more close-knit interactive situations. Moreover, the allotted time for discussion was extended from 15 to 20 minutes. Furthermore, after their group discussion, the students were encouraged to share their stories with the class. The sharing activity was intended to prepare students for speaking English in front of a larger group. No correction was made by the instructor on the spot so the students learned that errors were acceptable. Nonetheless, mistakes which led to misunderstandings were summarized and corrected later, before the class meeting was dismissed.

2.3 Data Collection and Analysis

Four types of data were collected along the implementation processes: *Information sheets, written data, recording data, and reflection sheets.* These are discussed in turn in the following.

1. *Information sheets.* At the orientation, each student filled out an information sheet (see Appendix A), designed to elicit information regarding their attitudes toward their English proficiency. A total number of 52 responses were analyzed.
2. *Written data.* The students practiced raising questions on activity sheets during class meetings before and at the early implementation stage in the fall semester. A total number of 124 written questions from two in-class activities were collected and only one question was found to be authentic.
3. *Recording data.* The students' discussions were recorded and transcribed for analysis. The study analyzed recordings of two in-class discussions, one in the fall semester and the other in the spring semester.

   (i) Discussion on a clip from the sitcom *Friends* (Season 2, Episode 6). Ross, a father to a baby boy Ben, accidentally ate a kiwi and suffered from a serious allergy. Having to urgently leave for the hospital, he had to ask Joey and Chandler to babysit. When Joey and Chandler took Ben for a stroll, they accidentally left him on the bus. In the end, they found Ben and another missing baby at the Health Services. Unable to recognize Ben, Joey and Chandler decided to flip a coin.

   (ii) Discussion on a Peanuts comic strip on https://www.gocomics.com/peanuts/1988/11/01. Sally and Charlie Brown[2] were waiting for the school bus. Snoopy, also with them at the bus stop, was eager to get on the school bus. Charlie Brown told Snoopy that dogs were prohibited from getting on the school bus. Hearing this, Sally barked.

4. *Reflection sheets.* The students completed a reflection at the end of the spring semester (Appendix B). The students were required to reflect on all the in-class activities. Only feedback directly related to QT was analyzed for the study. They could choose to remain anonymous or to identify themselves. In total, sixty reflection sheets were collected. 37 reflections were returned with names and 23 remained anonymous.

[2] The instructor mistakenly placed the name "Lucy" next to Sally on the screen in class. The "Lucy" in the transcripts below in fact referred to Sally.

3 Findings and Discussion

3.1 Findings

3.1.1 Language Barriers

The tension caused by their relatively low command of English was palpable, particularly in the fall semester. To encourage the students to at least talk around English, Chinese was not entirely prohibited in the discussion. The discussion was found to involve metalinguistic talk mainly in Chinese. The students then collaborated to translate what they had discussed into English, as presented in (4).

(4)

Turn	Speaker	Notes	Code/Types
5	Lillian	*Wo zai xiang shuo* **test question** *keyi wen shuo jiushi zuihou weisheme ta yao shuo* **I had the kiwi, run, Joy, run**. ('For the test question, I was thinking we can ask why he said, "I had the kiwi, run, Joey, run."')	
6	Jill	*Keyi a* (.) *keshi gangcai yingpian limian de doukeyi wen ma*? ('OK. Can we ask any question based on the clip')	
7	Lillian	[*Dui a.*] ('Yes.')	
8	Jill	[*Na*] *ye keyi wen shuo na tamen zuihou yong sheme fangshi jueding yao* (.) *daizou nayiwei xiaohai.* ('Then, we can also ask how they decided which baby was Ben.')	
9	Lillian	*Ye keyi a.* ('That will do as well.')	
10	Kyle	*Na yao xie cheng yingwen a.* ('Then we have to write it in English.')	
11	Jill	*En* (.) **what's way** (.) *fangshi* **what's way** ('Erm, how, the way, how')	
12	Kyle	**they** [**choose**] ('they decide')	
13	Jill	[**does**] (.) **do** (.) **did** (.) *yinwei shi guoqushi a* (.) **did** (.) *na liang ge shi shei a*? **Joey and** ('does, do, did, because it's in the past, did, who are they? Joey and?')	
14	Kyle	*Jiu shuo* **they** *jiu xing le ba.* ('We can simply use "they."')	
15	Lillian	*Jiu* **they**. ('Then, "they."')	
16	Jill	*Hao,* **they**. ('OK, "they."')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
17	Kyle	**They choose baby** ('[How did] they decide which baby [was Ben]?')	
18	Jill	**They** (.) **choose** (.) *daizou daizou* (.) **take away** *((laughs)) na bushi nazou ma*? ('they decide to, take, take, "take away." Doesn't that mean to "take way"?')	
20	Lillian	*Jiu* **choose baby** *jui hao.* ('I think just "choose baby" will do.')	
21	Jill	*Yeshi keyi a.* ('I think so')	

As seen in (4), the students discussed in Chinese (turns 1–8) when they tried to provide a test question. Kyle stated that they had to be able to phrase the question in English (turn 10). From turns 11 to 21, they collaborated to translate the question from Chinese into English. During the discussion, three further questions (turns 13, 14, and 18) about language use suggest their insecurity of their English competence, as also seen in (2).

This "discussion first and translation later" strategy was common, leading to significantly reduced discussion in English. As shown in (5a), when answering an authentic question, the group exchanged their opinions in Chinese.

(5a)

Turn	Speaker	Notes	Code/Types
3	Hallie	*Ni hui leyi zhaogu nage* **Ben** *ma*? *Wo hui ai, ruguo zhiyou yixiaxia* (.) *yitian dehua.* ('Would you be willing to take care of Ben? I would, if for a while or for a day.')	AQ/CQ
4	Sandy	*Wo jujue.* ('I refuse to.')	
5	Abby	*Wo ye jujue.* ('I refuse to.')	
		…(2 turns)…	
8	Hallie	*Keshi ruguo zhiyou yitian huo jige xiaoshi lie*? ('Not even for a day or for just a few hours?')	AQ/SQ
9	Abby	*Keshi zhiyou tamen qu kanyisheng de naduan* (.) *naduan shijian.* ('But only for the time when they were in the hospital.')	
10	Hallie	*Ha*? ('What?')	
11	Abby	*Tamen kanyisheng kan name jiu.* ('That was a long visit to a doctor.')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
12	Hallie	*Yinggai shi buhui ba. Ruguo jizhen song yi song zuiduo ye yitian a.* ('Probably still no. If they got to the emergency room, it would take a day at most.')	
13	Sandy	*Yao kanyisheng kan yi tian*? *Hao lei o* (.) *zhaogu xiaohai.* ('It took a day to see a doctor? Taking care of a baby is tiring.')	
14	Abby	*Shi wo wo hui xian kan nage xiaohai daodi ke bu keai.* ('As far as I'm concerned, I'd see if the baby is cute.')	
15	Sandy	*Yao kan shou bu shou.* ('It depends on how familiar we are with each other.')	
16	Abby	*Guai bu guai.* ('It depends on whether the baby is well-behaved or not.')	
17	Sandy	*Yao kan* [*shou bu shou.*] ('It depends on how familiar we are with each other.')	
18	Abby	[*Shou bu shou.*] ('Familiarity.')	
19	Sandy	*Dui.* ('Right.')	
20	Abby	*Keshi wo juede buyao bang* (.) *suibian bang renjia zhaogu.* ('I don't think it's a good idea to offer to babysit.')	
21	Hallie	*Keshi ruguo shi ni pengyou de xiaohai lie.* ('But what if it were your friend's baby?')	AQ/CQ
22	Sandy	*Na yao kan pengyou dao sheme chengdu.* ('It depends on how familiar we are.')	
		…(4 turns)…	
27	Hallie	*Na ruguo shi xiongdi lie*? *Xiang* (.) *dui a xiang* **Monica?** ('If it were your sibling's baby, like you were Monica?')	AQ/CQ
28	Sandy	*Wo di de xiaohai zhilei de.* ('Or my brother's kid.')	
29	Hallie	*Dui a.* ('Yeah.')	
30	Abby	*Na shi ta zhizi ma*? ('Is Ben her nephew?')	TQ
31	Hallie	*Dui a. Zhizi.* ('Yeah. It's her nephew.')	

Hallie first translated the English question into Chinese (turn 3) before they discussed in Chinese. Several questions were also raised in Chinese (turns 8, 21, and 27) regarding whether they would offer to babysit their sibling's baby. After their discussion, their translated responses into English were notably reduced, as seen in (5b).

(5b)

Turn	Speaker	Notes	Code/Types
65	Hallie	**If you were Joy and Chandler, would you be willing to take care of Ben?**	AQ/CQ
66	Abby	**No**.	
67	Sandy	**No**.	
68	All	*((laugh))*	
69	Hallie	*Haohao di huida. Ruguo shi keai de xiaohai lie?* ('Take it seriously. What if the baby were cute?')	AQ/SQ
70	Sandy	**No**.	
71	Abby	**Erm no**.	
72	Hallie	*Ku ku* (.) *Shangxin.* ('How sad!')	
73	Sandy	*Jibenshang haishi yao kan jiaoqing.* ('Still, it depends on how familiar we are.')	

The speculation questions in (5a) revealed the students' willingness to discuss. Yet, they retreated to simple English in (5b). This revealed that the students had the motivations to discuss. However, they were not equipped with the language ability with which they could verbalize their thoughts. This suggests that instructors could offer useful expressions and adoptable grammar patterns that the students could refer to, which was what the instructor did in the spring semester.

The instructor constantly mulled over three questions of whether Chinese is allowed during discussion, whether errors should be modified immediately, and whether an overview of related vocabulary is necessary. These are questions without simple answers, especially when learner autonomy and strategies are also taken into consideration. These questions are worth exploring and demand further academic attention.

3.1.2 Course Materials

The different materials expectedly posed different degrees of challenge for both the instructor and the students. According to the students' reflections concerning the most challenging in-class activities, 17 students mentioned comic strips, 7 referred to sitcom clips and two voted for English song presentations. Discussion on comic strips was found the most challenging as the students needed to fill in what the pictures and conversation bubbles did not tell. To check comprehension and to strengthen their interpretive skills, test questions were deployed as guidelines to help students summarize the stories before the students engaged in asking and answering authentic questions. During summarizing and asking questions, the students also learned to listen to others, to collaborate to reach a precise interpretation, and to develop their own strategies.

This leap from sitcom clips which are comparatively rich in contextual information to comic strips which are less explicit took efforts and time. Some students found the activity to be challenging (in 6a and 6b), beneficial (in 6c and 6d), or both (in 6e).

(6a) *I couldn't understand American humor.*
(6b) *I needed to figure out what the comic strips were about first. Some of them were so sophisticated that I didn't quite get it why they were funny.*
(6c) *I needed to express my thoughts in English, and this was what made me improve the most.*
(6d) *Comic strips are interesting. They make me think.*
(6e) *It's easier to remember what I looked up on the Internet when I thought about stories. I could be more fluent when I described what happened in the comics.*

In addition to their feedback, the recording also showed their confusion about inferred meanings in comic strips. Extract (7) explicates that the students read texts at a surface level.

(7)

Turn	Speaker	Notes	Code/Types
60	Jill	**Maybe she** (.) **maybe she think** (.) *en* (.) *yinggai shuo* (.) *en* (.) *wo xiang yixia o* ('Maybe she thought, how should I say it? Give me a second.')	
61	Lillian	*Haishi jiushi yinwei ta xue goujiao zhihou* (.) *ranhou nage* (.) **Charlie** *jiu buneng shuo* (.) *gou buneng shangche.* ('Is it because Charlie couldn't stop her from getting on the bus even if she pretended to bark.')	
62	Jill	*((laughs))*	
63	Lillian	*Jiu zhineng liangge yiqi shangche.* ('Then both she and Snoopy could get on the bus.')	
64	Jill	*O you keneng* (.) *na yinggai shuo nage.* **Maybe** (.) **maybe** (.) *en* (.) *deng yi xia* (.) **because Charlie** (.) **Charlie said** (.) **dog** (.) **are** (.) **are not allowed** (.) [**on the school bus**]. ('That could be possible. Because Charlie said, "Dogs are not allowed on the school bus."')	
65	Lillian	[**On the school bus.]** ('On the school bus.')	
66	Jill	**And she** (.) **want to** (.) **know** (.) *e* (.) **when she imitate dog roaring, what's** (.) *e* (.) *fanying fanying* (.) *fanying* (.) *fanying de.* ('She wanted to know how Charlie would react to her barking.')	
67	Lillian	*O* (.) *haishi jiu shi* (.) *kan nage* **Charlie** *huibuhui* **change his mind**. ('or we can say to see whether Charlie would change his mind.')	
68	Jill	*Dui dui dui. Jiu shi yao kan ta de nage* ('Exactly, we can see')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
69	Lillian	*Meiyou a.* ('No.')	
70	Jill	*O.* ('Oh.')	
71	Lillian	*Jiu buyao xiang fanying. Jiushi huan ju hua shuo.* ('Then don't think about how to say "react to" [in English].' We can phrase it in a different way.)	
72	Jill	*Na jiushi* (.) *e* (.) **She** (.) **she want to know** (.) **when she** (.) **imitate dog roaring**. ('Then, she wanted to know whether, when she pretended to bark,')	
73	Lillian	**Charlie will** (.) **change** (.) **his mind or not**. ('Charlie would change his mind or not.')	
74	Jill	*O keyi keyi keyi* (.) **Charlie** (.) **change** (.) **his mind or not**. *Hao. Keyi.* ('Good. Whether Charlie would change his mind or not. Ok. Good.')	

Extract (7) showed that comprehension of the comic strips was still challenging and that therefore comprehension check was still necessary. Challenging tasks such as narration also saw the students develop their own strategies. In (7), Lillian urged Jill to rephrase *fanying* "react to" with a different English phrase, rather than struggle for a direct translation.

The students were found to develop their own learning strategies. As shown in (8), Elaine and Debbie collaborated, monitored each other's comprehension, and offered their opinions when they encountered interpretation difficulties.

(8)

Turn	Speaker	Notes	Code/Types
2	Debbie	**In the first picture** (.) **we can see that Charlie said sorry to Snoopy and he said that Snoopy cannot go with them. Because** (.) **dogs aren't allowed on the school bus**. ('In the first picture, we can see that Charlie said sorry to Snoopy and that Snoopy couldn't go with them, because dogs weren't allowed on the school bus.')	
3	Elaine	**Then**, **Charlie's friend** (.) *en* ('Then, Charlie's friend, erm,')	
4	Debbie	**Lucy.** ('Lucy.')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
5	Elaine	**Lucy** (.) **Lucy says woof** (.) **The reason she did that is** (.) **is because she want** (.) **she wanted to help Snoopy to go to school with them**. (Lucy said, "Woof." Because she wanted to help Snoopy to go to school with them.)	
6	Debbie	*Bushi ba.* ('I don't think so.')	
7	Elaine	*En? Bu* (.) *bushi ma*? ('You don't think so?')	
8	Debbie	*Wo* (.) *wo juede* (.) *wo de lijie shi* (.) *ta shi shuo* (.) *jiushi yinwei* **Lucy** *buxiang shang xiaoche. Jiushi ta buxiang qu xuexiao.* ('My understanding is that Lucy didn't want to get on the school bus. She didn't want to go to school.')	
9	Elaine	*Hao.* ('OK')	
10	Debbie	*Women jiu* (.) *women jiu jixu* (.) *hao* (.) *suoyi* (.) *suoyi na women gai di san ti* (.) *di san ge jiu shi* (.) **in the third picture** (.) **we can see that Lucy woof because she doesn't want to go to school and she do- and she** (.) **she woofs so that she couldn't (.) erm (.) take (.) go on the school bus**. 'OK. Then we move to the third picture. In the third picture, we see that Lucy barked because this way she didn't have to get on the school bus.'	
11	Elaine	*O.* 'Oh.'	
12	Debbie	*En. ((laughs))* ('Hmm')	
13	Elaine	*Hao. Zhe yinggai caishi zhengque de lijie. ((laughs))* ('OK. This is the accurate interpretation.')	

When Elaine wrongly interpreted the contents, Debbie interrupted Elaine and offered her interpretation in Chinese at turn 6. Debbie and Elaine swiftly reached an accurate interpretation and switched back to English. Debbie's comment (turn 10) revealed that she was able to listen to Elaine's English critically and offered her opinion immediately. Through talking about comic strips, the students learned to interpret texts on their own. The cooperative nature of learner talk to reach an accurate interpretation has also been discussed by Atwood et al. (2010), who suggested that knowledge is constructed along in-class interaction.

The ability of self-monitoring was also evidenced in their reflection and their acts of repairing in the discussion. A student reflected on how beneficial it was to listen to his/her own recording, shown in (9).

(9) *I can listen to my own pronunciation. I can also detect some problems when I listen to the recording again.*

A pair of students, Iris and Zoe, polished up their narration after their first attempt to summarize the story, as presented in (10a).

(10a)

Turn	Speaker	Notes	Code/Types
7	Iris	**In the first picture**. ('In the first picture,')	
8	Zoe	**In this** (.) **erm** (.) **in the first picture** (.) *haishi shuo* **in the morning**. ('Do we say "in the first picture" or "in the morning"?')	
9	Iris	*O* (.) *ye keyi.* ('Oh, great idea.')	
10	Zoe	**In the morning** (.) **Charlie and Lucy are going to school** (.) **and they are waiting for bus**. ('In the morning, Charlie and Lucy headed for school and they were waiting for the school bus.')	
11	Iris	*En.* ('Hmm.')	
12	Zoe	**In the** (.) **at the bus stop**. ('At the bus stop.')	
13	Iris	**And** (.) **and Charlie** ('And Charlie')	
14	Zoe	**saw** (.) **Charlie saw Snoopy** *ranhou ne?* ('Charlie saw Snoopy. And what's next?')	
15	Iris	**And** (.) **and he said sorry Snoopy** (.) **you can't go with us** (.) **does** (.) *o* **dogs are not allowed on** (.) **allowed on the school bus.** ('And Charlie said, "Sorry, Snoopy, you can't go with us. Dogs are not allowed on the school bus."')	
16	Zoe	**And** (.) **and** (.) **when Lucy heard that** (.) **and she pretend as a dog** (.) **she woof a sound**. ('Hearing this, Lucy presented that she were a dog and woofed.')	
17	Iris	**She** (.) **she** (.) **didn't want to go to school**. ('She didn't want to go to school.')	
18	Zoe	**Because she didn't want to go to school** (.) *zheyangzi ma* (.) *na women zhong fushuo yibian.* ('Because she didn't want to go to school. Am I right? Then let's repeat again.')	
19	Iris	*Hao.* ('OK')	
20	Both	*((laugh))*	
21	Zoe	**In** ('In')	
22	Iris	*Ni xian jiang hao le.* ('Maybe you will start.')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
23	Zoe	**In the morning** (.) **Charlie** (.) **Charlie and Lucy are waiting for the bus** (.) **to school** (.) **at the bus stop**. ('In the morning, Charlie and Lucy were waiting for the school bus at the bus stop.')	
24	Iris	**And Charlie saw Snoopy and say Sorry Snoopy** (.) **You can't go with us** (.) **Dogs are not allowed on the school bus.** ('And Char lie said to Snoopy, "You can't go with us. Dogs are not allowed on the school bus."')	
25	Zoe	**And** (.) **erm** (.) **and after that Lucy heard that** (.) **she pretend as a dog** (.) **she** (.) **woof** (.) **she make a sound** (.) **she make a woof sound** (.) **so** (.) **because she doesn't** (.) **didn't want to go to school**. ('After Lucy heard this, she barked because she didn't want to go to school.')	
26	Iris	*En.* ('Hm.')	
27	Zoe	*En* (.) **so she pretend as a dog**. *En* (.) *zheyangzi ma*? ('So she acted like she were a dog. Right?')	
28	Iris	*En.* ('Hm.')	

From turns 7 to 17, the two students took turns completing the story. At turn 18, Zoe suggested that they repeat again (turn 18). The repetition indicated their willingness to work on a more polished summary and their development in learning strategies. The finding implied that though comic strips were challenging for the students, they made significant progress. Once the students passed the narration stage, they were relatively at ease about raising authentic questions for discussion, as shown in (10b).

(10b)

Turn	Speaker	Notes	Code/Types
71	Zoe	*Dui dui dui. Na wo wen.* **Do you ever done anything to not to go to school?** ('OK. My turn then. Have you ever done anything so that you didn't have to go to school?')	AQ/CQ
72	Iris	**I** (.) **actually** (.) **actually** (.) **I** (.) **like to go to school**. ('I actually liked to go to school.')	
73	Zoe	**What?** ('What?')	
74	Iris	**Because** ('Because')	
75	Zoe	**What?** ('What?')	

(continued)

(continued)

Turn	Speaker	Notes	Code/Types
76	Iris	**Because** (.) **because my** (.) **parent need to work** (.) **so** (.) **my home** (.) **so nobody in my home in the** (.) **morning**. ('Because my parents went to work, no one was at home in the morning.')	
77	Zoe	*O*. ('Oh.')	
78	Iris	**And so** (.) **so I can do nothing in my home (.) so I like to go to school more.** *((laughs))* ('There's nothing much I could do at home, so I liked to go to school.')	
79	Zoe	*O* (.) **so sad** (.) **but it's ok** (.) **now you** (.) **now you are in university now**. ('Oh that's sad. But it's ok now since you're in university now.')	
80	Iris	*((laughs))*	
81	Zoe	**So you can** (.) **you can play with your friends and study with me**. ('You can have fun with your friends and study with me.')	

Their laughter between turns and the decreasing use of Mandarin in (13b) showed that they were relatively more laid-back than they had been in (13a). These discussion extracts illustrate that the students were gradually gaining the ability to self-monitor because they did not rely on the instructor to acquire new linguistic information or to revise their errors.

Several implications can be drawn about the language barrier and material selections. First, different implementation stages brought distinct challenges. These may not occur in QT in first-language classroom contexts or advanced EFL classes. Second, the selection of materials can result in different hurdles. Lastly, as far as classes at basic levels are concerned, test questions that aim for comprehension check should be considered necessary.

3.2 Discussion: QT vs. Traditional Teaching and Learning

After the year-long implementation, most students responded positively to this new approach. One student remarked that it was interesting to know the other classmates more through communicating in English (shown in 11a). Another student also pointed out that without standardized answers he/she learned to organize her answer in complete sentences so as to make him/herself understood by others (presented in 11b). Still another student stated that answering authentic questions was a helpful practice for them (presented in 11c).

(11a) *It's interesting to know what each other is thinking about and how I can phrase my thoughts in English.*
(11b) *We will be motivated to answer in complete sentences when there is no standard answer.*
(11c) *It takes time to think even if we have to ask and answer in Chinese. It takes more efforts to do so in English. I think asking and answering authentic questions enhance both language proficiency and thinking ability.*

The implementation was demanding, but definitely rewarding to both the instructor and the students.

Nonetheless, another hurdle that both the instructor and the students had to cross concerns the traditional belief of effective teaching and learning. Differing from QT, which prompts students to take initiative roles in learning (e.g., Murphy & Firetto, 2018), the traditional ideology of learning places teachers at the center of learning, as norm providers, evaluators, and interpreters of texts; students are usually receivers with little acknowledged autonomy. Furthermore, the traditional ideology also values tests with standardized answers. A number of students expressed this view that tests help them learn better and that their answers should be commented on by the instructor, as shown in (12a) and (12b) respectively.

(12a) *Still oral exams work the best.*
(12b) *I think the usual practice on comic strips can improve our speaking. But since I have no idea whether I'm saying it right or wrong, I can only say that I practice speaking English.*

While some students picked up the habit of self-monitoring and turning to online resources, several classmates were concerned about not receiving correction from the instructor on the spot. Though most students embraced the arrangement of replacing exams with quizzes and in-class activities for their performance evaluation, several were obviously not used to the new pedagogy.

The instructor was alarmed to learn that several students still favored teacher-led and test-oriented learning, from which they had probably received a limited sense of accomplishment as comparatively low achievers. The progress which the students felt they had made in the past year was insufficient for them to "feel right" about their efforts and improvement. As some reflections were anonymous and without much elaboration, a further exploration through interviews which allow students to reflect more deeply on QT implementation can benefit both instructors and students.

4 Summary and Conclusion

This chapter notes the instructor's first attempt to implement QT in English courses. The purpose of this study is to truthfully record and reflect on the year-long implementation in Basic-Level English courses. More careful deployment and discussion of language-based instruction and material selection in future studies will surely

provide more insight in QT implementation in EFL contexts. The conclusion and implications are summarized as follows:

- This chapter describes and reflects on the implementation of QT regarding language-based instruction, material selections, and the traditional teaching ideology in basic level EFL contexts.
- During QT implementation, the students learned to differentiate between test questions and authentic questions and to engage in English discussion by raising and answering authentic questions.
- As far as basic level EFL learners are concerned, the implementation requires sufficient time to enhance their willingness to communicate, to strengthen their language skills, and to help them see their improvement.
- Test questions for comprehension check should be considered necessary and facilitative in basic level EFL contexts.
- Breaking down the discussion frames into smaller tasks familiarizes students with both the structure and discourse elements of discussion.
- A future research direction lies in the investigation of how linguistic barriers, material selections, and traditional ideology of learning and teaching can be more thoroughly examined in order to minimize their hindrance to QT implementation in EFL contexts.

Appendix A: Information Sheet

INFORMATION SHEET

Please help me know you better.

1. Chinese Name _____
2. English Name _____
3. Email _____
4. Hobbies / Interests (1)_____(2)_____
5. Your dreams (1)_____(2)_____
6. One thing you want me to know about you

   _____
7. Your expectation about this course

   _____
8. Your past experiences and feelings about learning English

   _____

   _____

Appendix B: Reflection Sheet

Dear all,
It's really nice meeting you guys. Please answer the following questions. Thank you!

1. What's the biggest improvement you made in English this year?

   _____
   _____

2. Do you think you became more confident in speaking English? Why or why not?

   _____
   _____

3. Which activity do you think helped you the most in improving your speaking skills?

   _____
   _____

4. Among all the in-class activities and presentations (English songs, sitcom (Friends), movie script, comic strips),
   a. Which one did you find the most interesting? Why?

      _____

   b. Which one did you find the most challenging/difficult? Why?

      _____

   c. Which one did you find the most boring? Why?

      _____

5. About the textbook,
   a. You found the book easy / difficult / ok.
   b. _____ readings should be covered (we did five in the fall semester, and four in the spring) in one semester.
6. We spent a lot of time learning to ask and answer *authentic questions* and they are very different from *test questions*. Do you think this helped you use and think in a different language? Why?

   _____
   _____

7. Other comments about the course are welcome. ☺ (e.g., Anything you wanted to learn but was not covered in class.)

Name _____

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Incorporating Quality Talk into the EFL College English Curriculum: Listening to Students' Voices

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Abstract This chapter aims to explore EFL college students' perception of Quality Talk (QT) and examine the factors influencing QT's implementation. The participants were thirty-one EFL freshmen from an English class in a university in northern Taiwan. Data were collected from the students' written reflections, an online questionnaire, and interviews. The results show that most of the participants perceived Quality Talk to be conducive to their English learning, especially in enhancing their English-speaking ability and improving the quality of the discussions. Moreover, they preferred the Quality Talk approach to the traditional approach. Last, they believed that the quality of the Quality Talk discussions is influenced by group dynamics, preparedness, English-speaking ability, and text features.

1 Introduction

Over the past few decades, an increasing number of teachers have started employing small-group discussions in class (Johnson et al., 2000), and many studies in second language acquisition have focused on the effects of classroom discussions on student learning (e.g., Chen et al., 2016; Dong et al., 2008; Gorard et al., 2017; Sambolin & Carroll, 2015; Saunders & Goldenberg, 1999). These studies are based on a sociocultural perspective, which suggests that learning occurs when a person interacts with an interlocutor within his or her zone of proximal development (ZPD) (Vygotsky, 1978). Proponents of this belief have done research to examine the effects of different discussion types on learning. For instance, Collaborative Reasoning (Anderson et al., 1998) was found to have a positive influence on students' critical reading and thinking in reading instruction. Questioning the Author (Beck & McKeown, 2006; Beck et al., 1998; Liu & Chu, 2008), which also employs a whole-class discussion approach, was also found to be effective in improving the students' reading comprehension and critical thinking.

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In 2009, Murphy, Wilkinson, Soter, Hennessey, and Alexander conducted a meta-analysis on the effects of nine classroom discussion approaches, i.e., Collaborative Reasoning, Paideia Seminar, Philosophy for Children, Instructional Conversations, Junior Great Books Shared Inquiry, Questioning the Author, Book Club, Grand Conversations, and Literature Circles. One of their major findings was that many of these discussion approaches were effective in increasing the students' literal and inferential comprehension, but only a few of these approaches promoted the students' critical thinking, reasoning, and argumentation. Based on the findings of this meta-analysis study, Wilkinson et al. (2010) proposed another discussion approach—Quality Talk (QT)—as a way to foster students' ability to think critically and to provide convincing arguments.

QT features "mini-lessons" that explicitly teach students how to use various discourse elements in text-based discussions (Quality Talk, 2014). The discourse elements in QT refer to the questions and the responses to those questions, including authentic questions, elaborated explanations, exploratory talk, and cumulative talk (Murphy & Firetto, 2018). Several empirical studies have confirmed the positive effects of QT on students' reading comprehension, critical-analytic thinking, and critical-analytical writing skills (Davies & Meissel, 2016; Li et al., 2016; Reninger & Wilkinson, 2010).

So far, most studies on QT have been conducted at the elementary and secondary school levels, where English was the participants' mother tongue. Empirical studies conducted in an English as a Second Language (ESL) or English as a Foreign Language (EFL) context have been scarce. Furthermore, although studies have revealed QT's positive effect on critical thinking and writing, little attention has been paid to the viewpoint of students who participated in these studies, especially in an English as a foreign language (EFL) context. According to Alvermann et al. (1996), knowing students' perception of using discussions to facilitate learning is essential because it can help teachers to solve the problems that students might encounter during discussion activities. Evans (2002) also emphasized the importance of exploring students' perceptions of group discussions so as to recognize obstacles and provide necessary support. To bridge the research gap, the current study aims to examine EFL college students' perceptions of QT by exploring the following research questions:

1. What are EFL college students' perceptions of integrating Quality Talk into a college general English course?
2. Do EFL college students prefer the Quality Talk approach to more traditional teaching methods? Why or why not?
3. What factors, such as group dynamics and English-speaking ability, influence Quality Talk discussions?

2 Methods

2.1 Participants

Thirty-one college freshmen (29 females and 2 males) from a university in northern Taiwan participated in this study. The participants were recruited from an intact general Freshman English class for non-English majors. Students in that university are required to take three general English classes for three semesters and earn six credits in total. Most of the participants were females (93.5%) from the College of Education (61.3%), whose English proficiency was between B1 and B2 according to the Common European Framework of Reference for Languages (CEFR).[1] Outside of the classroom, the most common way for the participants to practice their English was watching video clips (61.3%), and the majority of them (61.3%) considered English-speaking the most challenging of the four language skills. The demographics of the participants are shown in Table 1.

2.2 Design

The study was conducted in the Autumn semester of 2017 for 18 weeks. Over the 18 weeks, nine mini-lessons about discourse elements (six about authentic questions and three about responses[2]) were taught by the instructor with PowerPoint slides shared by Dr. P. Karen Murphy, one of the developers of QT. The students were divided into seven groups of four or five. Throughout the semester, the students in each group took turns to lead the discussions. They stayed in the same group for the discussions of Units one, two, four, and five. For the discussion of Unit three, two students in each group were asked to rotate to a new group.

The five reading materials used in this class were from *Q: Skills for Success Reading and Writing 4* (Daise et al., 2011). Before class, the students were asked to preview the assigned readings and prepare questions that they wanted to discuss with their group members. The schedule of the QT instruction and discussion is shown in Table 2.

[1] The CEFR divides language proficiency into six levels: A1, A2, B1, B2, C1, and C2. Based on CEFR's descriptors, if a student's language proficiency is in B1 level, he/she "has enough language to get by, with sufficient vocabulary to express him/herself with some hesitation and circum-locutions on topics such as family, hobbies and interests, work, travel, and current events." If a student's language proficiency is in B2 level, he/she "has a sufficient range of language to be able to give clear descriptions, express viewpoints on most general topics, without much con-spicuous searching for words, using some complex sentence forms to do so" (Council of Europe, n.d.).

[2] Students were only asked to produce oral responses, not written responses, which is a limitation of this study.

Table 1 Demographics of the participants

		Count	%
Gender			
	Female	29	93.5
	Male	2	6.5
College			
	Education	19	61.3
	Management	2	6.5
	International Studies and Social Sciences	7	22.6
	Music	3	9.7
Outside-of-class learning activities			
	Reading (Books, Magazines)	14	45.2
	News	1	3.2
	Video Clips (YouTube, VoiceTube, Movie, TV Series)	19	61.3
	Songs	7	22.6
	Conversation Class	1	3.2
	Listening Practice	1	3.2
English proficiency			
	GSAT[a] (12)	2	6.5
	GSAT (13)	9	29
	GSAT (14)	11	35.5
	AST[b] (< 80)	1	3.2
	AST (>=80)	1	3.2
	GEPT[c] (Intermediate)	12	38.7
	TOEIC[d] (< 800)	4	12.9
	TOEIC (>=800)	6	19.4
	TOEFL[e] (>=90)	1	3.2
Most challenging skill			
	Listening	2	6.5
	Speaking	19	61.3
	Reading	3	9.7
	Writing	7	22.6

Note $N = 31$
[a]General Scholastic Ability Test
[b]Advanced Subject Test
[c]General English Proficiency Test
[d]Test of English for International Communication
[e]Test of English as a Foreign Language

Table 2 Schedule of the QT instruction and discussion

Week	Date	Topic
1	09/15	Introduction
2	09/22	Small-Group Discussion: Unit 1
3	09/29	Multiculturalism
4	10/06	QT Mini-lesson: Questioning Lesson 1: Test Questions Lesson 2: Authentic Questions Lesson 3: Uptake Questions
5	10/13	QT Mini-lesson: Responses Lesson 1: Introduction to Arguments Lesson 2: Components of Arguments Lesson 3: Practice With Components of Arguments
6	10/20	Talk on Multiculturalism
7	10/27	QT Mini-lesson: Questioning Lesson 4: High-Level Thinking Questions QT Discussion: Unit 2
8	11/03	Midterm Exam
9	11/10	QT Discussion: Unit 3[2 new group members in each group]
10	11/17	Not in session
11	11/24	Group Presentation
12	12/01	QT Mini-lesson: Questioning Lesson 5: Affective Questions
13	12/08	Discussion: Unit 4
14	12/15	QT Mini-lesson: Questioning Lesson 6: Connection Questions
15	12/22	Group Presentation
16	12/29	QT Discussion: Unit 5
17	01/05	Review
18	01/10	Final Exam

2.3 Data Collection and Analysis

Both qualitative and quantitative data were collected to investigate the findings. The data were collected from the following sources.

2.3.1 Worksheet

Before each QT discussion, the participants were asked to preview the assigned article and write down several questions on the first part of the worksheet (Appendix A). After the discussion, they were asked to conduct a self-evaluation and peer-evaluation in the second and third parts of the worksheet. Finally, they completed the last part of

the worksheet by reflecting on what went well and what did not during the discussion, as well as how to improve the discussion next time. After the last discussion on Unit 5, the participants were asked to answer the following questions as to their reflection: (1) What have been the best and worst QT discussion experiences? Why? (2) Do you think QT has been conducive to your English learning? Please explain. (3) Do you prefer QT or the traditional approach? Why?

2.3.2 Overall Reflection

At the end of the semester, the participants were asked to reflect on the overall experience of QT, and provide some comments and suggestions for future implementation.

2.3.3 Online Anonymous Perception Questionnaire

To explore students' perceptions of QT implementation, an online anonymous questionnaire was administered at the end of the semester. The questionnaire consisted of four parts, namely demographic information, English learning experience, perceptions of QT, and overall feedback and suggestions for future QT implementation. The third part, which investigated the respondents' perceptions of QT, contained 13 question items with a 5-point Likert scale, from 1 representing "strongly disagree" to 5 being "strongly agree." A multi-multiple choice question was also used to explore factors influencing QT discussions. The last part consisted of four open-ended questions to solicit students' opinions on the design of the worksheet, instruction of the mini-lessons, logistics of the QT discussions, and other suggestions.

2.3.4 Semi-Structured Interview

Four students, two who were positive about QT and two who had some reservations about QT, were selected via purposeful sampling to participate in semi-structured interviews at the end of the Spring 2018 semester. Each interview lasted for about 20–25 min. Students were asked to share their past English learning experiences and compare them with the QT approach. They were also asked to identify the most suitable article for discussion and provide their reasons. At the end of the interviews, they were asked to share any additional comments or suggestions about the implementation of QT.

SPSS was employed to calculate descriptive statistics for the quantitative data. In terms of the qualitative data, the general inductive approach (Thomas, 2006) was adopted for the analysis. Specifically, the researchers started with cleaning the data files and then read the text closely to gain an understanding of the events covered in the text. During this close reading, labels were assigned to the segments that were related to the research questions. Finally, categories and themes were developed to address the research objectives.

3 Findings and Discussion

Drawing from the quantitative and qualitative data, the researchers generated three themes to correspond to the three research questions. A discussion is provided at the end of this section to describe how the findings of the present study relate to previous studies.

3.1 Findings

Theme 1: EFL college students perceived Quality Talk (QT) to be conducive to English learning.

The results of the anonymous online questionnaire, as shown in Table 3, reveal that most of the participants perceived that incorporating QT into the college English class was beneficial in a number of ways: for their speaking skill (90.3%); quality of discussions (87.1%); peer learning (87.1%); overall English proficiency (77.4%); critical thinking (77.4%); listening skill (74.2%); English learning motivation (61.3%); learner autonomy (61.3%); and reading comprehension (58.1%). Comparatively, fewer participants thought that QT could help to lower their English learning anxiety (48.4%) and improve their writing skills (35.3%). In general, 64.5% of the participants indicated that they liked the QT approach, and 51.6% of them hoped that QT could be continued in the second semester.

The qualitative data also supported the positive effects of QT on English learning. In the interviews and worksheets, many students strongly acknowledged the positive influences of QT on their speaking, reading comprehension, questioning, and thinking skills. What follows are some examples:

- *Through different question types, I can see things with different angles. They inspire me to think more and generate more perspectives* (Student #29, Worksheet 4).
- *Through the discussion with my classmates, I often hear many different opinions or gain the perspectives that I have never thought of. I have learned more through discussions. Through the process of discussion or generate questions, I not only gain a deeper understanding of the required reading, but learn to think deeply to comprehend the content of the outside reading* (Student #25, Worksheet 5).

In terms of how English learning was supported by incorporating the QT approach, the students indicated that the worksheet was a useful tool in helping them to preview and prepare for the discussions. As one student said:

- *The worksheets are quite helpful, although it takes some time to complete them at home every week. If you want to generate a worksheet with a high quality, you need to read the article thoroughly…If you are serious about improving your English proficiency, by first previewing the articles with the help of the worksheets and*

Table 3 Survey results of EFL college students' perceptions of Quality Talk

Survey ratings		1–2	3	4–5	Mean	SD
		Disagree (%)	Neutral (%)	Agree (%)		
1	I think Quality Talk can increase my motivation of English learning	6.5	32.3	61.3	3.68	.79
2	I think Quality Talk can lower my anxiety of English learning	6.5	45.2	48.4	3.58	.85
3	I think Quality Talk can improve my English listening skill	6.5	19.4	74.2	3.87	.81
4	I think Quality Talk can improve my English-speaking skill	0.0	9.7	90.3	4.32	.65
5	I think Quality Talk can improve my English reading comprehension	6.5	35.5	58.1	3.65	.80
6	I think Quality Talk can improve my English writing skill	16.1	48.4	35.5	3.16	.78
7	I think Quality Talk can improve my overall English proficiency	0.0	22.6	77.4	4.0	.68
8	I think Quality Talk can improve my ability of autonomous learning	0.0	38.7	61.3	3.87	.81
9	I think Quality Talk can enhance peer learning	3.2	12.9	83.9	4.26	.82
10	I think Quality Talk can improve the quality of discussions	3.2	9.7	87.1	4.48	.81
11	I think Quality Talk can improve my critical thinking ability	3.2	19.4	77.4	4.13	.85
12	Overall, I like Quality Talk approach	6.5	29.0	64.5	3.8	.90
13	I hope the teacher can continue to incorporate Quality Talk in the English class	6.5	41.9	51.6	3.7	.90
	Average				3.88	.80

Note $N = 31$

then participating in the classroom discussions, you can feel the obvious progress (Student #24, Interview, 2018/06/27).

Moreover, the students reported that participating in small-group discussions was an enjoyable way to learn English. The non-threatening environment had been helpful in boosting their confidence in speaking. The questioning and responding skills they had learned from the QT mini-lessons were practical and could be used in their daily lives, as some students wrote:

- *In terms of speaking ability, we did not dare to speak English at first, but now everyone is able to finish what they want to talk about in English confidently and happily. Learning a language should be like this: natural and pleasant* (Student #4, Worksheet 5).
- *I have a lot of fun in this semester's English class. I have learned many things, such as Quality Talk, which is very helpful to me. Learning to identify different types of questions enables me to read articles more carefully. By raising various questions, I am able to have deeper discussions with others. Besides, these question types also help me a lot in the interaction with people. They help me to maintain a longer conversation with people. Compared with the traditional "cramming" education, I prefer this kind of teaching approach, namely Quality Talk discussion. The autonomous learning motivates people to understand more new things* (Student #10, Final Reflection).

To conclude, most of the participants in this study believed that Quality Talk was conducive to their English learning, especially in improving their speaking skills and the quality of discussion. They said their learning had been scaffolded by the worksheet that helped them to preview the article, as well as by the mini-lessons that provided guidance in questioning and responding, and the non-threatening atmosphere of working in small groups.

Theme 2: EFL college students preferred the Quality Talk approach to the traditional teaching method.

After the last QT discussion, the students were asked on the worksheet to answer "Do you prefer to learn English via the QT approach or the traditional approach?" A majority, 76.9% of the participants, indicated that they preferred the QT approach, and the reasons were threefold. First, QT provided students with ample opportunities to speak in English. As mentioned earlier, speaking was identified by the majority of participants (61.3%) as the most challenging skill among listening, speaking, reading, and writing. Thus, they appreciated the chance to use English to communicate with others. Second, the QT approach was more interactive and engaging. According to the participants, English learning was no longer stuffy, boring, and sleep-inducing. Third, through Quality Talk discussions, the participants learned different perspectives that they had never thought of. In their own words, they wrote:

- *Interacting with the teacher and classmates can improve our listening and speaking skills. It is more interesting* (Student #8, Worksheet 5).

- *I prefer Quality Talk because I like to have discussions with people and enjoy asking questions of each other. In contrast to the traditional teaching method, Quality Talk is not dull but more "interactive"* (Student #18, Worksheet 5).
- *Through the discussions with my classmates, I can often hear different opinions or views that I have never thought about, which helps me to learn more* (Student #25, Worksheet 5).

When asked "Do you think QT should be incorporated into the senior high school English curriculum? Why or why not?", 80% of the participants believed that QT should indeed be integrated into the senior high school English curriculum. The senior high school English curriculum in Taiwan has long been notorious for its teacher-centered and teach-to-the-test approach (Lo, 2014). In the interviews, a student said, "*In senior high school, all you need to do is focus on what the teacher taught. Students did not have chances to speak in English*" (Student #6, Interview, 2018/06/27). Another student asserted that her English learning experience in senior high school was "*bitter, super-boring, and making people couldn't help but fall into sleep*" (Student #27, Interview, 2018/06/27).

In contrast to the traditional teaching method, the QT approach is more student-centered. With QT, in order to have more effective discussions, students have to preview the lessons and prepare some questions before class. Moreover, instead of merely listening to the teacher's lecture, students learn from each other by asking authentic questions and exchanging ideas and perspectives. Overall, the QT approach provides students with chances to practice listening, speaking, and critical thinking skills. What follows are some direct quotes abstracted from the first open-ended question in the questionnaire and the final reflection.

- *Yes, many high school English courses are mainly taught by the teachers on the stages; therefore, students seldom have discussions. I think Quality Talk can make students preview before class, and the discussions during the class can stir up various thoughts and thus help them to learn from each other. I believe this can help students to retain what they learn in class better* (Anonymous, Online Questionnaire).
- *It's very suitable. It provides senior high school students with opportunities to practice thinking in English, English listening, and speaking. What's more, it can spur students to do the preview before they come to class* (Anonymous, Online Questionnaire).
- *The most memorable part in this course is the related knowledge of Quality Talk. In my senior high school, most of the English learning revolved around grammar and reading. There was few chance to practice speaking. Quality Talk is not only about having conversation with our classmates in English but also about learning the skills of how to ask questions. These skills help us to grab the main points very fast during English conversation. In addition, after several practices of Quality Talk, I find myself with better conversation quality, which is unlike before when I didn't know how to express my ideas* (Student #5, Final Reflection).

To sum up, most of the participants in this study preferred the QT approach to the traditional teaching method. Different from teacher-centered senior high English classes, the QT approach provided these participants with many opportunities to interact with their group members, and contributed to their English listening, speaking, and critical thinking skills.

Theme 3: EFL college students perceived that the quality of QT discussions was influenced by such factors as group dynamics, preparedness, English-speaking ability, and text features.

Throughout the semester, the participants engaged in five small-group discussions with the same group members, except for the third discussion. In the questionnaire, when asked to identify the factors that influenced the quality of these small-group discussions, most of the participants reported that group dynamics (80.6%), preparedness (71%), and English-speaking ability (58.1%) were the major factors. Nearly half of the participants (48.4%) also thought that text features might influence the quality of their discussions.

Group Dynamics. The participants chose their own group members at the beginning of the semester. It was found that they tended to stay with classmates who shared the same background, be it from the same department or the same country. The positive aspect of this grouping method was that it helped to lower their affective filter of learning, as a student shared in the interview:

- *Most of my group members are from the same department with me. Although there are two classes in my department, it seems faster for us to blend in with each other. That's why we did not feel stressed when doing QT in class. We were not afraid of our poor speaking skills. On the contrary, it was more embarrassing at first to talk with the classmates from the other departments. After all, we did not know each other well and it was English-speaking that we had to practice. Speaking is the part we were very anxious about* (Student #6, Interview, 2018/06/27).

Moreover, letting students stay in the same group proved more effective than alternating group members for each discussion. As a student indicated:

- *There seemed to be a tacit agreement developed in the same group. I mean everyone took turn helping each other, and something like that. However, if we have to change our group members, we have to adapt ourselves to the new members' every time; besides, we also have to get used to new members' language skills* (Student #6, Interview, 2018/06/27).

Preparedness. Seventy-one percent of the participants believed that preparedness would affect the quality of small-group discussions. As one student indicated, "*You have to preview first so that you have something to say in the discussion…I think it is important to preview beforehand*" (Student #27, Interview, 2018/06/27). A student revealed that her worst experience in the Quality Talk discussions was that "*I was kind of nervous during today's discussion because I did not prepare much and I did not bring the questions that I had prepared. The teaching assistant was sitting beside me*" (Student #16, Worksheet 4). If students did not preview thoroughly before the

discussion, chances were that the discussion would remain at a superficial level. As a student said:

- *When we were busy with other schoolwork and not able to spend enough time watching the videos, we would not have deep understanding of the video and thus the discussion became superficial. In other words, we would not be able to discuss the messages that the speakers wanted to convey to us* (Student #6, Interview, 2018/06/27).

English-Speaking Ability. As previously mentioned, the participants in this study felt that QT was conducive to their English-speaking ability, and this ability was also found to be a factor influencing the quality of the small-group discussions. The qualitative data provided further evidence of the relationship between the students' English-speaking ability and QT discussions. As the students maintained:

- *I was in the same group with some foreign students from Southeast Asian countries. I found that it was difficult for them to speak English accurately. They could only use English words instead of complete English sentences to express their opinions, which made our talk unlike a discussion. Actually some of them did have something to share, but were stopped due to their speaking ability. It seemed that they felt awkward and uncomfortable when speaking English. So, I think the effect of Quality Talk is limited because of the two reasons: they did not dare to speak English and did not know how to express their views in English. In fact, sometimes I did not dare to speak English, either. I was worried whether my grammar was correct or not, so I chose to shut my mouth, not willing to talk* (Student #3, Interview, 2018/06/27).
- *I think the worst one is this time (the fifth discussion) because my group members are from Macau. They sometimes spoke Cantonese and I could not understand what they were talking about, which made me feel desperate and helpless* (Student #27, Worksheet 5).

These two quotes confirm that the students' weak listening and speaking ability tended to result in poor discussions. For students with higher English proficiencies, their willingness to participate in the discussion might, nevertheless, be influenced by concerns about the accuracy of their English. One approach to easing their worry and enhancing their discussion skills is to provide explicit teaching and modeling. As a student suggested,

- *In my opinion, teachers should incorporate Quality Talk into English classes gradually. I mean, in the beginning, the teacher should not give students so much time (30 min) to do the discussion. The teacher can first ask some classmates to express their opinions to share with the whole class rather than start from the group discussion. The teacher can select the ones who know how to speak English and how to answer the questions. In this way, the other classmates will know how to answer the questions. After this, the teacher can divide students into groups to do the discussion* (Student #3, Interview, 2018/06/27).

Text Features. Text features, such as the topic/theme and genre of the texts, were found to be related to the quality of the discussions. The five articles selected for the small-group discussions were: "We All Need a Hero," "So Much Dead Space," "Bird by Bird," "Can Climate Make Us Sicker?" and "What Does It Take to Be a Successful Artist?" Although most of the students indicated that they enjoyed the discussions, their perceptions and preferences toward the articles varied greatly. For instance, after discussing the article, "Can Climate Make Us Sicker?" three students wrote,

- *I found it more difficult to do the discussion today because the issues about environment are more professional and serious* (Student #13, Worksheet 4).
- *Today's discussion was enjoyable because everyone had many ideas about climate change* (Student #2, Worksheet 4).
- *Today's discussion was great. Most of us join [participated in] the discussion actively. Since the issue is very close to our daily lives, we have [had] so many ideas to share with one another* (Student #1, Worksheet 4).

A possible way to solve this problem is to select topics centered around current news. In the interviews, three students offered suggestions for how to select topics. One of them said the topics should be more international or difficult (Student #27, Interview, 2018/06/27). The others asserted that issues about current news would be of more interest to the students (Students #3 & #24, Interview, 2018/06/27).

In conclusion, the participants in this study perceived that such factors as group dynamics, preparedness, English-speaking ability, and text features would influence the quality of small-group discussions. EFL college teachers who want to employ QT in class can consider letting students find their own group members and using worksheets to help students to preview the texts and prepare authentic questions beforehand. Additionally, providing explicit teaching and modeling to scaffold learning, as well as selecting topics that are related to the current world/social issues will contribute to better QT discussions.

3.2 Discussion

The findings of the present study reveal that EFL college students believed QT is conducive to their English learning and is a better approach than the traditional teaching method. In contrast to previous QT studies, most of which were conducted in an L1 context with participants from elementary and secondary schools, the current study was carried out in an EFL college setting. In line with Certo et al.'s (2010) study examining American elementary school students' perceptions of small-group discussions (Literature Circles), the participants in this study also revealed a positive attitude toward small-group discussions (Quality Talk). In terms of QT's effect on English learning, most of the participants agreed that the more salient benefits were for their speaking skill (90.3%) and the improvement of discussion quality (87.1%). A possible reason why speaking skill was identified by most of the participants

might be that English is a foreign language in Taiwan and is thus seldom used for communication in their daily lives. For most of the students, English classes were the only occasion to listen, speak, read, and write in English. Additionally, speaking is the only skill that is excluded from the college entrance exams in Taiwan, so it has long been neglected by most English teachers. Compared to the traditional teacher-centered, lecture-based English class, a QT approach to discussions in English class indeed provides students with ample opportunities to speak.

In terms of how QT contributes to the quality of discussions, QT mini-lessons and worksheets are essential. In the delivery of the QT mini-lessons, discourse elements, such as asking the six types of authentic questions and making arguments by incorporating claims, reasons and evidence, were explicitly taught and practiced in class. Evans (2002) asserted that in order to lead to a better discussion, students need to read the text, write the literature journal, and participate in the discussion. In this study, the instructor emphasized all three of these aspects. In addition to the "pre-discussion" and "during-discussion" tasks proposed by Evans, the instructor employed self-evaluation, peer-evaluation, and reflection as the "post-discussion" tasks. These post-discussion tasks not only can provide students with chances to reflect on their learning, but also serve as pointers for the instructor to improve her teaching.

Furthermore, Evans (2002) found that the make-up of the groups and the level of participation can influence the success of group discussions. Li (2018) argued that the functioning and productivity of classroom discussions can be affected by factors such as group type (e.g., size and composition), learner characteristics (e.g., ability, gender, or prior knowledge), and text features (e.g., genre, structure, or topic). Corresponding to the aforementioned research findings, the present study confirms that group dynamics, preparedness, English-speaking ability, and text features will affect the quality of small-group discussions.

4 Summary and Conclusion

This study investigated EFL college students' perceptions of incorporating QT in the college English curriculum. The findings show that EFL college students had a positive attitude toward QT. They perceived that QT contributed to their English-speaking skill and the quality of small-group discussions. Moreover, they believed that QT is a better approach than the traditional English teaching methods. Lastly, such factors as group dynamics, preparedness, English-speaking ability, and text features were found to influence the quality of discussions. The authors suggest that college EFL teachers consider employing QT in their English curriculum. With the explicit teaching of QT mini-lessons and careful selection of texts to be discussed, as well as requiring students to preview the texts with the help of a worksheet and conducting self-evaluations and peer-evaluations, teachers can use the QT approach—a student-centered approach that focuses on small-group discussions—to enhance the quality of learning. The main points of the chapter can be summarized as follows:

- EFL college students had a positive attitude toward QT.
- EFL college students believed QT is conducive to their English learning and is a better approach than the traditional teaching method.
- EFL college students perceived that QT contributed to their English-speaking skills and the quality of small-group discussions.
- Group dynamics, preparedness, English-speaking ability, and text features affect the quality of small-group discussions.
- The mini-lessons are helpful in training students on how to ask questions and make responses before the implementation of QT discussions.
- Asking students to preview the assigned reading and prepare some questions for the QT discussion is essential to the success of QT implementation.

Appendix A: Worksheet

Department:
Number in this Class:
Name:
Unit:

List all the questions you want to ask during the discussion:	**Question Type**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

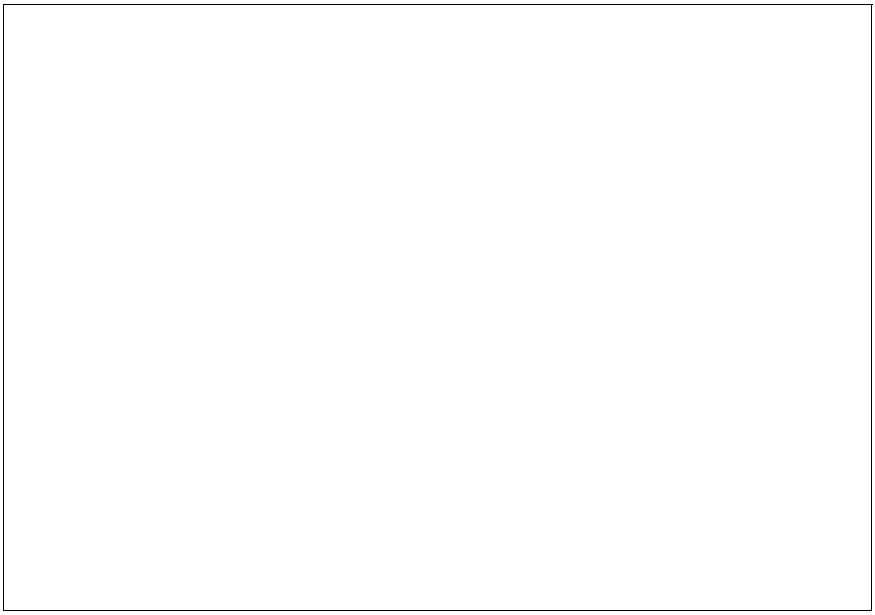
Self-Evaluation

	Level One	Level Two	Level Three
Article: Read the Article	☐ I did not read the article.	☐ I read some of the article.	☐ I read all of the article.
Prepared: Prepare questions for discussion	☐ I was not prepared.	☐ I was partly prepared.	☐ I was prepared.
Materials: Brought the article and prepared questions	☐ I brought no materials.	☐ I brought some materials.	☐ I brought all materials.
Preparation: Participated in group discussion	☐ I did not participate in the discussion.	☐ I participated at least once in the discussion.	☐ I participated in the discussion actively.

Peer-Evaluation

Member	Number	Name	Preparation	Participation	Note
1			1 2 3	1 2 3	
2			1 2 3	1 2 3	
3			1 2 3	1 2 3	
4			1 2 3	1 2 3	
5			1 2 3	1 2 3	

Reflection



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The Influence of Students' Academic Disciplines on the Use of Questions in Text-Based Group Discussion

Hsiao-Ling Hsu

Abstract Although Quality Talk (QT) has been found effective in helping students raise more questions to achieve higher-order thinking, the effect of which may vary among factors. Therefore, the present study examines whether the effectiveness of the QT approach is affected by students' academic backgrounds. Three freshman English classes were recruited from three academic disciplines (i.e., Science & Engineering, Humanities & Liberal Arts, and Social Science & Education). All of the students underwent the same procedures: QT training and QT class session. Analysis of the transcriptions of students' group discussions revealed that most of the students made gains in higher-order thinking, as indicated by their use of more authentic questions. In particular, the students from Social Science & Education and Humanities & Liberal Arts used significantly more authentic and uptake questions than the Science & Engineering students, suggesting that STEM students may need more preparation before the implementation of QT.

1 Introduction

Because classroom discourse reveals how the classroom context can facilitate the development of students' knowledge or language ability, it has been the focus of pedagogical research (Cazden & Beck, 2003). Classroom discourse includes the interaction between teacher and students or among students. A typical teacher and student interactive pattern is a sequence of initiation, response, and feedback/evaluation (IRF/E) (Mehan, 1979; Wells, 1993). This is a pervasive discourse pattern in which a teacher proposes a question or nominates a student to share; the student then gives a response, and the teacher provides feedback or an evaluation of the student's response.

In particular, studies have found that a teacher's initiating question not only facilitates language development (Chen & Liang, 2017; Scull et al., 2013; Zucker et al., 2010), but also can impose greater cognitive demand on students (Massey et al., 2008;

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Zucker et al., 2010). While some studies have reported that teachers' inferential questions (e.g., open-ended questions) tend to impose a greater cognitive demand, thereby requiring higher cognitive levels (e.g., Massey et al., 2008; Zucker et al., 2010), other studies have suggested that this cognitive demand can result from teachers' use of authentic questions (Applebee et al., 2003; Li et al., 2016; Nystrand et al., 2003). Whether teachers' questions are inferential or authentic, these questions are open-ended in nature and thus promote students' higher-order thinking. In the present study, this higher level of thinking, or higher cognitive level, refers to the ability to analyze, evaluate, and make critiques (Anderson & Krathwohl, 2001; National Assessment Governing Board, 2013).

Nystrand et al. (2003) further exemplify how a teacher's authentic questions can trigger high-level thinking in extended discussions. They observed the relationship between questions and the quality of discussions in 112 English language arts classes and 106 social studies classes for two grade levels (8th and 9th grade). When the teachers' and students' questions involved a higher cognitive value (e.g., making speculation) and evaluative value (e.g., reporting more than simply factual information), the students were likely to engage in extended discussions in which the students demonstrated high-level thinking. For example, a teacher's question could be, "Well, Mr. ___, then what do you think Gandhi would have done if he had been in the cafeteria with us?" (p. 21). This is an authentic question that requires the students to consider possible reasons, state support for their ideas, and evaluate others' opinions during the discussions. In contrast, a question that merely requires recitation or reporting of factual information does not trigger extended discussions or enhance students' evaluative or cognitive ability. It should be noted that despite the importance of teachers' questions, teachers' question initiation and turn-taking are difficult to manage in a large class (Hardman, 2008), and this may discourage students from raising questions in discussions (Nystrand et al., 2003).

Because of the importance of question-raising, some researchers have tried to incorporate question-raising training for students in order to enhance their higher-order thinking development in text-based group discussions. "Quality Talk" (hereafter QT) is one of the discussion approaches in which questions-raising is adopted as an important discourse indicator in order to achieve interactions and higher-order thinking (Pennsylvania State University, 2016). The introduction and teaching procedures for QT are introduced in the Method section. QT has been found to be effective in assisting students' basic-level comprehension and higher-order thinking (e.g., Davies & Meissel, 2015; Reninger, 2007). Basic-level comprehension means that students are able to remember and understand the meaning of the text, while higher-order thinking indicates that students are able to develop higher-order cognitive ability, such as analyzing, evaluating, and creating, based on their reading of the text (Anderson & Krathwohl, 2001; National Assessment Governing Board, 2013).

Studies have shown that QT is helpful for elementary school students (Davies & Meissel, 2015; Li et al., 2016; Reninger & Wilkinson, 2010), junior high school students (Nystrand et al., 2003), and even for low achievers (Reninger, 2007) in the development of higher-order thinking. For example, in order to help low achievers with their reading difficulties, Reninger (2007) adopted Quality Talk (QT) with

the aim of developing students' literal comprehension and higher-order thinking, including their ability to analyze, generalize, give personal responses, and elaborate on their explanations. Analysis of the researcher's observation notes, transcriptions of student interviews and group discussions, and students' writings revealed that students made improvements in their reading comprehension (e.g., remembering the facts in the text) and higher-order thinking by using authentic questions in their group discussions.

While Reninger (2007) observed the reading performance of individual students who received QT teaching, Davies and Meissel (2015) compared the effect of QT and a traditional type of discussion on students' literal comprehension and higher-order thinking in one New Zealand elementary school. The students were randomly assigned to a control (i.e., regular group discussion) and an experimental (i.e., Quality Talk) group and their group discussions were observed. The students' discussions were recorded, and an analysis has revealed that all the students interacted in a turn-taking style in the first time discussion (i.e., before QT intervention). After some practice with the QT approach, the students in that group became more familiar with QT and were more engaged in the discussions at the second discussion (i.e., after QT intervention). It was found that these students demonstrated higher-order thinking by using more authentic questions compared with the control group.

While the above-mentioned studies have indicated that QT is empirically effective in assisting students' higher-order thinking, other studies have focused on issues that may influence the effect of QT, such as the genre of the text (Li et al., 2014) and the ability of the participants in the discussions (Murphy et al., 2017). It was found that narrative texts can trigger extended discussions compared with information texts (Li et al., 2014) and that heterogeneous grouping (i.e., students with different levels of ability) can sustain more extended discussions that induce higher-order thinking.

Based on the brief review above, it can be concluded that QT is beneficial for the development of students' higher-order thinking and that additional factors (e.g., the genre of the text) should be taken into consideration. Therefore, the present study aims to investigate whether students' academic backgrounds are likely to affect the development of higher-order thinking as indicated by the use of questions in group discussions. The research questions are listed below:

1. Does QT training help students attain higher-order thinking as indicated by the types of questions they ask?
2. Do academic disciplines (i.e., Social Science & Education, Humanities & Liberal Arts, and Science & Engineering) affect students' higher-order thinking as indicated by the types of questions they use?

2 Methods

The present study adopted the Quality Talk teaching approach to help students develop higher-order thinking. This section is divided into three parts: (1) participants, (2) the design of the study, and (3) data collection and analysis. The design of

the study includes instructional frame of QT, pedagogical principles of QT, discourse elements, and teaching procedures.

2.1 Participants

The participants in the present study were students in three freshman English classes; they were from different academic disciplines (i.e., Social Science & Education, Humanities & Liberal Arts, and Science & Engineering). Twenty-seven students (17 male and 10 female) were in Science & Engineering, 36 students (12 male and 24 female) in Humanities & Liberal Arts, and 31 students (6 male and 25 female) in Social Science & Education. The students' English ability was at a high-intermediate level based on the college entrance examination, roughly comparable with the CEFR B2 level.

2.2 Design

2.2.1 Instructional Frame

Using the QT framework, the instructor built a friendly and student-centered learning environment. The instructor chose reading materials and discussion themes to help students avoid digressing. During the group discussions of the assigned readings, the students were in control of their group's progress, giving their own ideas and interpreting the texts freely. The goal of these discussions was that students could understand and derive the information from the text (i.e., efferent stance), be able to express their personal idea (i.e., expressive stance), and be able to interpret beyond the text (i.e., critical-analytic stance).

2.2.2 Pedagogical Principles

The instructor incorporated the following three factors to encourage an interactive learning context, including interesting reading (e.g., superheroes), topics students were familiar with (e.g., role models), and discussion ground rules. In particular, a discussion-friendly context was built by following eight ground rules in the discussions:

1. Share your ideas (but nothing personal).
2. No need to raise your hand.
3. Interact with your group members instead of the teacher.
4. Respect each other.
5. If someone remains silent, ask him/her questions.

6. It is possible to have different ideas/opinions from your group members.
7. Build connections between your discussion and the article.
8. Give effective explanations.

2.2.3 Discourse Elements

In order to evaluate the students' higher-order thinking, the questions they asked were used as indicators in the QT model. An authentic question is a primary question type, which does not have a correct answer and thus requires respondents to give open-ended comments. Authentic questions show a direct contrast to test questions, which have a single correct answer, that is, factual information in the text. Authentic questions can be further sub-divided into five secondary question types: uptake, speculation, high-level thinking, affective, and connection questions. Definitions and examples for these are displayed in Table 1.

2.2.4 Teaching Procedures

These freshman English classes lasted 13 weeks, meeting two hours per week. The students used the book *Q: Skills for Success: Reading and Writing 4* (Daise et al., 2011) because question-raising skills were stressed in this textbook. Five units in total were read and discussed in the present study. Unit 1 was about the characteristics of heroes by introducing familiar heroes such as police officers or the batman in the movie. Unit 2 introduced a researcher, Paco Underhill, whose research interest was customers' shopping behaviors. In this unit, the students had a chance to discuss how to attract more consumers' attention. Unit 3 was like the author's autobiography in which she described her interactions with her friends and her father. Unit 4 discussed the climate change and Unit 5 discussed the characteristics of successful artists, such as persistence.

Before engaging in the QT discussions, the students received a training session in the first week, as indicated in the teaching schedules (Table 2). In the training session, PowerPoint slides prepared by Pennsylvania State University (2016) were used to teach participants about different types of questions. There was a total of six PowerPoint slides, and each one introduced a specific type of question. In particular, authentic and test questions were introduced in the same PowerPoint slide.

For each unit, the instructor used two weeks to complete a QT discussion procedure, as shown in Table 3. The instructor first conducted a whole-class warm-up discussion such as "*Why are stories about superheroes so popular with people of all ages?*" extracted from Unit 1 (Week 2). The warm-up discussion questions were general questions used to trigger the students' interest and elicit their background knowledge before reading. The instructor then gave an introduction to vocabulary, including collocations, meanings, and sample sentences. In the second hour, the students were asked to read assigned texts by themselves. During their reading, they underlined the important key points or wrote down their ideas, such as comments and

Table 1 Types of question

	Discourse element	Definitions	Example
1	Authentic Question (AQ)	AQs are open-ended and require thinking about, around, and with the text; there is not one "correct" answer.	*Q: "What did you think was worse: the Titanic or the Edmund Fitzgerald?* *R: "I thought the Edmund Fitzgerald was worse because they went sailing when they were not supposed to. It was only a couple of years ago, so it should have been more advanced and prepared."*
1.1	Uptake Question (UQ)	UQs ask about something that someone else said previously. They must be content related and can be directed to a group or an individual.	*Q1: "What if Paul Revere failed his mission?"* *R1: "That would be really bad. Maybe… the British would take over…"* *Q2: "Would he be as popular?" [Uptake]* *R2: "No. I think we would be overruled by the British today though. It would not be too bad, like Britain today is not that bad. No one would like, tell us what to do. We just would not be as strong as a country."*
1.2	Speculation Question (SQ)	SQs require students to consider alternative possibilities.	*Q: "What if the big horse did not get destroyed?"* *R1: "Then I think he would have been a lot happier."*
1.3	High-level thinking (Generalization and Analysis) Question (HLQ)	HLQs require students to build up ideas and generate new information by tying concepts and ideas together.	*Q: "How would you describe the Queen of the Sea?"* *R: "I think I would describe her as a nice, humble lady because her daughter was suffering, and she gave her what she needed to stay with her husband."*
1.4	Affective Question (AfQ)	AfQs elicit connections between a student's life experience and the text.	*Q: "How would you feel if you were trying to solve the case in the story?"* *R: "I would feel a lot of pressure and stress because everybody would be looking at me, and usually, I do not do very well on stage because I have stage fright."*

(continued)

Table 1 (continued)

	Discourse element	Definitions	Example
1.5	Connection Question (CQ)	• CQs elicit connections to information that is commonly known in the discussion group. • CQs elicit connections between two or more textual materials.	*Q: "What did you think of the talent show?"* *R: "It was good but kind of childish. I think our talent show had a lot more singing and stuff like that in it. We even had someone do baton."*
2	Test Question (TQ)	TQs presuppose one or a set of "correct" answer (s); the answer (s) usually can be found in the textbook.	*Q: "What was their initial goal for inventing the machine?"* *R: "That they would get first place in the science fair."*

Source Pennsylvania State University (2016)

Table 2 Teaching schedule

	Reading/Content
Week 1	Introduction to the QT question types
Week 2	Unit 1 We All Need a Hero
Week 3	Unit 1 We All Need a Hero
Week 4	Unit 2 So Much Dead Space
Week 6	Unit 2 So Much Dead Space
Week 7	Unit 3 Bird by Bird
Week 8	Unit 3 Bird by Bird
Week 10	Unit 4 Can Climate Make Us Sicker?
Week 11	Unit 4 Can Climate Make Us Sicker?
Week 12	Unit 5 What Does It Take to Be a Successful Artist?
Week 13	Unit 5 What Does It Take to Be a Successful Artist?

Table 3 Teaching procedures of a unit

Week	Content
1. First week	
1.1 First hour	Warm-up
	Whole class discussion
	Vocabulary introduction
1.2 Second hour	Read the text
	Raise designated questions
2. Second week	
2.1 First hour	Review students' proposed questions
	Review ground rules
2.2 Second hour	QT group discussions
	Comprehension check

questions. After reading the texts, the students formed a group of four to five students and raised their own questions for practice. For example, in Week 2, each group was asked to think of two questions for each of two types of questions, namely, speculation questions and high-level thinking questions. This produced a total of four questions. Thus, twenty-eight questions were generated by the Science & Engineering students (seven groups) and Humanities & Liberal Arts students (seven groups), respectively. The Social Science & Education students produced 24 questions (six groups). The instructor reviewed the students' proposed questions in order to correct language-level errors and confirm students' understanding of the question types before the next class.

In the third week, the class together recited the eight ground rules listed in the above section, Pedagogical Principles before each QT discussion. Next, the students engaged in 20 minutes of discussion, using five discussion questions prepared by the instructor, such as "*Among all of the superheroes, which character do you like the most?*" (extracted from Unit 1). The teacher circulated around the groups to listen to their discussions. For example, for Unit 1, the teacher joined the discussions by groups 1 and 2; for Unit 2, the instructor joined groups 3 and 4. The students' group discussions were recorded and then uploaded to a school platform where the instructor could keep track of each group and download their recordings for further analysis. Finally, the students received a comprehension check which included five multiple-choice questions and three short-answer questions. This comprehension check was used to evaluate whether the students understood the main idea of the texts.

2.3 Data Collection and Analysis

Data for this study included the students' group discussions, which were recorded by the students and transcribed by a research assistant. The transcriptions were then analyzed by the research assistant and the researcher. The research assistant read through the transcripts and identified each type of question based on the definitions shown in Table 1. The researcher then reviewed the research assistant's coding. If there were different interpretations of the students' questions, the researcher and research assistant discussed these in order to reach a consensus. The coding reached a consistency of more than 80%.

In order to make comparisons across different units and academic disciplines, the numbers of types of questions were presented in terms of one minute. For example, when there were eight authentic questions in a twenty-eight-minute group discussion, there were 0.29 authentic questions per minute. A Kruskal–Wallis, nonparametric analysis, was adopted because the data were not normally distributed.

3 Findings and Discussion

3.1 Research Question 1

The students' questions for the respective disciplines are displayed in Table 4. It is apparent that the students made gains in higher-order thinking, as indicated by the increased use of authentic questions (about 1 AQ per minute), uptake questions (about 1 UQ per minute), speculation questions (about 1 SQ per seven minutes), and affective questions (about 1 AfQ per eight minutes). The results suggest that QT was generally as effective as when it was applied in other studies to promote higher-order thinking (Davies & Meissel, 2015; Li et al., 2016).

AQ was the most frequently used question type by the college students in this study; this was also true for elementary (Li et al., 2016) and junior high school students (Davies & Meissel, 2015). The students can easily understand the concept of AQs and use them in their group discussions. One example from Unit 5 is given below to illustrate how AQs were employed (the grammatical errors in students' output are retained throughout the examples in the present study):

Example 1

1	Student A:	I think Van Gogh …because he didn't get famous when he is alive but he still
2		works hard… He created many paintings in every two days. Work hard till he died
3		Now he is so awed around the world
4	Student B:	So… what has inspired you? **[AQ]**
5	Student A:	Even if his effort didn't solve by others… but now the whole world knows him
6	Student B:	I think …all the artist have their own experience …but we have different
7		environment … I don't I don't have the specific artist that inspire me
8	Student C:	For me, I think I think no artist can inspire me either. Because their lives are
9		different from mine. I have no feeling… because painting will not be a job

Among the AQs, the students used more UQs, which possibly suggests that the students were engaged in more interactive dialogues. This result partly conforms to Bakhtin's (2010) theory of how comprehension can be represented by one's responses and how language is adopted as a tool of thinking in order to reach mutual understanding in dialogues. In Example 2 below, Student A's UQ in line 6 indicates that they understand Student C's statement in line 5. Only when mutual understanding is achieved among the students, is the dialogue then able to continue. This example is taken from the discussion of Unit 1.

Table 4 Types of questions used in the three academic disciplines

Academic discipline	Units	Total Time of discussion	Test question	Authentic question	Uptake question	Speculation question	Higher-level thinking question	Affective question	Connection question
Science & Engineering	Unit 1	136'30"	0.01	0.13	0.10	0.03	0.00	0.01	0.01
	Unit 2	97'57"	0.00	0.04	0.02	0.00	0.00	0.00	0.01
	Unit 3	87'51"	0.00	0.03	0.05	0.01	0.00	0.00	0.01
	Unit 4	93'38"	0.00	0.01	0.04	0.00	0.00	0.00	0.00
	Unit 5	150'40"	0.00	0.01	0.02	0.01	0.00	0.01	0.00
	sub-total	566'36"	0.01	0.22	0.23	0.05	0.00	0.02	0.02
Humanities & Liberal Arts	Unit 1	106'02"	0.00	0.24	0.24	0.00	0.00	0.00	0.00
	Unit 2	118'11"	0.01	0.05	0.05	0.00	0.00	0.03	0.00
	Unit 3	97'26"	0.01	0.11	0.09	0.00	0.00	0.02	0.02
	Unit 4	94'15"	0.00	0.10	0.10	0.00	0.00	0.00	0.00
	Unit 5	114'51"	0.02	0.14	0.14	0.00	0.01	0.00	0.00
	sub-total	515'37"	0.04	0.63	0.61	0.00	0.01	0.05	0.02
Social Science & Education	Unit 1	114'01"	0.00	0.05	0.18	0.10	0.00	0.00	0.01
	Unit 2	132'53"	0.00	0.13	0.11	0.00	0.00	0.02	0.01
	Unit 3	169'56"	0.00	0.07	0.09	0.00	0.01	0.03	0.00
	Unit 4	138'38"	0.00	0.04	0.01	0.00	0.00	0.01	0.00
	Unit 5	143'39"	0.00	0.01	0.01	0.00	0.00	0.00	0.00
	sub-total	698'57"	0.00	0.29	0.40	0.10	0.01	0.06	0.02
	Total	1781'10"	0.05	1.13	1.23	0.15	0.02	0.13	0.06

Example 2

1	Student A:	If you have a superpower, which kind do you want? Why?
2	Student B:	I want energy…I want to spread love and happiness …because I want to see
3		everybody smile and happy so they can prevent them from melancholic… so
4		they can go out from the bad mood
5	Student C:	I want to stop the time
6	Student A:	What do you want to do? **[UQ]**
7	Student C:	If someone is dangerous, I can save him. So I want to stop the time…
8	Student A:	You stop a part of all the world? **[UQ]**
9	Student C:	Maybe like that…What do you want to do through this superpower? Like, go to
10		women's toilet? **[UQ]**
11	Student A:	Maybe. I just want to randomly go to another space like the past or future. Like
12		Doraemon (A character in Japanese comics) time machine. So …I can go to the
13		past to fix the mistake I have made it or I can just to future to …
14	Student B & C:	Change your life? **[UQ]**
15	Student B & C:	See your wife? **[UQ]**

In contrast to the increasing use of AQs, the fewer use of TQs may suggest that the students had learned to read beyond the lines, instead of reading only for factual information. The students in Social Science & Education appear to have successfully engaged in the QT discussions, in that they tended to ask more open-ended questions instead of test questions. No test question was used by students in this academic discipline. In contrast, the students in Humanities & Liberal Arts employed some test questions. In Example 3 below, Student C in line 4 sought to clarify Student B's idea in lines 2–3 based on the text (Unit 4). Additionally, several examples from the text were provided by Student A in lines 5–8.

Example 3

1	Student A:	Okay, question one. Does anybody have any ideas?
2	Student B:	Hmm…I think climate change have impact on our health because every day we
3		breathe. If the air isn't clear, so my… we… our body may have a lot of problem
4	Student C:	Some problem such as? **[TQ]**
5	Student A:	According to the…article yeah article. Hmm…the author says that climate change

(continued)

(continued)

6		will cause a lot of healthy problems, like malaria and dengue fever. Yeah it's like
7		if the climate change to the hotter weather and mosquitoes will spread to other
8		place, the high…
9	Student B:	higher location

Although all of the students of the three academic disciplines showed, to some extent, higher-order thinking by using more open-ended questions, it appears that the students from certain disciplines tended to employ different types of questions, such as the use of TQs in Humanities & Liberal Arts. This varying use of question type is discussed in further detail in the next section.

3.2 Research Question 2

In order to examine the effect of the three academic disciplines on the students' use of different question types, a Kruskal–Wallis test was adopted and the results have showed that there was a statistically significant difference in authentic questions according to students' academic discipline, $\chi^2(2) = 5.918$, $p = 0.049$: a mean rank score of 40.43 for Science & Engineering; 56.28 for Humanities & Liberal Arts; and 48.55 for Social Science & Education.

A follow-up analysis has showed that the use of AQs was significantly different between Science & Engineering and Humanities & Liberal Arts ($p < 0.05$) and also between Humanities & Liberal Arts and Social Science & Education ($p < 0.05$). The students in the Science & Engineering programs used far fewer authentic questions than the students from the two other academic disciplines. The significantly fewer uses of AQs (about 1 AQ per five minutes) may be due to two reasons. First, the students in Science & Engineering may have yet to develop higher-order thinking or higher-order cognitive thinking ability through the QT discussion approach. Second, it is also possible that these students require additional training sessions or the teacher's direct participation in their discussions because when the researcher listened to the students' discussions or their recordings, it was found that they digressed off-topic more easily than students from the two other disciplines.

On the other hand, the students in Humanities & Liberal Arts used more authentic questions (about 1 AQ per 2 minutes) than the students in Social Science & Education (about 1 AQ per 4 minutes). It seems that the students from both disciplines show higher-order thinking, as indicated by their greater use of AQs. However, it was found that when discussion themes were closely related to students' personal experience, they were more likely to engage in the group discussions. For example, although the students in both disciplines employed many AQs, they used more AQs—as shown in Example 4 (extracted from Unit 2)—when the theme dealt with personality or

characters (e. g., Unit 1, 2, and 3), but not about weather (i. e., Unit 4). While Li et al. (2014) explained the impact of text genre on the effectiveness of QT, the present study finds that the themes of the text may also play a role.

Example 4

1.	Student A:	Ok, so we can.. the next question, what kind of personality did author have?
2.	Student B:	I think she is the shy but sensitive because she will observe events in her daily life
3.		even if a small thing, and she will…. to write down
4.	Student C:	How do you know? **[AQ]**
5.	Student B:	Because she observes that mother make-up by…and she observes that their record

As for uptake questions (UQs), their use was significantly different between Science & Engineering and Humanities & Liberal Arts ($p < 0.05$): one question per two minutes for students in the Humanities & Liberal Arts versus one question per five minutes for students in Science & Engineering. Although we cannot yet conclude that the uptake question is an indicator of students' greater engagement in interactive dialogues, it indeed seems that the discussions among Humanities & Liberal Arts students were more interactive. In essence, the uptake question is a follow-up question. Thus, when the students pose more uptake questions, this suggests that they are listening closely to each other and want to know more from the interlocutors.

It can be concluded that the differences in students' academic backgrounds do, to some extent, influence the effectiveness of QT. The students in Humanities & Liberal Arts benefitted from QT implementation through engaging in more interactive dialogues in which they raised more questions, while the students in Science & Engineering appeared to benefit less. The students in Social Science & Education, meanwhile, learned the key concept of QT (i.e., the differences between authentic and test questions) through avoiding test questions and using more AQs.

4 Summary and Conclusion

There are two major findings in the present study. First, all of the students made gains in higher-order thinking to some degree, as indicated by their use of more AQs and fewer TQs. More AQs suggest that the students paid attention to the discussion and engaged in cognitive thinking (e.g., to analyze or evaluate). Second, significant differences can be found among the three disciplines for two types of questions: AQs and UQs. The students in Science & Engineering used significantly fewer AQs, suggesting that they benefitted less from the QT. On the other hand, the students in the two other disciplines employed more AQs and UQs, suggesting that they had achieved higher-order thinking and benefitted from the QT approach. It should be

noted again, however, that question-raising is only one of the discourse indicators of higher-order thinking.

Although AQs were found to be significantly different among the three academic disciplines, this does not suggest that the other question types are less important. It is possible to speculate that the students were not familiar with the questioning or interactive style in classes. They may need more time to familiarize themselves with the QT and may then possibly be able to use those questions' types, such as connection questions. For further research in QT, additional factors should be taken into consideration as the focus of the present study, students' academic background. For example, three interacting elements greatly influence the performance of reading comprehension: text, readers, and activity (RAND Reading Study Group (RRSG), 2002). Similarly, the three factors may also affect how higher-order thinking may be developed. Based on the present study, it has been discovered that the themes of the text change how they interact with each other. Therefore, more related factors may be expected in the future. What follows are the highlights of this chapter:

- QT framework is a useful discussion approach. This approach generally enhances students' higher-order thinking by raising more authentic questions.
- The effect of QT framework does differ according to students' academic backgrounds. To be more specific, Science & Engineering students benefitted less from QT framework compared with Humanity & Liberal Arts and Social Science & Education students.
- It is speculated that more teacher's directions are needed for Science & Engineering students. Humanity & Liberal Arts and Social Science & Education students enjoy the discussions and are able to be benefitted from QT discussions.
- QT framework facilitates higher-level thinking because asking questions requires the participants to understand interlocutors' meaning and think actively in response to others' thoughts. In this process, language is used as a vehicle for co-reasoning among interlocutors.
- In order to enhance students' higher-order thinking through QT framework, students' academic backgrounds should be taken into consideration. Their academic backgrounds greatly influence how they engage in the discussion process, which leads to the performance of higher-order thinking.
- In the present study, it seems obvious that the students are able to enhance higher-order thinking through a student-centered classroom, which is one of the most important pedagogical principles in QT framework. When the students are responsible for their own learning, it seems that they learn better.

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The Effects of Text and Leadership on the Choice of Question Types in Quality Talk

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Abstract This study explored the EFL students' choices of question types in Quality Talk (QT) when they were given different types of text, including an image, a scientific report, or a lifestyle article. QT was administered to 23 freshman students. The results show that the students tended to ask speculation questions when no written words but an image was provided. Connection questions were favored when the students were discussing a popular science article, suggesting that they tried to make a link to what they have heard or read before. However, affective questions related to personal feelings or experiences were favored when a lifestyle article with regard to stress was given. Additionally, leadership has an effect on the choice of question types. The students with leadership qualities tended to ask generalization questions to their peers. This high-level thinking ability of putting things together corresponds to the leadership trait of managing complexity.

1 Introduction

Quality Talk (QT hereafter for short) has been administered to the elementary school students of English-speaking countries. It has been shown that small-group discussion can facilitate students' reading comprehension and critical thinking skills (Li et al., 2016; Murphy et al., 2016, 2017). This was likely the first attempt for QT to be implemented in a foreign language classroom in Taiwan. I realize that students in Taiwan are too shy to raise questions in class in even the official language of Chinese, let alone in English. Throughout the QT instruction, I hoped to provide students with the group discussion skills they may need in the job market and to encourage students to think in depth about everything they read or see.

Li et al. (2014) argue that text genre can influence students' discussion questions. They claim that high-level comprehension is evidenced more in narrative texts than informational texts. Though the reading materials in our textbook, *Keynote Advanced* (Lansford et al., 2016), are mainly informational texts, it still remains interesting

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to explore whether students have preferred question types for different subjects of informational texts. During the past year, I tried various text types and warm-up activities to inspire students to ask questions and get involved in the group discussion. My research goal was to examine whether the text type would affect how students chose or made the QT question types for discussion. At the individual level, I also wonder if the preference of QT question type had any association with the leadership trait of a student. As students with leadership traits usually initiate or lead discussions, it would be interesting to see what kinds of QT questions were made by these students.

In Sect. 2, I will describe the text types and the procedures in the QT. Results will be presented in Sect. 3. Interestingly, there were two female students with leadership traits in the class, and their performance for QT will be discussed in Sect. 3, too. Section 4 concludes this paper.

2 Methods

2.1 Participants

QT was implemented in a General English course at a university in northern Taiwan. There were four levels of General English (basic, lower-intermediate, higher-intermediate, and advanced), and placement was based on the students' national university English entrance exam scores. Our students were advanced learners of English, which is the highest level for General English classes. The class consisted of 16 students from College of Liberal Arts, 3 students from International Studies and Social Sciences, 2 students from College of Sports and Recreation, 1 student from College of Technology and Engineering, and 1 student from the College of Fine Arts. We assumed that these advanced students would be able to initiate, participate in, or lead the discussion in English without too much difficulty.

2.2 Design

Because none of them had heard of the concept of QT before, a mini-lesson on QT was given in the second week of the semester (the course overview was presented in Week 1). In the mini-lesson, the question types (test, authentic, uptake, speculation, generalization, affective, connection, and analysis) were introduced. For each question type, a definition was given and a few sample questions were provided in the handout (see Table 1; the definitions and examples were offered by Dr. Karen Murphy). Students were asked to find out and underline the corresponding sentence fragments (as underlined here in the examples).

Then, they watched a TED talk, *Why 30 is not the new 20*, given by Meg Jay (2013). Meg Jay is a clinical psychologist. In this talk, she suggests that we should

Table 1 Definitions and examples for each question type used in the mini-lesson

Question type	Definition	Example
1. Test	• Answers can be found in the text • Generally there is only one correct answer • Can be answered in a few words or short sentences	Where did you go on your trip?
2. Authentic	• Answers come from thinking about what we have read—not directly from the text • They can have more than one correct answer • Answers are supported by reasons and evidence from the text, other sources, or our own thinking	*What was the best part of the trip?*
2.1 Uptake	• Uptake is when someone asks a question about what someone else said or asked • Listen carefully to what other group members say so you can ask for more information	*A: Our trip to Washington, DC was fabulous. We visited the Museum of Natural History and the Lincoln Memorial* *B: Oh, I like the Museum of Natural History a lot. Which is your favorite part of the museum?* *A: I watched a movie called Jurassic Park and always wanted to see models in person* *B: Helen, do you think the dinosaur model you saw in the museum is different from the one in the movie?*
2.2 Speculation	• They are questions that require you to consider alternative possibilities	*What if Ryan's mom scolded him immediately after he told the truth?* *If you wanted to make something for dinner, what would you cook?*
2.3 Generalization	• They are questions that require you to find the big idea by putting different parts together or getting a general rule/theme	*What lesson is the author of Ryan and Jonah trying to teach us in this story?* *How would you describe Ryan's personality?* *What is the big idea of the story?*
2.4 Affective	• Affective questions can have more than one answer • Affective questions are open to debate and discussion • Answers to affective questions should be supported by reasons and evidence from your personal feelings and experiences	*If you were the shepherd boy who cried wolf, how would you feel if nobody came to save you the last time?* *Have you had a similar experience … ?*

(continued)

Table 1 (continued)

Question type	Definition	Example
2.5 Connection	Connection questions are authentic questions that make connections: • between the story and things you have read, seen, or heard in the past • between the story and things that others in the group have experienced or shared with you	*How is the story The Frog Prince similar to the movie Frozen?* *Is Sleeping Beauty more like Anna or Elsa?*
2.6 Analysis	Analysis questions require you to bre ak down ideas by: • looking at different ideas in the text • understanding how ideas relate to each other	Why did Ryan lie to his mother at first ? Why did Ryan decide to tell the truth at the end?

start planning our lives before marriage, work, and kids come. The students used the TED talk content for practicing QT questions. They were encouraged to think of as many types of QT questions as possible. As this was the first-time discussion, the students were asked to throw out all the questions they have made without asking their peers to answer them. The group members had to justify whether the questions were suitable for the QT question types as were claimed. After the practice, the students reported that they had no problem in making QT questions.

In the semester, three types of materials were used for the QT sessions, including an image (*Necessities*), a popular science article (*Power of visualization*), and a lifestyle article (*Stress and relaxation*). The course schedule is presented in Table 2. The designs and procedures are as follows.

2.2.1 An Image

Unit 1 of our textbook, *Keynote Advanced* (Lansford et al., 2016), talks about necessities, i.e., things you cannot live without. Students were randomly assigned into 6 groups (a group of 4 people). They were asked to look at the photo shown on pages 8–9 of the textbook and then to generate QT questions immediately in class. The photo depicted a family's possessions (TV, wok, bed, shelves, etc.) placed outside a traditional yurt in Mongolia. The students were given 20 minutes to write down the questions on the worksheet (see Appendix A) and to prepare for the 20-minute group discussion. Since the group discussion only lasted for 20 minutes, it might not be possible to discuss all the questions. Therefore, before the group discussion began, the students were told to choose the questions they were most interested in for discussion.

Table 2 Schedule of the QT instruction and discussio

Week	Content	Class activity
1	Course Overview	
2	**QT mini-lesson**	
3	Lesson 1 Necessities **QT discussion**	
4	Lesson 1 Necessities	Class activity 1: 2-minutes individual speech
5	Lesson 2 Teamwork	
	Make-up class	
6	*[No class] Spring break*	
7	Lesson 2 Teamwork	
8	World café	World café
9	Lesson 2 Teamwork	Class activity 2: Impromptu-like meeting
10	Lesson 3 Power of visualization **QT discussion**	
11	Lesson 3 Power of visualization	
12	Lesson 3 Power of visualization	Class activity 3: Word game
13	Lesson 4 Stress and relaxation **QT discussion**	
14	Lesson 4 Stress and relaxation	
15	Lesson 4 Stress and relaxation	Class activity 4: Writing a letter for yourself
16	Making Creative Stories	
17	Final Exam: Oral	
18	English Proficiency Test	

2.2.2 A Popular Science Article

The textbook, *Keynote Advanced*, contains many popular science articles, in which the authors discussed issues and used scientific evidence to support their arguments. One of the popular science articles was about the power of visualization, which argued that imagination is powerful for attaining success and curing disease. The students were asked to read this article, prepare all types of QT questions at home, and write them down on the worksheet (Appendix A).

As a warm-up activity in class, I used six board game posters, one poster per group. The board game was embedded in a car racing scenario. The track had been divided into several empty slots. The QT question types were handwritten in the empty slots and were randomly assigned by the instructor. Each student picked a vehicle (bus, car, bike, motorcycle, or helicopter) and took turns rolling a dice. The number shown on the dice determined how far the vehicle could go. Then, based on the question type displayed on the slot, they had to discuss that type of QT question. During the group discussion, they had to make a record of the discussion process, including the questions and answers, on the group discussion sheet (see Appendix B). They were

also asked to highlight on the group discussion sheet and worksheet the questions that resonated with them most. The group discussion lasted for 40 minutes.

2.2.3 A Lifestyle Article

One week before the last session of QT was run, one hour was spent teaching the language of taking part in a meeting. The materials from the article, "Can Stress Be Good For You?" were adopted from Unit 8 of the textbook, *Keynote Advanced*. The class read aloud each phrase or sentence of opening a discussion (e.g., *I'd like to start the discussion by…*), interrupting (e.g., *Before you continue, can I just say …*), stopping interruption (e.g., *Could I just finish what I was saying?*), inviting participation (e.g., *Any thoughts on…?*), and wrapping up (e.g., *I guess we've covered everything*), thus giving the students some time to become familiarized with the language. Then, they were told to discuss the teamwork project called marshmallow challenge, which they did a few weeks prior. A sample flow chart of the discussion was provided, which included an opening, several turns of interruption, and an ending. The students did not have to strictly follow the flow chart, but had to use as many expressions as possible.

I gave the students 40 minutes to practice and rehearse. Each student chose his role (a host or a participant) in the mock meeting. In the second hour of the lecture, they performed their mock meetings to the whole class (notes were allowed). The non-presenters were asked to count how many expressions were uttered. The results show that every group used more than 10 expressions in the mock meeting. The students revealed both orally and by writing in the final teaching evaluation that they benefited considerably from this language practice.

> There are several activities that certainly equipped us with practical abilities. For example, by means of demonstrating a meeting, I learned a lot about the proper way to hold a conference and to participate in a (QT) discussion. Besides, the World Cafe event helped us cultivate the value of globalization and mutual respect, and also led us to another way of discussing an issue. In addition, the Marshmallow Challenge was really impressive to me. I'm fond of this way of learning through practical operation. I also like the form of this course, that is, group discussion. It's delightful to speak English in this course since I don't have many opportunities to speak English in my daily life. Through group discussion and giving a speech onstage sometimes, I've improved my English speaking. Thank you for designing this course in such an interesting way, and thank you for always giving feedback and suggestions on our speaking or performances. I've definitely benefited a lot from this curriculum. I always enjoy this course!—written by a student in the final course evaluation

Returning to the topic of the last session of QT, the students read a lifestyle article about stress entitled "Can stress be good for you?" This article listed some positive effects of stress in our lives. The students were required to prepare all types of QT questions at home and to write them down on the worksheet (Appendix A). Before the group discussion, I encouraged them to use as many expressions they learned in the previous week as possible. They first chose their roles (a host or a participant) in the group discussion. During the discussion, they could ask any type of QT question. At the same time, they made a record of the discussion process,

including the questions and answers, on the group discussion sheet (Appendix B). The group discussion lasted for 40 minutes.

2.3 Data Collection and Analysis

The worksheets and group discussion sheets were all collected at the end of each discussion. The questions, the question types, and the answers were manually entered in Excel by the teaching assistant. In this study, I only analyzed the questions that have been discussed during the group discussion (that is, the questions recorded on the group discussion sheets). The total number of questions generated for each QT type during the discussion (i.e., from the group discussion sheets) was calculated respectively for each text type.

3 Findings and Discussion

3.1 Findings

The number of questions generated for each QT question type and each text type during the discussion is displayed in Table 3. As can be seen from Table 3, speculation question (83 out of 254; 33%), affective question (75 out of 254; 30%), and connection question (46 out of 254; 18%) were the most frequently used types regardless of text type. In the following subsections, I will discuss the effect of text type on the QT question type.

Table 3 The number of questions generated for each QT question type and each text type

	Text type			
Question type	Image	Popular science article	Lifestyle article	Total
Test	3 (3%)	4 (5%)	9 (11%)	16 (6%)
Uptake	5 (6%)	5 (6%)	9 (11%)	19 (7%)
Speculation	*61 (69%)*	10 (12%)	12 (14%)	*83 (33%)*
Generalization	2 (2%)	2 (2%)	2 (2%)	6 (2%)
Affective	12 (14%)	20 (24%)	*43 (52%)*	*75 (30%)*
Connection	0 (0%)	*42 (51%)*	4 (5%)	*46 (18%)*
Analysis	5 (8%)	0 (0%)	4 (5%)	9 (4%)
Total	88	83	83	254

3.1.1 An Image

It was found that for the image, more speculation questions (61 out of 88; 69%) were generated than any other type. A few examples of speculation questions are displayed in (1)–(4).

(1) What if the dog was missing? What kind of reaction would you have?
(2) If you were one of the couple, what would you do if you could move to a big city, a more convenient place?
(3) What if it was raining, then how could they gather all their things?
(4) What if your tent was blown away, what would you do?

As shown in (1)–(4), it seems the students could look at the image and easily imagine lifestyles and speculate on possible situations the couple may encounter. Since there is no text on the image, test questions (3 out of 88; 3%) that require correct answers and connection questions (0 out of 88; 0%) were not favored. Generalization questions (2 out of 88; 2%) and analysis questions (5 out of 88; 8%) that require high-level thinking were few. There are two possible explanations for this: (i) since this was the students' first attempt, the students, under time pressure, may have had difficulty in finding the key point or making a connection to what they had read before; and (ii) it is also likely that getting a key point from an image may be more challenging than doing so from a text, as Taiwan's high school education trains reading comprehension by mainly focusing on texts. Finally, affective questions (12 out of 88; 14%) were not quite common in the group discussion, probably because most students did not have experience of living in a yurt.

3.1.2 A Popular Science Article

For the popular science article, connection questions (42 out of 83; 51%) were favored and heavily discussed. A few examples are shown in (5)–(9).

(5) Does this story remind you of a television commercial in which a character called "butter lion" said, "Visualization is your superpower"?
(6) Has anyone in your life applied the method of "visualization"?
(7) Does this article remind you of any movies you've seen?
(8) Does the article remind you of the "memory toast" in Doraemon? And is it possible that visualization could become a form of "memory toast" in the future?
(9) Do you know of any athlete who used the same method?

Since the students were prepared prior to the class, we can see that the questions they generated had higher quality. In the connection questions, the students could provide examples (such as Butter Lion or Doraemon) in addition to the questions themselves.

The next frequently made question type for the popular life science article was affective question (20 out of 83; 24%). The students tried to link the evidence with their personal experiences. A few examples are shown in (10)–(13).

(10) How did you feel when you just imagined that you were reviewing the courses before the test?
(11) In your experience, what would you do to overcome nervous feelings?
(12) Have you ever done visualization before?
(13) How would you think about the people who always use visualization?

As mentioned in Sect. 2.2.2, a board game poster showing the QT question type on each slot was used during the QT discussion. The reason why the board game was used as a warm-up activity was that the students had had difficulty in initiating a discussion. They did not know what kind of language they could use for opening, interrupting, or wrapping up the discussion. However, building the skeleton was essential before continuing QT instruction. This will be addressed in detail in the following section. This board game helped release their tension of engaging in group discussion and has received many students' positive feedback (see below).

> The course is very much aligned with the textbook. There's a lot of group work and fun games where we have to participate actively.—written by a student in the final course evaluation
>
> Thank you for preparing these wonderful and thoughtful classes for us, I enjoy learning English very much. After this semester, I think that my speaking and presenting skill has improved! Besides, I've learned more about creativity through the class/game activities, this is surely a meaningful course for me.—written by a student in the final course evaluation
>
> I know my English is not good. But I started to gain interest in learning English. The instructor's use of game activities inspired me a lot.—written by a student in the final course evaluation

3.1.3 A Lifestyle Article

More affective questions (43 out of 83; 52%) were discussed than any other type. When the students were discussing the lifestyle article, they quickly linked their personal experiences to the topic. A few examples are shown in (14)–(18).

(14) Have you ever felt overwhelmed by stress? How did you deal with it?
(15) Has stress ever helped you perform better?
(16) Did you take a long time to adjust yourself?
(17) What do you do when you're stressed out?
(18) Have you ever experienced a situation where stress was beneficial?

The next frequently made question types for the lifestyle article were speculation question (12 out of 83; 14%) test question (9 out of 83; 11%), and uptake question (9 out of 83; 14%). It suggests that the students created the questions that were directly linked to the keyword, *stress*. They were trying to find the answer from the article (test question) or looking for alternative possibilities (speculation question). Since the topic was highly related to their daily life, it would be relatively easy for them to

follow up previous questions (uptake question). A few examples are shown in (19) for test question, (20) for uptake question, and (21)–(22) for speculation question.

(19) What are the advantages of experiencing moderate stress?
(20) Q1: How would you feel if stress comes from your family? (affective question)
Ans: I would feel sad.
Q2: Do you have any tip to deal with that situation? (uptake question)
(21) What would happen if a person lives without any stress?
(22) What if we didn't walk through the "low-level" childhood anxiety?

Because the language training was given in the previous week, the flow of discussion became smoother. The students knew how to open a discussion, how to invite the peer to express the opinions, and how to wrap up the discussion. The language skeleton helped them to interact with the group members. This suggests that before we implement QT in a foreign language classroom, it is a good idea to ensure that students have the ability to hold a general meeting or discussion in English. They need to know how to be a host and how to be a participant. Without that language skill, even with interesting ideas in mind, they would probably not know how to break the ice. In other words, in addition to practicing the sentence fragments for each question type, the training of discussion skills should be prioritized in a foreign language classroom.

3.1.4 Leadership Traits

There were two female students with leadership traits who were always very active in class. Although personality traits were not officially examined in this study, an instructor could always identify the active participants in the class. According to personal observation, the two female students always initiated the group discussion, with a particularly loud and confident voice. They could quickly fill the gaps of silence in the discussion by expressing their own opinions. They were also good at inviting their group partners to join the discussion. Further examination of their QT questions show that they were able to ask generalization questions (see (23)–(28)), which was the least frequent type in general (see Table 3).

(23) What kind of lifestyle do Mongolians have?
(24) How would you describe their life?
(25) How would you sum up the concept of 'stress' in one sentence?
(26) What are the pros and cons of stress?
(27) In which aspect can we use visualization to help us?
(28) Which visualization experimental results do you believe in most?

The other students also had generalization questions written on the worksheets (assignment), but that these two students always made sure their generalization questions were fully discussed in every QT session. Compared to other students' generalization questions which were very similar (e.g., what is the main idea of this article?),

the two students' generalization questions varied in both form and meaning (see (23)–(28)). Generalization requires a student to identify the main idea by putting things together. It seems that this higher level thinking ability corresponds to the leadership trait of managing complexity.

The students' preferences for the QT question types seem to have a connection with their personalities. An ideal QT group may have to consist of students of different personalities. This diversity would allow students' discussion to flourish. It is worth investigating in future large-scale studies the relationship of different personalities and QT question types.

3.2 Discussion

Text type was found to be associated with the preference for QT question types. When the image was used for QT discussion, speculation question was preferred, meaning that the students were speculating the imagery that the photo intended to convey. As for the popular science article, the students attempted to make connection between the scientific evidence in the text and the articles or movies they have read or watched before. Finally, the lifestyle article evoked more affective questions than others, as the content in the article was highly related to personal life or experience. The association of text type and question type suggests that in QT training, teachers should use a variety of texts or even images for discussion. The variety of text types could ensure that each QT question type is sufficiently practiced.

One may argue that the text type effect found in this study was confounded by the teaching method. This is possible and should be taken into consideration for future research. As mentioned in Sect. 2.2, different methods were employed: the traditional teacher-oriented method in the image, the board game for the popular science article, and the mock meeting in the lifestyle article. The purpose of utilizing different teaching methods was to encourage the shy students (the majority) to express their opinions. While the students had no difficulty in making QT questions, they had a hard time in initiating and engaging in the discussion. Although the board game facilitated the discussion to a certain degree, it did not seem to be the most effective one for making a fluent discussion. From personal observation, it was clear that what the students needed was the English meeting and discussion skills (for example, how to initiate a discussion, how to invite participants to share their ideas, how to interrupt politely, how to close the discussion, etc.), which provides the skeleton for discussion. The discussion skills including sentence fragments or flowcharts were instructed in the written handouts. It is likely that some students may still not be able to grasp the essence of holding a discussion by simply reading the written information. In future study, researchers can investigate whether seeing a video of discussion (i.e., seeing how people are engaged in discussion) would be more beneficial to second language learners.

I suggest that English meeting and discussion skills should be trained prior to QT implementation. In this way, it would be possible to investigate the text type effect with the same teaching method, or explore the effect of teaching method on the same type of text.

4 Summary and Conclusion

This chapter has found that text type has an effect on the QT question types students can generate. It not only encourages language teachers to include different types of materials for QT discussion, but also shows that language skills, particularly for second language learners, should be enhanced prior to the implementation of QT. The main points of the chapter can be summarized as follows:

- There was an association between text type and the preferred QT question type.
- Speculation questions were preferred for an image. Connection questions were favored for the popular science article, while affective questions were favored for the lifestyle article.
- The students with leadership qualities tended to ask generalization questions to their peers. In other words, high-level thinking questions were evidenced in the students with leadership qualities.
- QT training requires using different types of materials so that each QT question type can be sufficiently practiced.
- Discussion skills should be trained prior to QT implementation, particularly for second language learners.
- Innovative enactment such as board games can be used together with QT for group discussion.

Appendix A: Worksheet

Group: _____
Name: _____
Reading source: _____

List all the questions you want to ask during the discussion. Fill in the question type that each question belongs to. Try to think of as many questions as possible.

No.	Question Type	Question
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Appendix B: Group Discussion Sheet

Group: _____
Name: _____

Summary of your discussion

Question 1 (Category _____):
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

Question 2 (Category _____):
_____
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

Answer provided by _____:
_____

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Understanding the Practice of Quality Talk in an English L2 Class Through Exploratory Practice

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Abstract This chapter delineates a university English teacher's journey in applying Quality Talk (QT) to his English class in Taiwan. The students' questions and perceptions of this approach were analyzed to explore the effects of QT on their learning of English. After QT was implemented in the class for two consecutive semesters, the results show that this approach encouraged the students to raise more questions while engaging them in group discussions; it also further broadened their understanding of text-related issues. Moreover, in accordance with the students' feedback in the first semester, the QT approach was further adapted in the second semester, with the teacher preparing a worksheet for QT discussions and drawing students' attention to essential pragmatic markers for communication. The results reveal the students' perceptions of these two strategies. Based on the findings, this article concludes by providing pedagogical suggestions regarding how EFL teachers can better integrate QT into their classes.

1 Introduction

Classroom dialogue is a vital component in second/foreign language (L2) classrooms, and it enables teachers and students to gain an in-depth understanding of the teaching and learning process. For instance, teachers ask students questions for many purposes, such as activating students' knowledge about a certain topic, ascertaining how much they know about it, or simply checking to see if they have done their reading beforehand. As for students, they are often assigned to work in pairs or groups, discussing and brainstorming a class task together. Even in reading activities, classroom dialogue can not only help students collaboratively build up their comprehension of a text, but also enable teachers to draw students' attention to the key issues in the text.

As an L2 education researcher and university English teacher, I have observed that group discussion among university students is sometimes less effective than I

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expect, despite its potential to enhance students' learning. A common phenomenon that has often puzzled me is: Why is it that some students do not participate in group discussions? While most students in my university-level English classes participate actively in discussions with their peers, there are always some students who are quiet and seem reluctant to take part. Their reluctance may be related to their personal characteristics, group features, or the nature of the reading texts (e.g., Murphy et al., 2016); it may also result from the design of instructional activities or the way these activities are carried out in the classroom. To explore how I could increase students' participation in group work and engage them in more in-depth discussions, I joined a school-wide project initiated at our university (National Taiwan Normal University, NTNU hereafter) that set out to foster students' text-based group discussions in freshman English classes using the Quality Talk (QT) approach.

Having received increasing attention over the past decade, QT has motivated many teachers and researchers (e.g., Lightner & Wilkinson, 2016; Murphy et al., 2018) to explore how this approach can promote the quality of classroom conversations. Wilkinson et al. (2010) define QT as "an approach to classroom discussion premised on the belief that talk is a tool for thinking and that certain kinds of talk can contribute to high-level comprehension of text" (p. 147). Murphy et al. (2018) elaborate on the effects of QT in promoting high-level comprehension, stating,

> In QT, high-level comprehension is achieved through critical-analytic thinking in discourse, which fosters students' basic comprehension, epistemic cognition, and ability to engage in oral and written argumentation. (p. 1120)

To this end, QT encourages students to raise different types of text-related questions and "to think and talk about, around, and with the text" (Murphy et al., 2018, p. 1120). In other words, QT aims not only to promote students' comprehension of a text, but also to encourage them to think beyond the text and draw a link between the reading material and their own experiences and knowledge.

Although QT has been applied in several disciplines (e.g., language arts and science), the fact that it has rarely been used with English L2 students for the purpose of learning English intrigued me and led me to wonder how this approach would influence my teaching and my students' progress. Like some other teachers who were also involved in this research team, I felt curious about whether QT could effectively promote my students' reading comprehension and enrich their group discussions. What's more, many teachers and I believed that QT might pose potential challenges to English L2 learners when they converse in a foreign language that they have not yet mastered. To investigate the influence of QT on my teaching and my students' learning, I conducted this study through Exploratory Practice (Allwright, 2003, 2005).

Exploratory Practice (EP) allowed me to deal with the doubt I had as a teacher and a researcher because it is "a form of practitioner research in language education that aims to integrate research, learning and teaching" (Hanks, 2015, p. 612). According to Allwright (2003), EP treats the quality of life in the classroom as more important than any other goals; it also aims to help teachers and students not only better understand the quality of life in the classroom, but also grow through their understanding. As

previously mentioned, I was eager to find approaches that could effectively facilitate my students' group discussions. Although QT seemed to be a promising approach that could make a difference in students' group dynamics, I was uncertain about its actual influence on my teaching and my students' learning outcomes. To this end, I believed EP could enable me to gain an understanding of the effects of QT on my teaching and my students' learning. Therefore, EP was adopted in this study to address three issues that interested me about QT:

1. What are the effects of the QT approach on university students' ability to formulate meaningful questions?
2. How do university students perceive the effects and limitations of the QT approach?
3. How can the QT approach be adapted to the university students in my class?

In the following paper, I will delineate my journey of integrating QT into my freshman English class at NTNU from the perspective of a teacher and researcher.

2 Methods

2.1 Participants

This study was carried out in a freshman English class offered at NTNU. This course lasted for two semesters, and the class met for two hours weekly for 18 weeks in each semester. Enrolled in this course were 25 non-English majors (3 males and 22 females) from several departments, including Chinese Studies, Geography, Graphic Arts, and Teaching Chinese as a Second Language. Three of the students were international students from Vietnam, Indonesia, and Japan. As the university mainly placed all the freshmen into four levels of English classes (i.e., Elementary, Pre-intermediate, High-intermediate, and Advanced levels) based on their proficiency as measured by the college entrance examination, all of the students in this class were ranked as advanced English learners. My observations of these students as well as my experiences in working with them further confirmed that most of the students were fluent English speakers despite some errors in their speech.

2.2 Design

2.2.1 Course Planning for the Freshman English Class

The first stage of this study was to understand the students' needs and organize the course content accordingly. Yet, because all course planning needed to be finalized before the school year started, it was difficult to reach out to the students

and survey their learning needs and interests prior to the beginning of this English class. Therefore, with five years of experience in teaching freshmen students, I planned the syllabus and selected a textbook for this course based mainly on my own understanding of what advanced-level English learners should learn in a university-level English class and what kinds of course content would best benefit their communication skills in English.

At the time of this study, multicultural education had already been receiving increased pedagogical attention in tertiary education in Taiwan, and many universities were implementing a school-wide multicultural English education project with financial support from Taiwan's Ministry of Education. NTNU was among those universities attempting to improve their previous English learning curricula by instilling multicultural education into their freshman English classes. Therefore, besides its call for more QT in freshman English classes, NTNU was also striving to host different multicultural activities (e.g., the annual International Cultural Festival, field trips, and cultural workshops) to foster students' cross-cultural understanding. Freshman English teachers were also encouraged to integrate more cross-cultural issues into their classroom activities so as to enhance freshmen's understanding of diverse cultural issues and promote their cross-cultural communication skills.

While planning the syllabus for my freshman English class, I took the university's dual focus on multicultural education and QT into consideration. Specifically, I selected a textbook (Blass et al., 2016) which features diverse cultural issues such as gender equality, technology, and remote education. Also inspired by the idea of the cultural portfolio project in Su's (2011) study, I asked the students to complete a cultural portfolio project in small groups as the final term project. As a requirement of this project, they worked collaboratively to clarify their understanding of an unfamiliar culture in a foreign country by following the procedure proposed in Su (2011). All in all, I hoped that this work could expand and deepen the students' understanding of different cultural issues.

2.2.2 Implementation of the QT Approach in This Course

After the preliminary syllabus was formed, I started to consider what data to collect and how to use it to document this QT journey and examine the students' learning outcomes. To this end, I decided to follow a pretest-posttest design and adopt course evaluation surveys for both quantitative and qualitative investigations. Table 1 displays a brief overview of the teaching plan and relevant research activities. To be more specific, a pretest and a posttest were scheduled at the beginning and end of the first semester so as to probe the students' progress in their question strategies. For the pretest, I chose a short news report entitled *From Refugee Camp to Runway, Hijab-wearing Model Breaks Barriers* (Park, 2017), which describes how a young Muslim woman in the USA broke from tradition by joining a beauty pageant contest while wearing a hijab and later started a modeling career. Another article, *Arrests in the Shooting of a Pakistani Schoolgirl* (Ember, 2012), was selected for the posttest. This article describes Malala Yousafzai, the Pakistani girl and Nobel Peace Prize

Table 1 Teaching plans for the fall semester

Time	Content
I. First semester (September 2017–January 2018)	
Week 2	Pretest: *From Refugee Camp to Runway, Hijab-wearing Model Breaks Barriers* (Park, 2017)
Week 4	Workshop on question strategies QT Discussion 1: *The School in the Cloud* (Blass et al., 2016)
Week 9	QT Discussion 2: *Power Shifts* (Blass et al., 2016)
Week 13	QT Discussion 3: *Creative Sparks* (Blass et al., 2016)
Week 16	QT Discussion 4: *Hope and Equality* (Blass et al., 2016)
Week 17	Posttest: *Arrests in the Shooting of a Pakistani Schoolgirl* (Ember, 2012)
II. Second semester (February 2018–June 2018)	
Week 1	Online Evaluation Survey I
III. Summer vacation	Online Evaluation Survey II

winner who condemned the Taliban and was later nearly killed by gunmen due to her fearless remarks. This article was considered comparable to the first, as both of them delineate a young, courageous girl's story of making a difference in the world.

Table 2 shows the comparison between the two reading passages in their readability levels. As the table shows, both passages were about the same length. Although the pretest reading was a bit more difficult than the posttest article as indicated by its lower Flesch Reading Ease level and higher Flesch-Kincaid Grade Level, the difference in their readability levels seemed to be negligible. Therefore, these two reading passages were considered to be comparable. For both tests, the students read the passage for 15 minutes and brainstormed as many questions as possible within another 10 minutes.

Between the pretest and the posttest, one workshop was arranged in Week 4 to familiarize the students with the idea of QT. In this workshop, I introduced the students to the concept of QT and different types of question strategies (all the question types on Table 3 except extended questions were introduced). A number of example questions were also provided to help them better understand how to apply these strategies to develop questions based on a text. Following the workshop, four discussion activities took place between Weeks 4 and 16. Every time we began a new unit, I would ask the class to preview the reading passage and raise as many questions as possible before their group discussion.

Table 2 Readability levels of both reading passages

Criteria	Pretest reading	Posttest reading
Word count	440	464
Number of sentences	20	24
Flesch reading ease	43.5	51.0
Flesch-Kincaid grade level	12.0	10.7

Table 3 Classification and definition of question types adopted in this study[a]

Code	Category	Definition
1	Authentic questions	Questions that ask students to use advanced thinking to produce unpredetermined answers
1-1	Generalization questions	Questions that ask students to integrate or synthesize details in the text
1-2	Speculation questions	Questions that ask students to consider other possibilities
1-3	Analysis questions	Questions that ask students to break down the text and analyze it critically
1-4	Affective questions	Questions that ask students about their feelings in relation to the text
1-5	Connection questions	Questions that ask students to relate the text to their prior experiences, knowledge, or other textual materials
1-6	Extended questions	Questions that are related to but largely go beyond the issues discussed in the text
2	Test questions	Questions that only required basic understanding of the text; correct answers are predetermined

[a]Based on Murphy and Firetto (2018) and Davies et al. (2017)

In discussing the text, they worked in a group of five people, and had approximately 20 minutes for group discussion. They were fully responsible for their own discussions, and I would only join them for a while as a listener. All QT discussions were implemented in the classroom by considering the four major components of QT introduced in the first chapter of this book: *instructional frame*, *discourse elements*, *teacher scaffolding*, and *pedagogical principles* (Murphy & The Quality Talk Team, 2021). For example, the students chose their group members for discussion and had control over what topics they would like to discuss as a group as well as how to run their discussions (instructional frame). Prior to each group discussion, the question strategies of QT were reviewed to remind the students of the importance to raise questions about the text from different angles (discourse elements). Sometimes, I would also orally give a few sample questions about a given text to encourage students to reflect upon a text in depth (teacher modeling). In addition, I also attempted to build a classroom environment that welcomed different ideas and encouraged students to share their insights without fear by avoiding correcting students' grammatical errors in their speech when the errors did not hinder communication (pedagogical principles). Overall, these four components lay an essential groundwork for all the group discussions in this course.

After these discussions ended, we looked at the text together as a class, reviewed the essential vocabulary, and went through the reading comprehension exercises at the end of the unit. Moreover, one thing worth noting here is that this workshop did not teach the students about how to respond to text-related questions. As the idea and application of QT was still very new to the students, it was considered more manageable for the students to focus on the issue of how to generate diverse

text-related questions first before they moved on to learn about different response types.

In addition to comparing the students' question strategies between the pretest and the posttest, I also asked the class to fill out two online evaluation surveys to explore their perceptions of QT. The first survey (see Appendix A) contained three questions that aimed to determine how the students felt about the course and QT in the first semester, while the second one (see Appendix B) set out to explore their evaluation of the course in the second semester with six questions. More specifically, on the second survey, while Questions 1, 2, and 5 were mainly retained from the first survey, Questions 3, 4, and 6 were added to explore how the students felt about the handouts, the English expressions they learned in each unit, and the QT approach as a whole. Thus, both surveys contained several open-ended questions, and the students' responses were later analyzed to ascertain the strengths and limitations of QT in both semesters. More importantly, as this study examined the effects of QT through Exploratory Practice (EP), both surveys enabled the students to gain a greater understanding of their own learning by reflecting upon the instructor's teaching, the classroom materials, and their own learning progress. Understanding the students' opinions also allowed me to look at my own teaching closely and consider the students' needs more; some proper pedagogical adjustments could thus be made to facilitate group discussion in this class.

2.3 Data Collection and Analysis

The data analyzed in this study were collected mainly from the students' pretest and posttest and the two evaluation surveys they completed at the end of the first semester and the second semester, respectively. Specifically, the students' questions on the pretest and posttest were analyzed at two levels. Based on Murphy and Firetto (2018) and Davies et al. (2017), all of the questions were initially classified as either authentic questions or test questions. Authentic questions were further sorted into six subcategories, namely, generalization questions, speculation questions, analysis questions, affective questions, connection questions, and extended questions. Among the six subcategories of authentic questions, extended questions were added to the original classification framework as a new question type because many questions in the data pool showed that the students extended a certain issue in the text and discussed it on a different level or from a different perspective. For example, after reading the article, *From Refugee Camp to Runway, Hijab-wearing Model Breaks Barriers*, one student asked, "Do you think people really can achieve race equality?" and "What kind of helps or assistances that American can give to the refugees?" (grammatical errors in the students' output are retained throughout the article). Both questions show that this student went beyond the text to discuss the achievability of race equality and refugees' needs on the societal level. Although these questions require high-level thinking skills, they did not fit in the category of high-level

thinking questions, which mainly consists of generalization, analysis, and speculation questions, according to Murphy and Firetto (2018). The subcategory of extended questions was thus added to the coding scheme. On the other hand, I did not include uptake questions in this coding scheme because the pretest and the posttest collected only the students' individual written work for analysis, which did not allow this study to delve into students' question strategies during group discussions. The definitions of the question types are shown in Table 3.

3 Findings and Discussion

3.1 Findings

3.1.1 Effects of the QT Approach on the Students' Question Strategies

To probe the change in the students' use of question strategies, I compared the types of questions they proposed between the pretest and posttest conditions. Specifically, a research assistant and I first analyzed all of the responses individually; after our initial analysis, we then discussed all the data again to solve any disagreements in the classification of the questions. Table 4 displays the classification of these questions. On the pretest, a total of 99 questions was proposed by 24 students in relation to the reading, *From Refugee Camp to Runway, Hijab-wearing Model Breaks Barriers*, with each participant asking 4.13 questions on average. On the posttest, 146 questions were collected from 22 students who were present in class on that day, with each of them raising approximately 6.64 questions based on the article, *Arrests in the Shooting of a Pakistani Schoolgirl*.

Based on Table 4, several findings are particularly noteworthy. First, in general, the students raised more questions at the end of the course. Second, most of the

Table 4 Classification of the participants' questions

Code	Question type	Pretest ($n = 24$)		Posttest ($n = 22$)	
		Number	Percentage	Number	Percentage
1	Authentic question	91	91.92	108	73.97
1-1	Generalization question	7	(7.69)	7	(6.48)
1-2	Speculation question	22	(24.17)	32	(29.63)
1-3	Analysis question	12	(13.19)	7	(6.48)
1-4	Affective question	15	(16.48)	12	(11.11)
1-5	Connection question	7	(7.69)	25	(23.15)
1-6	Extended question	28	(30.77)	25	(23.15)
2	Test question	8	8.08	38	26.03
Total		99	100%	146	100%

questions raised by the students in both the pretest and posttest conditions were authentic questions (pretest: 91.92%; posttest: 73.97%). However, the decrease in the percentages of authentic questions may be due to the different topics of the reading materials. On the other hand, this table also shows a noticeable increase in the test questions. Moreover, in the pretest condition, most of the authentic questions were extended questions (30.77%), speculation questions (24.17%), and affective questions (16.48%), with the other three question types being used only minimally. In the posttest condition, most of the authentic questions were speculation questions (29.63%), connection questions (23.15%), and extended questions (23.15%). Taken together, these results suggest that the students became more capable of generating questions for group discussion through the process of participating in QT discussions during the semester. On both test conditions, they generally proposed more speculation questions and extended questions, and the percentages of connection questions increased from 7.69 to 23.15% after the training. Example questions collected from the students are shown in Table 5.

3.1.2 Students' Perceptions of the QT Approach

Of the 25 students enrolled in this class, 12 students completed the first online evaluation survey that asked them about the strengths and limitations of the QT approach, with the response rate being 48%. As for the benefits of QT, results of the analysis show that students favored QT for two main reasons. First, by prompting the students to produce a wide range of questions relevant to the text, QT encouraged them to think about the text from diverse perspectives, which stimulated their thinking skills. At the same time, it also allowed the students to hear their classmates' insights as well as obtain feedback from them. For example, several students commented on these advantages by stating:

> I can convey my own idea and opinions and discuss with teammates to know others' viewpoints. (Student 1)
>
> I think this learning style gives every student an opportunity to express his/her own ideas and claims, and obtain feedback from other classmates, which help the student to look at an issue from diverse perspectives. (Student 2)
>
> It can facilitate thinking skills, and [help me] get to know different issues to gain knowledge. (Student 3)
>
> I like some topics that made me think more deeply in the issue. (Student 11)

Nevertheless, QT also has its pedagogical limitations. The major problem that confronted the students was associated with their expressive skills in English. Although many of them had ideas in their mind, they had problems expressing them clearly in English. One of them also responded that he/she felt anxious about speaking English. These factors influenced the students' participation in group discussions.

> Sometimes I know what to say in my mind but I just cannot express it promptly and accurately enough in English. (Student 2)
>
> Sometimes I didn't know how to put my idea into words to tell my classmates. (Student 5)

Table 5 Example questions collected from the students

Question type	Pretest: *From Refugee Camp to Runway, Hijab-wearing Model Breaks Barriers*	Posttest: *Arrests in the Shooting of a Pakistani Schoolgirl*
1. *Authentic question*		
1-1 Generalization question	• Do you think Halima is confident? • What impact did Halima Aden make by wearing hijab on the runway, especially on teenagers?	• How does Malala's action change the world? • What do you learn from Malala?
1-2 Speculation question	• If refugees immigrate to Taiwan, would you make friends with them? • Is it possible that the hijab culture goes into the mainstream of fashion one day?	• What would you do if you are a girl who is banned from education? • If Malala doesn't survive, what the influence of this attack is?
1-3 Analysis question	• Why is Halima distinct from other girls? • Do you think Halima is different from other American models? Which part is different?	• Malala has courage, and what other personality did you observe from her story? • What was the most important key to Malala's success?
1-4 Affective question	• Do you think Halima is beautiful? Which part? Her spirit or appearance? • Do you want to become a person like Halima?	• What do you think about Malala's acts? • How do you feel when you saw Malala's bravery for resisting?
1-5 Connection question	• What's the true meaning of hijab to Muslim women? • This report raises an issue on respecting other's culture, what part of tradition in Taiwan is not respected now?	• What's the common place between Malala and Denise Wallace? • What inspiration may Malala's incident give to people?
1-6 Extended question	• What's the origin of hijab? • Do you think people really can achieve race equality? • What kind of help or assistance that American can give to the refugees?	• What can Pakistan's government do to make sure that school children are protected? • How did Taliban know Gul Makai is Malala?
2. Test questions	• How is Halima Aden? • How did she break barriers?	• Why did a fourteen-year-old school girl get shot? • What organization do the gunmen belong to?

Note Grammatical errors in the students' questions are retained in the table

> Sometimes my thoughts seem to be complicated and difficult to understand, and I cannot express them clearly owing to my current English proficiency. (Student 7)
>
> I cannot speak English fluently, and I also have a fear of speaking English because I know too little vocabulary to convey my idea well. (Student 9)

Apart from sharing their insights with regard to the strengths and limitations of QT, the students suggested many ways that could help QT proceed more effectively, such as "[ensuring] time management is more flexible" (Student 2), "tape-recording group discussions" (Student 3), "giving students more questions related to the topic" (Student 11), "joining the discussion with students" (Student 12), and "encouraging every student to express their ideas bravely, and guiding them to speak out step by step" (Student 7). These suggestions provided a useful groundwork for me to further modify the course and adapt my teaching to students' needs in the subsequent semester.

3.1.3 Adaptation of the QT Approach in the Instructional Activities

While the previous section reports the students' perceptions of QT in the first semester, my journey with QT went on in the second semester. In that semester, 23 of the students continued to take the course, with one new international student joining them, resulting in a total number of 24 students. Based on the students' earlier responses, I decided to slightly modify my teaching style and instructional activities in the hope that QT could be better adapted to the students' preferences and characteristics.

The two most significant changes involved the use of class handouts and the teaching of pragmatic devices. With regard to the use of handouts, while QT encouraged students to raise diverse questions freely with only minimal teacher involvement, sometimes I felt confused about how to bring the class back together and wrap up the discussion after the conclusion of the students' work in small groups. After consulting with a colleague, I decided to prepare a handout for each round of QT discussion, which could hopefully enable me to manage the class more effectively. To be specific, the handouts included two core sections: Essential Vocabulary and Useful Expressions (see Fig. 1 for some sample items). The first section aimed to help students review key vocabulary in the reading passage before they started to discuss it, and the second section presented useful English expressions or pragmatic devices they might find helpful during group discussions. In the Useful Expressions section, we used materials based on Keller and Warner (1995) to discuss how to politely interrupt other people's talk, how to state a possibility, how to highlight a point, and how to correct a previous statement.

What's more, to explore the students' perceptions of these two pedagogical modifications and the QT approach practiced in the second semester, I invited them to fill out the second online evaluation survey. Of the 24 students enrolled in this course, 13 students completed the survey, with the response rate being 54.2%. As this survey aimed to discover the effects of using handouts and teaching pragmatic devices on

I. Essential Vocabulary

1. d_____ (v.): to break down or destroy something (Answer: damage)

2. s_____ (adv.): happening at the same time (Answer: simultaneously)

3. un_____ (adj.): not dependable; not totally trustworthy (Answer: unreliable)

II. Useful Expression: How to Interrupt Others Politely

1. Excuse me, can I share my experience here?

2. That's interesting, and could you please tell us more about it?

3. Sorry to interrupt you, but could you please explain your idea again?

Fig. 1 Sample items on a class handout

the students' group discussions, I will focus on the students' responses to Questions 3 and 4 in particular.

With regard to the effects of the handouts, 9 of the 13 respondents (69.23%) were in favor of my intention to facilitate the QT discussion with a handout. Most of them found the handouts useful because they could provide a more straightforward direction about how to proceed with their discussion and what vocabulary they could use from the assigned reading. The handouts also helped them gain a comprehensive understanding of the reading passage to be discussed with their partners. Their responses are as follows:

> The handout made the discussion more specific. (Student 2)
>
> Handouts help me to figure out the structure of the article in more detail. (Student 6)
>
> I think it is helpful, because we can discuss the questions on the handout directly, which is more efficient. (Student 8)
>
> Personally, I like that approach, because I like to write down notes on the handout. It's convenient to have some inspiration and vocabulary at hand, which can also serve as a reminder. (Student 12)
>
> I think the handout is very useful because it give some directions when the group has no idea about the discussion. (Student 13)

However, three students did not deem the handouts (23.07%) to be useful. While two of them did not clearly specify the reasons, Student 5 responded that students could

take part in any group discussion as long as there is a question to discuss, and having a handout does not significantly help them.

> I think handout doesn't apparently help. As long as there'll be a question, we can do the discussion. As a result, I think the function of the handout is the vocabulary part. (Student 5)

Moreover, Student 11 had mixed feelings about the use of handouts and considered it as a double-edged sword that might facilitate their discussion but also lower their motivation to brainstorm questions by themselves. This student's response follows:

> I think it can facilitate the QT approach very much, but it also allows us to be lazy. Once we have the handout's content to discuss, we pop up fewer question by ourselves, and sometimes when we finish discussing the handout, our discussion ends as well. (Student 11)

Secondly, the students' responses were also analyzed to determine their impression of the effects of teaching pragmatic devices. Analysis of their responses also shows mixed results. On the one hand, 8 out of the 13 students (61.54%) responded that the explicit instruction about pragmatic devices was helpful, such as Students 4 and 6. Student 6 even considered this part of the instruction to be "the most practical part of the course." However, as pointed out by Student 8, students may need more practice so as to apply these pragmatic devices more actively when they are talking in a group. Also, Student 11 responded that although learning the pragmatic devices was useful, they did not always apply the pragmatic devices in their discussion.

> Yes, I think it's good to tell students some skills that we can apply in real conversation and turn them into a habit. (Student 4)
>
> I think it works, but we need to practice them more after class, so that we can use them more actively in group discussion. (Student 8)
>
> Yes, I think it's helpful. It teaches us how to communicate politely, but sometimes when we discuss actively, we forget to use the expression. (Student 11)

On the other hand, 5 students (38.46%) felt that learning the pragmatic devices was not particularly helpful. Student 1, for example, stated that he/she was more "accustomed to using simple expressions." Moreover, Students 5 and 12 both suggested that students should be given chances to figure out how to interact with other people appropriately by themselves, rather than learning the rules explicitly in class. Both of them believed that students could remember more deeply the rules they themselves induce from authentic interaction, and they could even produce better ways to interact with others.

> Maybe it does help to those who really barely have discussion experience. In my case, I think we will learn these English expressions through the process, and they are not necessary be taught. When we learn them by ourselves, that would be natural that we'll never forget them. However, we may not understand them via teacher's teaching on purpose. (Student 5)
>
> No, I think giving students the opportunity to talk more and encourage them to find their own ways to interrupt a conversation or show reservation before teaching expressions would be an interesting experience, that might stay in their heads. In real life, we also learn from making mistakes, so in my opinion, students should be encouraged to make mistakes before they learn the best solution to their problems. May they can even come with better solutions than the ones suggested by textbooks and study guides. (Student 12)

3.2 Discussion

This study aims to outline my journey of integrating QT into my freshman English class and adapting it according to my students' needs. It also reports the students' perceptions of QT and related instructional activities. Based on the analysis of the questions raised by the students as well as their evaluation surveys, this study shows that the students generally perceived QT to be conducive to their English learning experience. It encouraged them not only to interact with their peers more actively but also to look at an issue from diverse perspectives. At the end of the first semester, the students also demonstrated their ability to generate more questions for group discussions based on a reading passage. Moreover, in the second semester, QT was adapted to better facilitate students' group discussions, with the instructor employing a handout and introducing essential pragmatic devices. While most of the students who completed the surveys felt very positive about the usefulness of the handout, they generally had mixed feelings toward the pragmatic devices, which suggests that further investigations are needed to explore how to better adapt QT for advanced English L2 learners.

4 Summary and Conclusion

As Allwright (2003) highlights, Exploratory Practice (EP) sets out to "develop our [teachers'] *understandings* of the quality of language classroom life" and ensure that "practitioners, learners as well as teachers, can expect to gain, to 'develop', from this mutual process of working for understanding" (emphasis in the original; p. 114). During the course of this research project, my students came to realize that the challenges affecting their participation in group discussions included problems in expressing themselves in English, insufficient English vocabulary, and fear of speaking English. This project also helped them better understand that generating diverse questions based on a text can stimulate their thinking skills, promote their comprehension of a text, and enrich their understanding of the text. During the course of the project, I also gradually came to understand that QT can enliven students' group discussions and encourage them to take part more actively. It can also lead them to look at the issues discussed in the text from diverse perspectives, and use the text "as a jumping off point for productive talk in discussions" (Murphy & Firetto, 2018, p. 102)

Nevertheless, QT is not a pedagogical panacea that can apply to all classroom settings across all subjects without proper adaptation. Teachers should adapt QT based on their understanding of students' needs and characteristics, and ensure that QT helps achieve this result. Although the changes I made to QT in the second semester did not work out as well as expected, the challenge will motivate me, as an English teacher and L2 education researcher, to continue reflecting on how to

further adapt QT for my students. To sum up, the main findings and their pedagogical implications of this chapter can be summarized as follows:

- This study shows that QT motivated the students to raise more text-related questions. It encouraged them to think about a given text from different angles and enabled them to hear their peers' insights about the text.
- Extended questions and speculation questions were common before and after the students participated in the QT discussions.
- The use of handouts was favored by many students as a way to facilitate group discussions.
- Teachers are encouraged to adopt QT to create more group discussions and to help students explore a given text in depth.
- Teachers can give students appropriate scaffolding (e.g., worksheets and vocabulary) to help students participate in group discussions effectively.
- To make QT effectively fit in the target classroom context, teachers can make some appropriate adaptations to this approach by considering the students' characteristics, progress, and responses.

Appendix A: Learner Perception Survey on the Quality Talk Approach

1. What do you like about the Quality Talk approach?
2. What challenges did you encounter when you participated in the Quality Talk approach last semester?
3. What can the instructor do to make the Quality Talk approach more effective this semester?

Appendix B: Learner Perception Survey on the Adaptation of the Quality Talk Approach

1. What do you like about the Quality Talk approach?
2. What challenges did you encounter when you participated in the Quality Talk approach this semester?
3. In this semester, the instructor attempted to facilitate group discussion by preparing a handout for each textbook unit. Do you think that using a handout can facilitate the QT approach?
4. In this semester, the instructor aimed to facilitate group discussion by teaching useful English expressions, such as how to interrupt a conversation, and how to show reservation about a topic, etc. Do you think learning these English expressions can facilitate Quality Talk discussion?

5. What else can the instructor do to better prepare you for Quality Talk discussion in the English class?
6. Any other comments and suggestions about the Quality Talk approach?

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English-as-a-Foreign-Language Learning for Communication Purposes and Enhancement of Critical-Thinking Skills: The Quality Talk Approach

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Abstract The cultivation of students' critical-thinking abilities and English-communication skills in higher education has gained prominent focus in a globalized era. However, an integrated pedagogical approach with a dual emphasis remains a challenge in English-as-a-foreign-language (EFL) educational contexts in Asia. By incorporating the Quality Talk (QT) model into a yearlong freshman English course at a public university in Taiwan, this study investigated this discussion approach and the extent to which it facilitates the development of the participants' critical (reflective and analytic) thinking. The study also provides insight into how incorporating QT enhances university students' capacity to employ their facility with the English language to exchange perspectives. The results indicate a positive relationship between learners' critical-thinking skills and QT instructions, in addition to an evident enhancement of their verbal English capacity. These findings have pedagogical implications for the facilitation of students' English competency and critical thinking in EFL university settings.

1 Introduction

Twenty-first-century skills require individuals to communicate effectively, with fluent and eloquent verbal proficiency in spontaneous and dynamic group environments; young adults are also expected to possess the capability to convey complex issues with sound critical and reflective abilities via logical reasoning and keen observations of the world around them (Pacific Policy Research Center, 2010). In fact, critical-thinking and communication abilities are identified as essential interrelated skills (Wismath & Orr, 2015), and are imperative in addressing nations' economic developments and arising societal demands (e.g., Wrahatnolo & Munoto, 2018; Wright & Lee, 2014). Specifically, with globalization on the rise, a vast amount of information about a multiplicity of ideas and diverse cultures, and the fact that

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English is considered a "global language" (Nunan, 2003, p. 589), English-as-a-foreign-language (EFL) classroom settings provide a fertile learning ground for the facilitation of students' critical-thinking abilities alongside language lessons (Yang & Gamble, 2013).

In particular, universities are considered vehicles for the cultivation of critical-thinking abilities and English-language communication abilities, and the development of critical thinking in EFL higher education is considered a primary goal (e.g., Qing, 2013; Zhao et al., 2016). In academic settings especially, individuals must be able to rationalize and think cogently, and students must learn how to convey their ideas and reason out their thoughts with strong communication skills (Bruffee, 1984). Hence, for individuals to establish their English proficiency, they must be "creative in their production of ideas, and critically support them with logical explanation, details and examples" (Qing, 2013, p. 7). It is clear that critical thinking and English-communication abilities are intricately interconnected with EFL classroom learning.

Nevertheless, although critical-thinking capacity is extremely necessary, such as evaluating various viewpoints, analyzing complicated issues and ideas, and making inferences from printed materials and digital media sources, these critical-thinking abilities appear to be lacking among students (Bråten et al. 2014; Murphy et al., 2018). In fact, the need to incorporate critical thinking into EFL settings in the East Asian context perhaps presents an even larger dilemma, given that, conventionally, traditional instruction has consisted of rote memorization. This kind of pedagogical approach offers few of the discussions and viewpoint-sharing opportunities needed to enhance critical and reflective thinking (e.g., DeWaelsche, 2015).

Positive research findings, however, such as those presented in DeWaelsche's (2015) study, indicated a promising outcome between students' critical thinking and dialogical inquiry, as was found feasible in Korea. Indeed, the positive relationship between group discussions and critical thinking is affirmed by the value derived from their use; information exchanges via interactive dialogic process allow group members to attend to other people's thoughts and rationale processing, to solidify their own ideas, and to extend their perceptions beyond their own (Dixson, 1991). Moreover, when individuals express themselves in such dialogical situations, they must be able to "commit [themselves] to ideas—to understanding, to analyzing, to solving—and stand responsible for recommending those ideas" (Walter & Scott, 1984, pp. 10–11). Hence, with underlying principles of "open, critical, and free discussion and deliberation," participants in group discussions learn to examine ideas and to make judgments (Ikuenobe, 2002, p. 381). Such dialogical approach thus has the potential to assist students to stretch beyond pure recitations of fixed information; and to elucidate their thoughts via the target language.

In particular, the QT model under study is a "multifaceted approach to classroom discussion" (Murphy et al., 2018, p. 1120) that can benefit students and improve their reasoning capacity, comprehension, and critical-thinking skills, according to one prime originator of the model—Murphy (2017, as cited in Buterbaugh, 2017). Essentially, via the QT approach, with its small-scaled discussions, students are

required to take a more active role with self-generated questions, and the participants are encouraged to hold their own "interpretative authority and alternative, reasoned judgments" (Murphy et al., 2014, p. 562). It is believed that learners can improve on their critical skills—both analytical and reflective dimensions (Li et al., 2014; Murphy et al., 2009). While *critical–analytic* stance refers to one's ability to interrogate, assess, and ponder underlying messages (Davies & Meissel, 2016), *critical–reflective* abilities refer to one's ability to make inferences and make sound decisions (Ennis, 1987; Wilkinson et al., 2010). Simultaneously, another potential benefit of the small-group discussion model in the QT framework is its promotion of students' verbal-communication abilities. Specifically, from QT's foundational goal of fostering students' "ability to think and reason about, around and with oral and written discourse" (Murphy et al., 2016, p. 27), one can safely assume that, for students to engage in deeper discussions with higher-order thinking, they must actively apply their spoken skills to logically express their viewpoints and perceptions, which are embedded in higher levels of literal comprehension.

Given the heightened need for an instructional approach that fosters individuals' higher-order thinking and verbal communication in the aforementioned East Asian EFL settings, and the scarcity of pedagogical practices premised upon small-group discussions with a student-centered dialogical approach, this study is an investigation of the incorporation of the QT discussion approach into an EFL university context and the extent to which it facilitates the development of the students' critical (reflective and analytic) skills, as well as English-communication capacity. Moreover, this study attempts to draw implications for the feasibility and functionality of a student-led-discussion pedagogical approach governed by QT in EFL's higher education context.

As such, the two research foci in this study are:

1. Does the QT model help develop and improve students' higher-order thinking abilities? In what capacities does it help?
2. How effectively does the QT pedagogical approach enhance students' English-communication skills?

2 Methods

2.1 Participants

This study was conducted in a non-English-major freshman course offered at a public university in North Taiwan. The one-year course was offered in two consecutive semesters; each semester comprised 18 weeks of class lessons, with 2 hours of lecture each week. The students in this course came from several disciplinary areas: music, education, special education, business administration, East Asian studies, Chinese as a second language, technology application, human resource development, human development and family studies, educational psychology and counseling, and adults and continuing education. Of the 20 students (14 females and six males) enrolled

in the class, six were international students from four countries, Indonesia (two students), Malaysia (two students), Brazil (one student), and Paraguay (one student), and the remaining students were domestic students from various towns and cities in Taiwan. The students in this course were at the advanced level, according to the university placement based on their national college entrance exam scores (the four levels of English courses were basic, lower-intermediate, higher-intermediate, and advanced).

2.2 Design

2.2.1 Action Research

The present study employed integrated qualitative and quantitative action research, along with systematic course planning and documentation, to yield implications for teaching practices and course implementation in similar contexts. Informed by such researchers as Ferrance (2000) and Mertler (2013), classroom-based action research is appropriate for practitioners to conduct systematic investigations of their classroom teaching practices and instructional strategies for enhanced effectiveness. Specifically, action research allows teachers to address specific questions in their classrooms, with explorations and examination of the feasibility and efficacy for the implementation of certain teaching approaches, and for future teaching improvements (Mertler, 2013). Action research thus provides teachers with a way to evaluate a new curriculum, assess a new teaching approach, or experiment with existing teaching pedagogies in their classrooms (O'Connor et al., 2006). The QT pedagogical approach is novel and at the experimental stage in the EFL university setting in the Taiwanese context; therefore, action research is ideal for the exploration of the intended research questions.

2.2.2 Weekly Class Lesson

The thematic lesson planning utilized the subject discussions in an EFL textbook as a prime base. This textbook, *Mosaic 2 Reading* (Wegman & Knezevic, 2014), was chosen because its format is engaging, interactive, and communicative in nature, and it provides the academic content suitable for adolescents and adults. The topics span multiple domains, such as language development, gender issues, social media, arts and entertainment, scientific inventions, social movements, environmental concerns, transitional adaptions, and conflict resolution. Drawn from multimedia resources, supplementary materials, such as articles, news reports, films, and short documentary passages are included to enhance the students' familiarity with the discussion topic corresponding to the selected themes presented in the textbook. Therefore, the students' discussions often center on a combination of video input and printed texts, in combination with the regular textbook chapter assignments.

2.2.3 Instructional Approach and Group Arrangement

The QT model served as the main instructional approach throughout the two semesters, with thematic lessons drawn from different disciplines. Specifically, after a brief introduction of the content topic from the instructor at the beginning of the lecture, the students then engaged in small-group discussions based on each members' two self-initiated questions for the designated topical discussion. As for the QT discussion groups, the group members were randomly assigned to four groups with five members in each. The random drawing of students for discussion groups was for diversity reasons and for language practices purposes. This group arrangement was intended to provide students with opportunities to work with unfamiliar class members of various majors. In terms of the medium used in class, a full English-immersion approach was adopted for this class, mainly to enhance students' integrated communicative competence and to foster their subject learning (e.g., Messerklinger, 2008). Therefore, the class lessons were provided entirely in English and the students were required to communicate in English and to apply discussion strategies whenever faced with communication challenges.

2.3 Data Collection and Analysis

Three major data-collection tools were used to collect data from each of the class participants: (1) a course questionnaire, (2) a QT discussion learning portfolio, and (3) an end-of-semester survey. At the beginning of the semester, a course questionnaire was distributed to determine the students' self-reported English-language proficiency, strengths, and weaknesses. The questionnaires included questions about the students' former English training and experiences, as well as their goals and motivations for their English-language study. Second, portfolios were distributed, documenting students' questions (two questions per person) and their team members' responses, their self-perceived benefits gained and challenges faced, the views they heard, and the roles they assumed during each assigned topical discussion. They participated in eight topical discussions and corresponding entries in the first semester and six topical discussions and entries in the second semester. Finally, at the end of the semester, a survey was distributed that asked the students to evaluate and rank their agreement or disagreement on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), regarding the QT framework and relevant dimensions, as well as their perception of this instructional approach.

2.3.1 Coding: Critical-Thinking Dimension

For the purposes of this study, special emphasis was placed on students' progress in their application of higher level thinking questions (HLTQs) that addressed the generalization, analysis, and speculation dimensions during the progressive year. The

Table 1 Categorization and description of the question types in this study

Type of question	Description
Test questions	Correct answers that can be found directly from the text or materials presented (the answers are presumed to be fixed)
Authentic questions	Open-ended questions that do not have correct or predetermined answers
Connection questions 1. Shared-knowledge questions: Questions that ask students to relate the textual information to common knowledge, shared topics, and/or prior experiences 2. Intertextual questions: Questions that elicit students' connections between two or more textual materials (e.g., films, movies, art works, novels, and magazines)	Questions that elicit students' responses through references to other literary or nonliterary works
Uptake questions	Questions that elicit students' thoughts about a prior statement or about information mentioned earlier in the discussion
Affective-response questions	Questions that ask students about their feelings in relation to the text or materials presented
Higher level thinking questions (HLTQs): 1. Speculative questions: Questions that engage students in thinking about alternatives 2. Generalization questions: Questions that require students to derive new information by forming broad ideas, themes, and general rules from details 3. Analysis questions: Questions that require students to deconstruct major concepts, ideas, or arguments to elicit the relationships among the parts of a whole	Questions that lead to generalization, speculation, and/or analysis

Source Murphy et al. (2017)

questions and responses were coded according to the manual book by Murphy et al. (2017) (Table 1).

2.3.2 Coding: Issues Faced and Benefits Gained

Using the analysis of the students' journal entries based on various topical discussions, the students' self-identified issues and concerns, as well as the benefits they identified were categorized and coded.

1. Respondents identified the benefits of topical discussions as follows:

(1) Smooth, fruitful, and productive discussions
(2) Various perspectives gained and various voices heard
(3) New knowledge of the topic under discussion
(4) Varying views of plots after discussion
(5) Attitudinal changes
(6) Improved critical-thinking abilities
(7) Learning from others
(8) Improved language skills.

Note that, for the analyses and the computation of students' verbal-communication development and progress, Items (1), (2), (3), and (8) in this list are classified as effective opinion exchanges during the various topical discussions. A graph of the students' progress in their English exchanges is shown in Fig. 11.

2. Respondents identified the drawbacks of topical discussions as follows:

(1) Unfamiliar topics
(2) Time imitations
(3) Limited expression skills
(4) Language issues
(5) Difficulty coming up with (high-quality) questions
(6) Miscellaneous issues, such as a lack of leadership, high complexity, and inadequate information exchange.

Each miscellaneous issue appeared only once or twice among the 14 entries from the 20 participants. Note that for the purpose of the computation of language barriers and impediments to students' verbal communication, Items (3) and (4) are coded as language problems. A graph of the students' English-communication challenges is shown in Fig. 11.

3 Findings and Discussion

This research addresses the ways in which the QT instructional approach, adopted in a non-English-major freshman course at an EFL university in Taiwan, has affected the students' learning with respect to their critical-thinking abilities and English-communication capacity. The quantitative and qualitative findings suggest that, through the incorporation of the QT pedagogical approach, students' higher-order thinking abilities, including their critical (reflective and analytic) skills, have been strengthened. This is evident by the expansive types of higher-order thinking questions prompted during the students' small-group discussions that occurred progressively during the one-year course. Simultaneously, as time progressed, students increasingly described the benefits of having more productive and fruitful discussions, accompanied by the increasingly wider variety of perspectives they gained and the varied ideas they exchanged, as well as fewer reported communication barriers

and concerns. Finally, at the end of the semester, a majority of the students indicated their positive experiences with the QT model framework and in the areas of enhanced English communications and improved critical skills, aside from their broadened viewpoints. Specific findings, as well as potential factors for the resulting outcomes and educational implications, are provided in the subsections accordingly.

3.1 Findings

3.1.1 Students' Enhanced Dual-Skills

Based on the statistics gathered from the end-of-semester surveys, students identified strongly with statements such as enhanced critical–analytic abilities and English-expression skills (as shown in Fig. 1). For instance, for their generalization abilities (corresponding to Question 2 on the survey, shown in Fig. 6), the students generated an average rating of 4.65 on a scale from 1 (*strongly disagree*) through 5 (*strongly agree*). In terms of their English-expression skills, on a scale from 1 (*strongly disagree*) through 5 (*strongly agree*), students gave an average score of 4.8 for their self-perceived improvements in this area (Fig. 1, Q5).

In particular, all of the students expressed their positive learning experiences with respect to the QT instructional approach (as indicated by Question 14, shown in Fig. 2). Specifically, 69% of the respondents expressed that they strongly agreed that the QT instructional approach offers a positive learning experience, and 31% agreed with this (shown in Fig. 2). The students' strong affirmation of the positive impacts of the QT pedagogical approach amounted to an average of 4.68 agreement on a scale from 1 to 5. In the open-ended question, asking the students to provide their own answers as to why they felt that the QT approach was a positive learning experience, the students provided comments that also indicate a positive correlation between the QT framework implementation and their improvements in critical thinking and

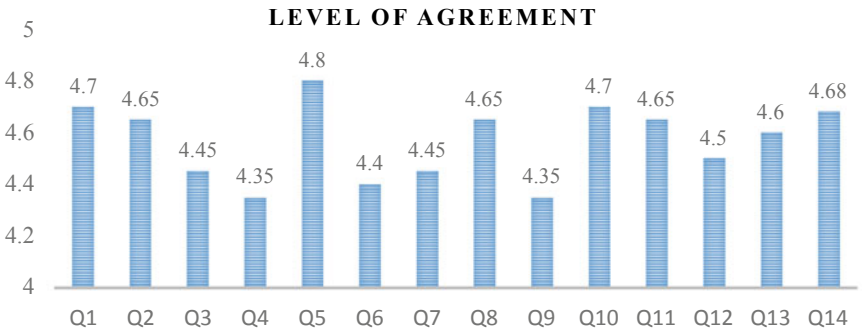

Fig. 1 Students' levels of agreement on the year-end survey
Note 1 = *strongly disagree*; 2 = *disagree*; 3 = *not sure*; 4 = *agree*; 5 = *strongly agree*

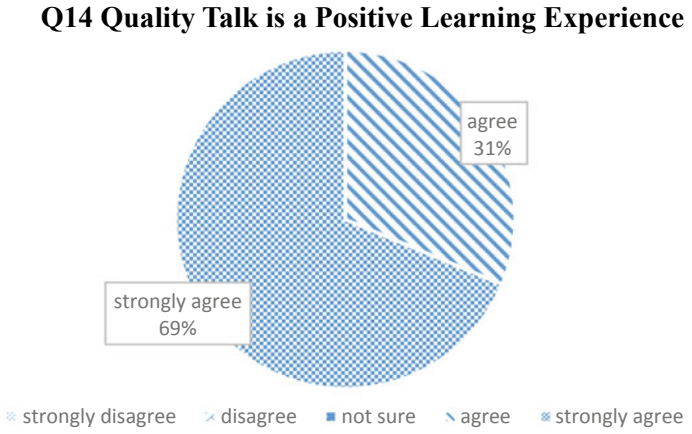

Fig. 2 Students' perceptions of the QT instructional approach

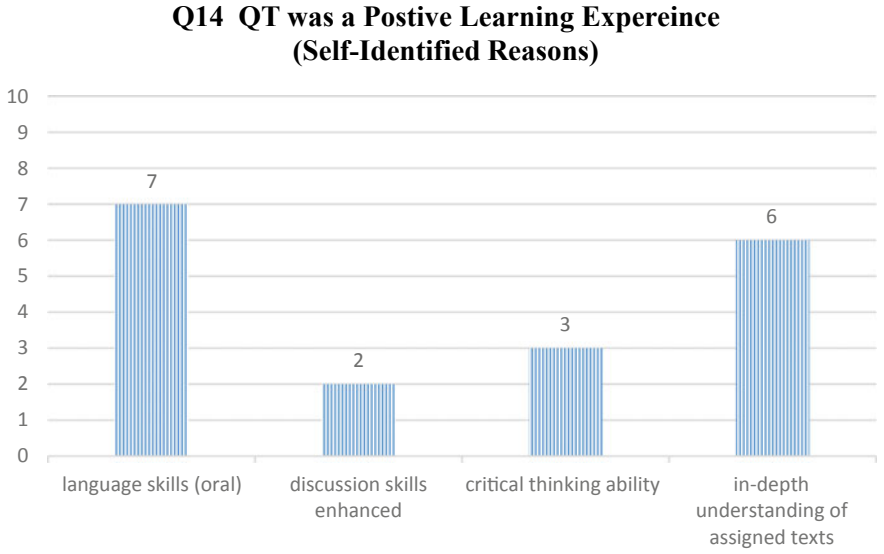

Fig. 3 Students' self-identified benefits of the QT instructional approach

English-communication skills. Among the entire class of 20 people, seven students identified that they had improved their oral English-language abilities, six students pointed out they had developed a more in-depth understanding of assigned texts, three students indicated that they had developed higher critical-thinking abilities, and two students reported that they had enhanced their discussion skills (shown in Fig. 3).

The year-end survey included the following 14 Items:

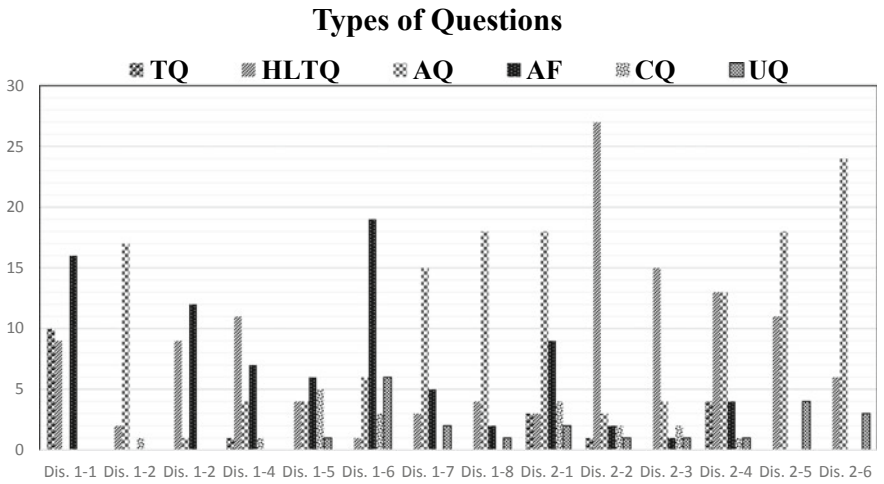

Fig. 4 Students' self-initiated questions in each topical discussion

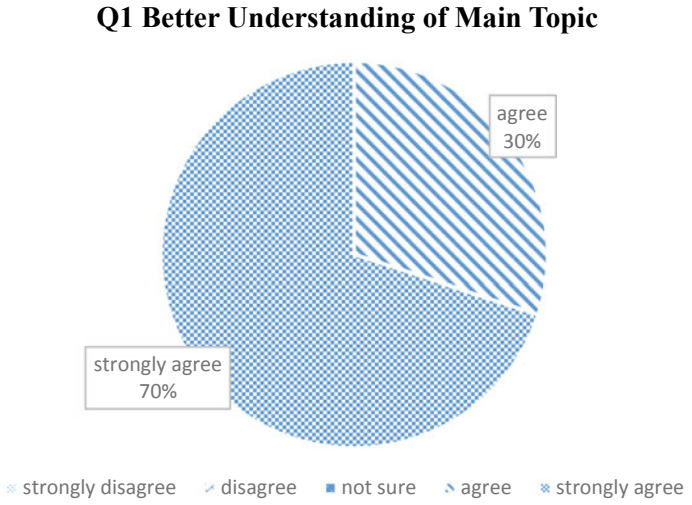

Fig. 5 Students' identification of their progress: main-topic understanding

1. Better understanding of the main topic
2. Improved analytical abilities (generalization capabilities)
3. Strengthened abilities to make connections
4. Improved critical-thinking abilities
5. Improved English expression
6. Improved analytical skills (concepts analysis)
7. Broadened perceptions and visions

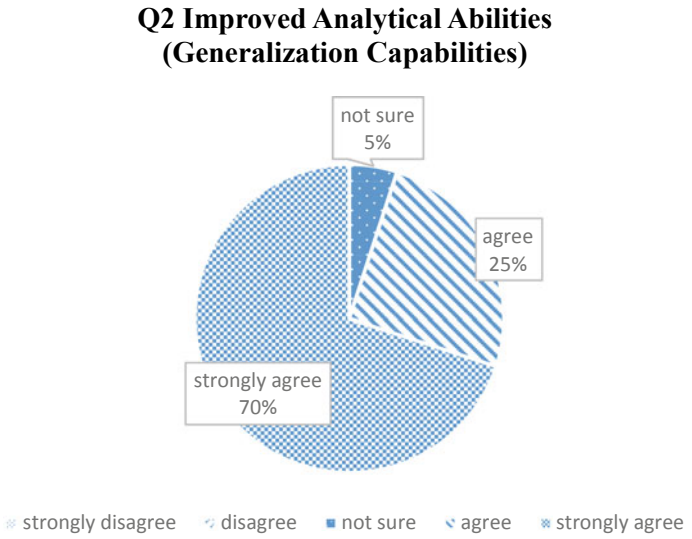

Fig. 6 Students' identification of their progress: generalization capabilities

8. Expanded knowledge of various topic
9. Improved question-seeking and communication
10. Improved discussion through familiar topics
11. Improved discussion through various inputs
12. Improved questioning skills for deeper engagement with the text
13. Improved in-depth discussion abilities
14. Quality talk as a positive learning experience

(Please note that specific survey questions are stated in Appendix A)

3.1.2 Critical-Thinking Dimension

Based on the analysis of the students' journal entries throughout the year, it can be seen that, as time progressed, with the QT framework, students generated a greater number and a more expansive pool of the types of higher-order thinking questions, as opposed to the high number of textbook questions found in the first topical discussion in the first semester. In addition, in the first semester, there appears to have been a greater percentage of affective questions centering on the peers' affective feelings toward certain topics or issues, and during the second semester, there was a hike in HLTQs that required the participants' speculations to consider alternatives and ponder other possibilities (speculation types of questions), generalizing and synthesizing abilities (generalization types of questions), and decoding and analytical abilities (analyses types of questions). This is a positive indication of the students' enhanced critical-thinking abilities based on questions that engaged

students' deeper exploration of the class material. The progress of students' heightened critical-thinking abilities is especially discernible in the second semester, as illustrated in Fig. 4.

Further, the course surveys collected from the students at the end of the semester support these positive findings. Some students' comments reflected their appreciation of the QT model, in that they were better able to think about particular issues in various dimensions or probe more deeply into the subjects under discussion. These findings can be gleaned from their sharing of their positive learning experiences as highlighted below.

According to S18, in the conventional mode of training, class lessons may not be engaging and may lose their focus; however, "by thinking of quality questions and answering them, we are force[d] to really look deep[ly] [into] a topic[,] and I think I benefit a lot from it." Another student (S10) mentioned the following: "Quality talk help[s] me to broaden my perspectives on different issues. When see[ing] an article or an event on [a] website, I can view it and analyze it in different aspects." Two other students (S2 and S5) shared a similar view, in that they were now able to engage more deeply about certain topics or issues. S5 wrote that "it's really good to have quality talk [be]cause you could talk more deep[ly] about the issue." By the same token, S2 expressed that "quality talk makes me think through a topic deeply and in different dimensions."

Improved Generalization and Analytical Abilities. In terms of statistics, the students' identification of their language and cognitive developments following the implementation of QT, as indicated by the survey questions administered after the yearlong course, further supported their progress in higher-order thinking. In particular, students unanimously agreed (70% strongly agreed and 30% agreed) that they were now able to better understand the main ideas of a particular topic or a reading passage following discussions with their team members (shown in Fig. 5). Moreover, in terms of their generalization ability—one of the three higher-order thinking abilities (generational, analytical, and speculative as aforementioned)—70% of the students identified their improvement in this respect by strongly agreeing with the statement that they were now better able to analyze the main points and themes addressed in a passage, and 25% of the students also agreed that they had improved their generalization capacities (shown in Fig. 6).

In terms of critical–analytic abilities, the surveys' findings also indicated students' improvement in analytical-type questions aimed at eliciting higher-level thinking for the construction of new information. Under this category of HLTQ, there is yet again a uniformity of positive feedback with this respect. Specifically, 40% agreed and 60% strongly agreed with the statement that they were now better able to explain the relationship between events or characters in a passage (Fig. 7). Overall, Question 4 indicated students' overall improvement in their critical thinking, as acknowledged by students' own monitoring of their progress during the academic year under the incorporation of QT (shown in Fig. 8).

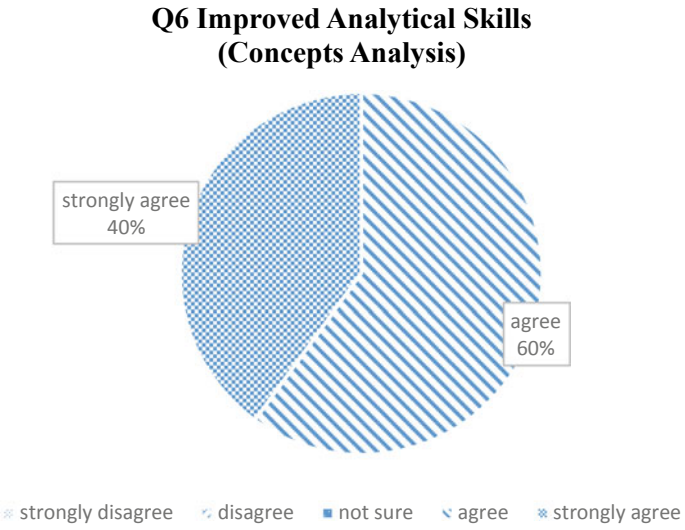

Fig. 7 Students' identification of their progress: concept analysis

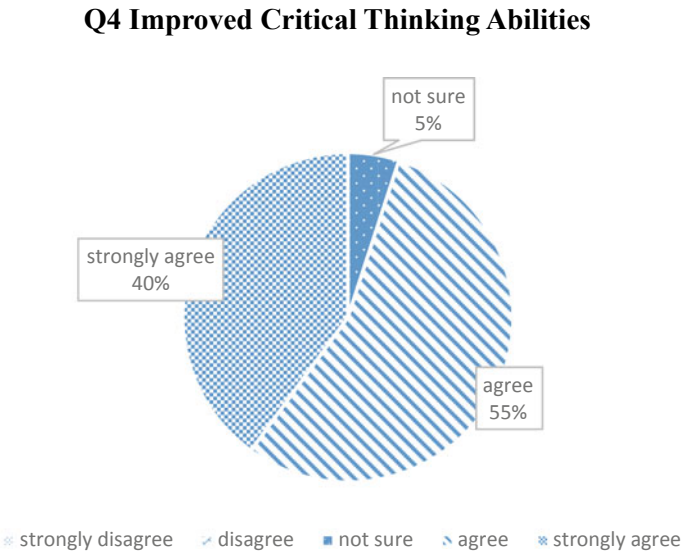

Fig. 8 Students' identification of their progress: overall critical thinking

3.1.3 English-Communication Dimension

Overall, the statistical analysis indicated a positive increase in students' verbal-language communication competence (as demonstrated by the number of opinion

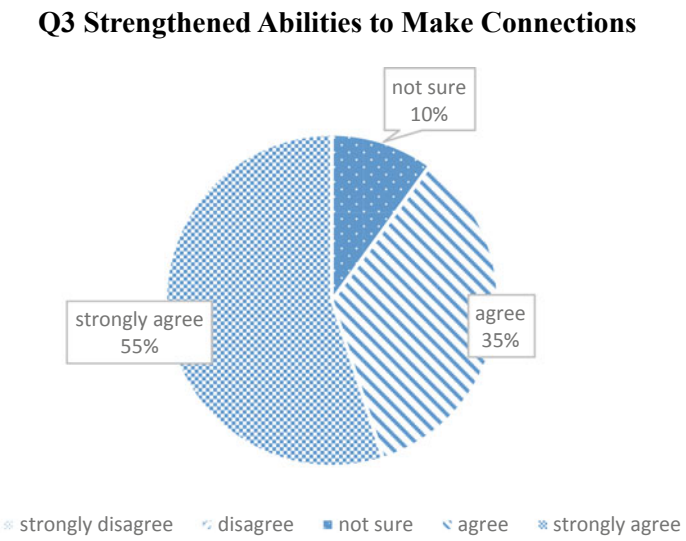

Fig. 9 Students' identification of their progress: connection application

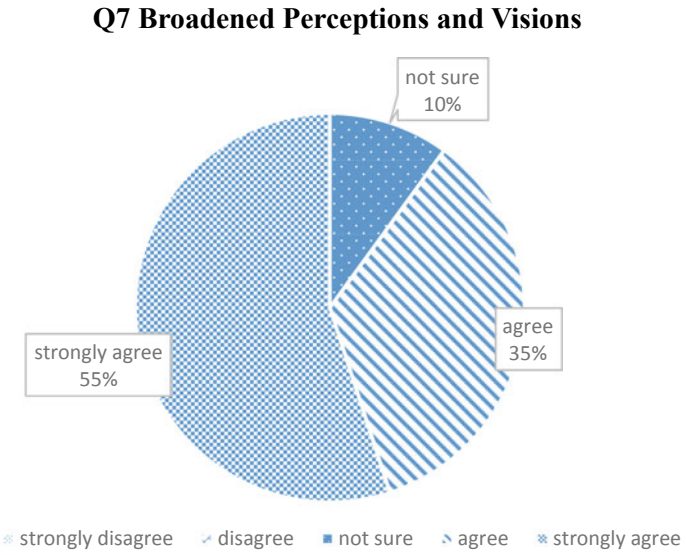

Fig. 10 Students' identification of their progress: broadened viewpoints

exchanges) versus a decline in their self-reported language problems with limited verbal expressions. In particular, students' lack of language skills or limited expression abilities declined as the QT small-group discussions progressed during the yearlong course. In fact, zero instances of students' limitation of language verbal-expression skills were reported after the second topical discussion in the second semester (shown in Fig. 11). It should be noted, however, that the development of such verbal-communication skills is a gradual process and that impactful cultivation takes effect eventually, presumably after a period of struggle and negotiation during communication. This gradual improvement in students' verbal communication skills has been discernible since the second semester.

Potential Gap in Lecture Discussions and Daily Application. Although the outcomes appear to be positive in lecture settings, students' capacity in their application of critical thinking and English abilities in daily practices, while still positive, is relatively less conspicuous.

More precisely, in terms of the overall analytical skills and the extent to which students can now critically reflect upon some issues of concern (Question 4, as shown in Fig. 8), it should be noted that, although the results are positive—55% of the students agreed, and 40% strongly agreed with the statement that they were better able to think more about certain issues from various perspectives and angles, 5% of the students expressed their uncertainty in this area. Given this distinction—between the students' identification of their enhanced generalization and analytical abilities

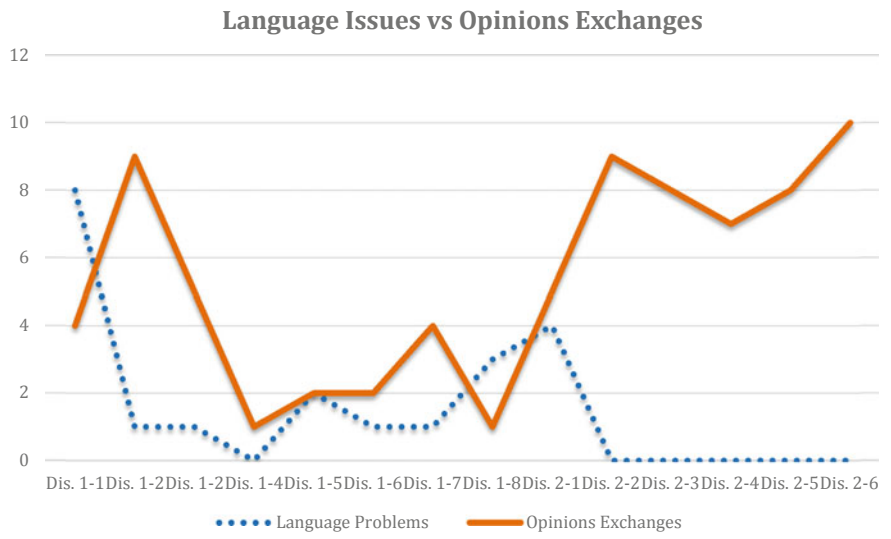

Fig. 11 Students' perceptions: language issues and opinion exchanges
Note The number before the dash indicates the term of the semester, and the number after the dash indicates the topical discussion number. For example, the abbreviation "Disc. 1-1" refers to the first topical discussion conducted in the first semester

with in-class materials and these same abilities in outside settings—there appears to be a slightly lower level of self-confidence among students when it comes to reflecting upon some issues or concerns in broader contexts beyond lecture discussions.

In addition, there are generally positive indications of students' ability to relate some discussion topics to their everyday lives (as shown in Fig. 9) as well as their broadened perceptions regarding their ability to think about certain issues from various angles and perspectives (as shown in Fig. 10). However, the slightly lower ratings for both categories—which averaged 4.45 on the scale from 1 (strongly disagree) to 5 (strongly agree)—compared to the ratings for other survey items pinpoints a potential slight gap between lecture discussions and further applications of these enhanced critical-thinking skills in students' daily lives beyond classroom settings (Fig. 1, Q3 and Q7).

Furthermore, this potential gap between the classroom activation of critical thinking versus real-life applications to the broader macro-scale global issues and everyday situations can be gleaned from the comparison of Question 9 and Question 12 (indicated by Figs. 12 and 13, respectively). Students perceived that they were able to ask various kinds of questions to help them to probe more deeply into a piece of text, with an agreement of 4.5 on the scale from 1 to 5 (Fig. 1, Q12). However, when asked whether they had become better question seekers and better communicators, the scale was slightly lower, with 4.35 on the scale from 1 to 5 (Fig. 1, Q9). Therefore, the result demands a next question on elevating learners' critical-thinking skills and communication abilities to functional areas and for contextual situations with their improved in-depth discussion abilities (Fig. 14).

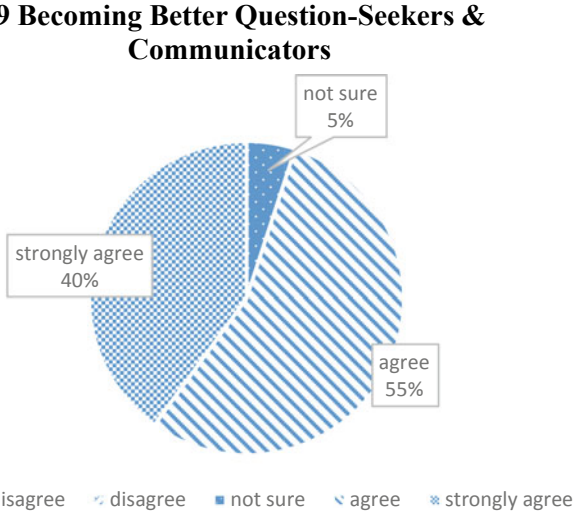

Fig. 12 Students' identification of their progress: becoming better question-seekers and communicators

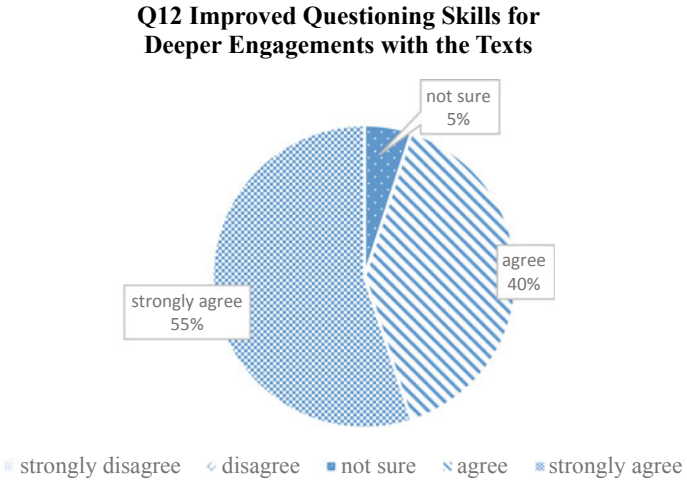

Fig. 13 Students' identification of their questioning skills and deeper engagement with the text

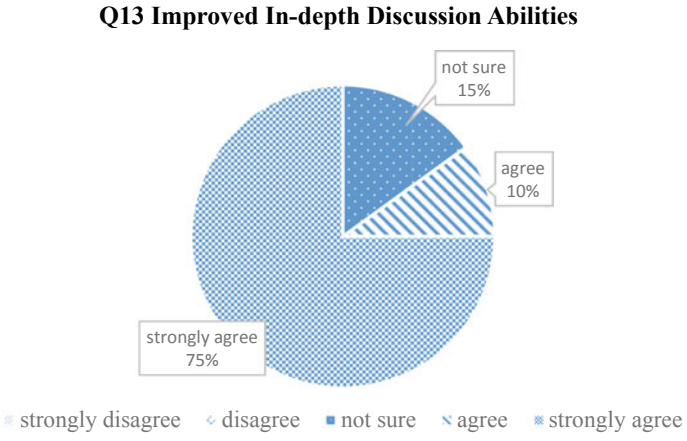

Fig. 14 Students' identification of their progress: in-depth discussion abilities

3.1.4 Overall Findings

In essence, the results of the students' journal entries and the end-of-the-year survey together support the positive outcomes of the facilitation of student's higher-order thinking abilities and communication abilities under the QT framework. The expansion—in scope and number—of the HLTQs (generalization, analyses, and speculation questions) that the students prompted during various topical discussions showed progressive improvements during the yearlong QT curriculum adoption. This is an encouraging note for the implementation of the QT pedagogical approach

with student-led discussions in EFL higher education settings. One intriguing observation from this study, however, noted the need to assist students in transferring their enhanced skills to their daily lives. Potential factors and justifications for the outcomes and educational implications are provided in the subsequent Discussion section.

3.2 Discussion

As indicated in the present study, the QT instructional model with discussion-based class instruction aids students in their improvements in communication and critical thinking. Three main aspects can help to shed light on these positive outcomes: (1) exposure to diverse perspectives and voices, (2) negotiation of meanings, and (3) collaborative learning.

First, the students felt strongly that their critical-thinking skills had improved and that their knowledge bases had broadened, due to heightened exposure to the various aspects and perceptions of issues and topics during their QT discussions. For instance, one student mentioned, "This kind of learning in class 'forced' students to brainstorm through various topic[s]. This gave us a lot of different aspects of knowledge and let students become more attached [attuned] to the world" (S14). Another student (S2) commented that QT helped her to think through a topic from different perceptions. This indication affirms the hypothesis and presupposition that "reasoning is dynamic and relational" (Murphy et al., 2009, p. 741), and as such, is a "constantly evolving process of discovery, questioning and reformulating the hypotheses" (Thompson, 1999, p. 1). Hence, the QT instructional approach, with spontaneous discussions and multidirectional thought-provocative questions, provided demonstrable results, in that critical thinkers need to hear a multiplicity of voices and perceptions on any particular issue (Anderson et al., 2001).

Another component that aids students in their improvements in communication and critical thinking is that they must struggle or negotiate for meanings and make sense in the process, with greater deliberation on issues and adequate English expressions. In this light, QT can be deemed to provide reciprocal impacts, as the speakers need to make their points known to others, to be responsive to the members' comments, to make adjustments when necessary, and to offer their further thoughts. For instance, S8 and S11 similarly expressed their keen thoughts in this regard. In the words of S8: "Through the discussion, I talk a lot to show my idea towards the issue. It really help[s] me to gain speaking skill." S11 offered the following perceptions:

> Yes, I think quality talk is very useful because I would meet different people in different situations. And it's important to express your idea toward various topic[s]. Quality talk really enhanced my ability to come up with questions and explain my idea fluently.

Thus, the students' documentation of their own learning coheres with the contention of Murphy et al. (2009) about QT, in that "dialogic process is negotiated and sustained through interpretations of text, [and] high-level reasoning" (p. 741).

Third, the orientation of collaborative learning via dialogical communication that underpins the QT framework is another possible explanation for the positive correlation between critical thinking and small-group discussions. In particular, when students need to openly and publicly state their positions about the text at hand, they need to ponder, consider, and evaluate other people's perceptions, and reconcile conflicting viewpoints to develop their own value judgments. As such, "shared inquiry" toward open-ended questions in group settings allows students to become thinkers with interpretive and justification abilities (Soter et al., 2008, p. 375). One student's comments on his QT learning echoed this dimension:

> Cooperative learning is a great way to improve speaking and overall skills. This class was excellent due to the fact that the instructor provide[d] a lot of chances to interact with peers and critically discuss the weekly topics in class. (S20)

In essence, the underlying principles of QT based on perceived exchanges (Murphy et al., 2009) of contestable viewpoints and via knowledge communities in group discussions, can, in part, illustrate students' enhanced critical-thinking abilities and communication proficiency.

Overall, students' comments and observations vividly support the use of QT's dialogical communication, which can, in turn, achieve the goal for communicative competence and critical thinking, for reasons such as collaborative learning, hearing of different voices, and negotiation of meanings. Specifically, via interactive speaking exchanges, QT helped them to think more deeply about issues and to consider various facets of the topics under discussion. As exemplified by one student's reflection: "I think it's [QT is] a good means of learning. . . . I felt more comfortable to express my opinions in English in public. Also, I gained lots of insights through discussions or other materials" (S8). Hence, the aforementioned factors have contributed to the positive outcomes of QT incorporation in the study.

3.2.1 Educational Implications

Pedagogical Transformation with Classroom Dialogical Practices. The promising results of this study suggest that there is a need for a transformation in university education—away from lectures and toward more teacher–student dialogical communications. In other words, there must be an educational paradigm that moves away from teacher-dominated communication (Haliti, 2016) and toward allowance and appreciation of the "egalitarian nature of interactions" (Reznitskaya & Gregory, 2013, p. 117). As such, students' meaningful learning arises with "adequate space to participate in the learning and teaching occurring in the classroom" (Haliti, 2016, p. 8). The fruitful results from this study support this kind of dialogical practice underpinning the QT model; this kind of approach is helpful to engage students to ponder issues from diverse perspectives, to engage in higher-order thinking about difficult questions, to interpret lecture materials using value judgments and critical discussions, and to build their own distinctive perceptions based on collaborative inquiry. The QT model thus paves for the dynamism that allows a spiral

kind of learning, sparking fluid, enriching, and mind-provoking discussions for the promotion of students' target-language competency and critical thinking abilities.

Teachers' Instructional Adaptation. To accommodate this new mode of instructional style underpinning QT, instructors may need to adjust their epistemology and let go of knowledge-dissemination methods that they perceive as legitimate. In particular, teachers need to assume a facilitating role, and they should acknowledge that each person brings unique ideas, concepts, and experiences; as such, they should not impose "ready made [factual] information" and should refrain from filling the learners' minds ("empty vessels") with their own viewpoints through monologic communications (Gaskaree et al., 2010, p. 35). In essence, the underpinning of the resulting lessons requires a commitment to higher-order thinking with "the multiplicity of voices in a dialogic discussion" (Reznitskaya & Wilkinson, 2015, p. 221). As such, students and teachers may altogether make a joint effort to explore knowledge through a diverse lens and shared discourses.

Knowledge Transference. As indicated by the present study, the extent of the internalization of the students' enhanced critical thinking and improved English proficiency for conscious daily applications remains elusive and is yet to be sufficiently explored. Currently, there appears to be a stretch between lecture discussions in class and employing a better analytical approach consciously and consistently when facing real-world information. Hence, teaching practices that reinforce university students' adaptability and the application of their acquired higher-order thinking abilities and English-communication skills to ensure greater functionality, such as problem-solving in a larger societal context are needed. Specifically, students should be trained to be open-minded about a diverse range of ideas and values, to ask pertinent questions, and to make sound judgments for issues identified.

4 Summary and Conclusion

As this study's findings indicate, the incorporation of QT yielded positive results, as it enhanced the EFL university students' critical-thinking abilities and their English-communication skills. This is an encouraging indication for the adoption of a teaching pedagogy that leans toward student-centeredness and that applies the dialogical communication approach to increase students' peers' language interactions and higher-order thinking skills for knowledge inquiries. The students' progress reflected a heightened application of critical (analytic and reflective) thinking via student-led questions in the exploration and interrogation of subject contents in course materials. Further, students' own accounts demonstrated their appreciation for the QT approach, which helped them to gain knowledge, probe issues more deeply and from various dimensions, and hone their language skills through critical discussion. Therefore, the QT model, with an emphasis on teacher-facilitated and student-directed discussions, can inspire new teaching practices. Such a QT instructional approach is particularly helpful for educators in EFL university settings, with transformative pedagogical

practices committed to a dual focus of learners' higher-order thinking and language capacity. What follows are the major conclusions and implications from the chapter:

- QT framework is effective at (1) improving students' critical–analytic and critical–reflective capacities with progressive employment of HLTQs (generalizations, analyses and speculations), and (2) enhancing students' target-language communication abilities.
- An interplay of factors helped to strengthen students' critical thinking and verbal communications under QT approach: (1) exposure to and information exchanges of a multiplicity of perceptions, (2) negotiation of meanings, and (3) co-construction of knowledge.
- Students' potential applications of higher-order thinking and communication abilities in life situations scores were, comparatively, slightly lower than those in classroom group discussions.
- A paradigm shift toward dialogic inquiry based on QT frame is helpful to cultivate students' critical thinking and communication skills in EFL university settings.
- Instructors must assume a facilitating role and provide chances for student-centered dialogic classroom learning that allows learners' autonomous initiatives and proactive engagements with course materials.
- School course training shall help to establish students' knowledge transference for utilization of their enhanced critical thinking and communication skills in handling real-world issues and complexities, as well as contextual situations.

Appendix A: Survey

Survey: This survey aims to understand the Quality Talk instruction applied in classroom settings. Please mark the following questions accordingly.

1 = strongly disagree 2 = disagree 3 = not sure 4 = agree 5 = strongly agree.

1. After engaging in quality discussions, I can understand the main ideas of a particular topic or reading passage more easily. ____
2. After the quality talk with my team members, I can more easily analyze the main points or themes addressed in a passage. ____
3. After the quality talk, I am more able to relate some subjects of discussions to my everyday life. ____
4. After the quality talk discussion, I am more able to critically reflect upon some issues of concern. ____
5. After the quality talk instruction, I am more able to freely express my ideas and perspectives in English. ____
6. After the quality talk instruction, I am more able to explain the relationship between events or characters in a passage. ____
7. After the quality talk with my team members, I can more easily think about certain issues from different angles and perspectives. ____

8. After the quality talk instruction, I have expanded my knowledge about certain topics we have discussed. ____
9. After the quality talk instruction, I have become a question seeker and a better communicator in English. ____
10. If a piece of material or a subject of discussion is familiar to me, then I am better able to engage in a more productive discussion and to generate better questions. ____
11. When engaging in the quality talk discussion, various inputs that provide me background information on a certain topic can facilitate my quality discussions. ____
12. After the quality discussion instruction, I am more able to ask different kinds of questions that help me to probe more deeply into a piece of text. ____
13. After the quality discussion instruction, I am more able to offer an in-depth explanation of or elaboration on certain issues or subjects. ____
14. Overall, quality talk is a positive learning experience for me. Please mark and explain your answers.

_____
_____
_____

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Quality Talk and Content Learning: An Exploration of Students' Background Schemata and Thematic Discussions

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Abstract This study investigates the application of the Quality Talk (QT) framework in higher education classrooms based on cross-disciplinary content learning with theme-based class lessons and topical discussions. Specifically, this chapter discusses the correlation between participants' schemata and the variety of question types prompted in small-group discussions under the QT framework in relation to conducting content-based university lectures in English-as-a- foreign-language (EFL) classroom settings. By drawing on theories from the QT framework, content-based instruction, and theme-based model, the qualitative and quantitative findings of students' class entries and survey responses provide an enhanced understanding of the relationship between the variety, depth, and scope of questions associated with interdisciplinary learning in an EFL context. Overall, the analysis of various content areas and students' familiarity with subject matter in relation to their self-initiated higher-order thinking questions, as well as identified challenges, illuminates the understanding of a relatively new domain.

1 Introduction

The Quality Talk (QT) framework refers to a mode of classroom discussion that activates students' higher cognitive thinking via verbal communication and that fosters students' deeper engagement with reading materials (Murphy, Greene, Firetto et al., 2018); such instructional methodology has also begun to extend beyond the field of language arts into other disciplinary areas, such as the scientific domain (Murphy Greene, Allen et al., 2018). The adoption of the QT framework in classroom instruction has been deemed beneficial in developing students' higher level thinking (HLT) capacities in the areas of critical–analytical thinking (Murphy et al., 2014) and critical–reflective thinking (Davies & Meissel, 2016).

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In English-as-a-foreign-language (EFL) contexts, students' language abilities may be a major pre-existing hurdle that must be overcome to ensure meaningful discussions. Therefore, how learners' critical thinking correlates with and/or is impacted by their familiarity and understanding of various subject areas covered in topical discussions—based on the QT framework—remains a novel research dimension. In particular, as QT appears to have only recently branched out to subject domains other than language and arts classes, such as in the sciences (e.g., Murphy, Firetto, & Greene, 2017), a limited number of studies have directly and explicitly explored and examined the link between the QT approach structured around theme-based discussions with relation to the development of students' HLT abilities. Therefore, the prime focus of this research was to delve into students' content background knowledge and their discussion outcomes—with specific reference to critical–analytic and critical–reflective abilities—in various disciplinary areas that span the arts and humanities, social sciences, technological inventions, and economic development and ecological preservation.

Current literature suggests there has been an increasing interest in the implementation of content-based instruction (CBI) in the English-language curriculum (e.g., Butler, 2005; Yugandhar, 2016). In fact, CBI, with its goals of academic content learning and second- or foreign-language acquisition and application (e.g., Brinton et al., 2003), along with its emphasis on students' comprehension abilities (Satilmis et al., 2015), can be deemed one feasible approach aligning with the recent pedagogical paradigm emphasizing students' meaningful language interactions other than language forms (e.g., Krashen, 1981). In particular, with CBI, students need to take a proactive part in "the construction of knowledge" via the inputs and corrections received from their counterparts during content information exchanges (Villalobos, 2013, p. 73). More specifically, the theme-based model, or theme-based instruction (TBI)—classified under CBI—can induce students' motivation to learn via the selection of engaging topics that promote interest (Yugandhar, 2016), and, as such, thematic issues or topical lessons present the content base for students' learning (Ngan, 2011). Hence, given that the nature of CBI requires students to be more conscientious in their language acquisition by processing content knowledge, the literature indicates that individuals' critical-thinking abilities in CBI are a crucial component in learners' target-language development and enhancement (e.g., Addison & Walker, 2012).

Concurrently, from the dimension of dialogic teachings, QT—a discussion-oriented pedagogical approach—facilitates learners' high-thinking ability levels using the information presented in the text (Murphy et al., 2009). This dimension coheres to the fact that CBI intends to develop students' comprehension in aspects other than language (Satilmis et al., 2015). Indeed, for fruitful learning governed by QT principles, individuals need to learn the

> materials by querying or interrogating the text in search of the underlying arguments, assumptions, worldviews, or beliefs that can be inferred from the text… [for] acquiring information, interrogating the text/and/or its authors, and responding affectively to the content of the literature (Davies & Meissel, 2016, p. 343)

Hence, QT provides one viable approach to enhance students' higher-order thinking as well as subject and content learning (Reznitskaya & Gregory, 2013; see also Murphy et al., 2009; Reznitskaya et al., 2009; Schwarz et al., 2000; Wegerif et al., 1999). Therefore, as can be hypothesized, for students to build their language-communication proficiency and to simultaneously add to their academic content-based knowledge via thematic discussions, they need to rely on, exercise, and activate their existing schemata. This will result in a meaningful learning experience if a higher level thinking (HLT) is stimulated, such as developing critical stances, under the guiding principles of QT. Thus, the curriculum adopted in this course was influenced by the fusion of the two approaches—QT and TBI—which share similar characteristics in building students' engagement in literary works using a deeper level of comprehension with critical-thinking abilities and language applications via heightened interactions and information exchanges with their peers.

Nonetheless, in existing empirical studies, how the influence of students' schemata and their familiarity and content knowledge of various disciplinary areas correlates with their uptake of information and the facilitation of their critical thinking under QT's dialogical instruction seems to have been scantly explored. Therefore, this study aims to investigate the impacts of the joint adoption of QT and TBI in a university classroom setting and to examine the facets that can contribute to such pedagogical practices and understanding in EFL higher education contexts. Hence, the research questions for this new frontier exploration are the following:

1. How do the various disciplinary areas of the discussions evoke the different student questioning types featured under the QT framework (i.e., authentic questions [AQs], test questions, uptake questions, connection questions [CQs], and HLT questions) in an EFL college setting?
2. To what extent do EFL students' schemata and background knowledge affect their HLT and comprehension in regard to various disciplinary areas of topical issues and their information exchanges during small-group discussions under the QT model?

2 Methods

2.1 Participants

Participants in this 1-year freshman English course at a public university in Taiwan included 20 nonmajor English students, with 19 students in their freshman year, and one student in his senior year. Participants included students of different nationalities, including from a variety of cities and towns in Taiwan, Paraguay, Malaysia, Indonesia, and Brazil. Participants majored in various fields, including music, education, special education, business administration, East Asian studies, Chinese-as-a-second-language, technology application and human resource development, human development and family studies, educational psychology and counseling, and adult

and continuing education. These students were assigned to the advanced-level English class; this placement was based on their English test scores from the college entrance exam.

2.2 Design

The research study was conducted during the academic year from 2017 to 2018 (autumn and spring semesters, respectively). In total, 14 topical discussions, with thematic lessons drawn from both printed texts and audio-visual sources, were conducted during this 1-year course work (Table 1). Although some topical discussions were primarily in response to the reading passages from a selected course textbook—*Mosaic 2 Reading* (Wegmann & Knezevic, 2014)—others were based on disciplinary areas of reading and listening sources relating to those addressed in the textbook (*Mosaic 2*).

In terms of QT instructions, students were introduced to various types of QT at the beginning of the semester with definitions and elaborations drawn from the guidelines devised by the QT researchers (Murphy, Firetto, Greene, & Butler, 2017). Aside from the instructor's sample examples for different types of discussion questions, students were also asked to brainstorm their own questions to ensure their understanding of the orientation of each kind of question. Throughout the entire academic year, students were encouraged to read beyond the literal meaning of the texts, to avoid mere retrievals of fixed information, and to apply the open-ended questions for higher thinking processing, as suggested by the QT model.

2.3 Data Collection and Analysis

Three kinds of data were collected during the implementation of the QT instructional approach in the two consecutive semesters. First, the data were gathered from students' regular class entries, in which they recorded the kinds of questions that they initiated and prompted under each topic based on the various sources of inputs (e.g., textbook articles, supplementary articles, and video materials). On the metacognition level, which aimed to prompt students' self-awareness of their own thinking (e.g., Desautel, 2009), students were asked to document their own learning, such as the kinds of challenges and difficulties they encountered, as well as the kinds of benefits gained during their information exchanges in small-group discussions. Furthermore, at the beginning of the semester, students filled out a course questionnaire indicating their former English-learning experiences, their strengths and weaknesses in the English language, their English-learning needs, and their short- and long-term goals of their English-language acquisition and pursuits. Thirdly, by the end of the year-long freshman English course, students were asked to respond to survey questions that provided quantitative and qualitative information.

Table 1 Topical discussions

Fall semester (2017)	**Topical discussion**
Discussion 1-1	Bilingualism and Intelligence
Discussion 1-2	Social Media Revolution
Discussion 1-3	Social Media and Relationships
Discussion 1-4	Marriage and Birth Rates
Discussion 1-5	Advertisements and Gender Stereotypes
Discussion 1-6	Life Transitions
Discussion 1-7	Rural-Urban Transition and Life Adjustment
Discussion 1-8	Les Misérables (2012 film)
Spring semester (2018)	**Topical discussion**
Discussion 2-1	Broadway Shows (Features and Development)
Discussion 2-2	The Phantom of the Opera (2004 film)
Discussion 2-3	Vincent Van Gough (Biographical Accounts)
Discussion 2-4	Wangari Maathai's Groundbreaking Work
Discussion 2-5	Technological Innovations (Artificial Intelligence)
Discussion 2-6	Conflict and Resolutions

For data analysis, students' questioning types with respect to their comprehension of the texts and course materials, which were stated in their regular entries, were coded according to the categorization specified in a QT coding manual by Murphy et al. (2017). Table 2 provides an extensive explanation of each type of question and students' sample questions collected during topical discussions. Further, the students' responses to the journal entries and the end-of-the-semester surveys were screened, categorized, and analyzed.

Overall, for data analysis, special attention was paid to the learners' schemata and the varied academic disciplines and content knowledge in relation to the extent of critical thinking (i.e., different kinds and scopes of question types) specified under the QT framework. In essence, this study is both descriptive and interpretive in nature. It is descriptive because it provides rich descriptions of the students' perspectives and a detailed account of students' development in terms of critical thinking regarding course materials and topical lessons provided during class. It is also interpretative in that, based on quantitative and qualitative features, this study attempts to explore the pedagogical implications of implementing QT in EFL university curriculum designs.

Table 2 Question types, definitions, and sample examples from students' topical discussions

Question type	Definition	Example
Test Questions (TQs) (primary level)	Fixed questions with answers that can be derived directly and explicitly from texts and that have presupposed correct answers	• Why does a bilingual person have more problems in verbal skills [as suggested by the article]? • How did Dr. Maathai receive three degrees?
Authentic Questions (AQs) (primary level)	Open-ended questions that elicit responses and that are opinion based, with no deductive or inductive reasoning or support required to provide the answer	• What's your opinion about the growing game industry? • Do you think we should always follow our religious traditions?
Connection Questions (CQs) (secondary level)	1. Drawing connections between two (or more) texts and/or other works (e.g., shows or music) 2. Drawing connections between texts and experiences	• Do you think we can apply the agricultural plan that Maathai proposed in Taiwan? • What do you think about the difference between Millet and Van Gogh?
Speculative Questions (SQs) (secondary level)	Questions that consider alternatives	• If the land had not been controlled by the government of Kenya, would Maathai still have won the Nobel Peace Prize or been praised as an influential person? • If you had to use social media to do one meaningful thing, what would you do?
Affective Questions (AFs) (secondary level)	Questions that elicit others' feelings and attitudes on a personal level	• Can you list some elements that are often seen in ads and that target female or male customers? • How do you think van Gogh affected later painters?
Higher Level Thinking Questions (HLTQs) (generalization, analysis, and other secondary-level questions)	1. Questions that elicit generational perspectives on all ideas and concepts 2. Questions that elicit the deconstruction of major concepts and ideas or arguments; or questions that lead to analysis in terms of a part's relationship to the whole	• What are the benefits and drawbacks of technology? • What is your opinion on whether we should develop the economy or conserve the environment, reflecting on Maathai's conflict with the Kenyan government? • Do you agree, based on the article, that finance and education are the main reasons for not getting married? • Do you think that an apology from a high-status person really has more influence than one from a low-status person?

(continued)

Table 2 (continued)

Question type	Definition	Example
Uptake questions (secondary-level questions)	Questions that continue from subjects of discussions previously mentioned	• What is your definition of a classic musical such as *The Phantom of the Opera*? What makes a musical a classic? Do you think melodies play a more important role than lyrics? Why or why not? • According to the last question, if a doctor killed a patient accidently, do you think [an] apology can cure their family members?

Source Murphy, Firetto, Greene, and Butler (2017)

3 Findings and Discussion

This research focused on the curriculum design based on the QT discussion framework used in an EFL college setting that relies on topical issues from several different disciplinary fields. With the fusion of QT and CBI approaches, the findings of the present study suggest that the topical discussions about various academic disciplines triggered various questioning types among the participants, according to the QT framework. The results also indicated that the participants' familiarity with the topical discussion influenced the kinds of questions prompted during their small-group discussions, with a distinction between primary- and second-level questions versus HLT questions; this, in turn, led to different degrees of critical thinking during the participants' information exchanges. Overall, two dimensions of students' higher-order thinking with respect to their schemata and the content subjects presented were discovered. For Dimension 2, three patterns pertinent to students' learning were observed. An in-depth discussion with further exploration of these three patterns, as well as educational implications with respect to an integrated instructional model of QT and CBI in EFL university settings, is subsequently provided.

3.1 Findings

Dimension 1: Familiarity of Thematic Lessons Versus QT Small-Group Discussions

The correlation between the participants' familiarity with the topics and their ability to come up with sound questions to facilitate a quality discussion was indicated by the issues and challenges the students reported confronting during their group discussions. Moreover, the results of the end-of-the-year survey demonstrated a positive correlation of the participants' schemata of various topical issues with

respect to their meaningful and effective quality discussions. In particular, 95% of the participants agreed (75% strongly agreed, 25% agreed, and 5% were unsure) that "If a piece of material or a subject of discussion is familiar to me, then I am better able to engage in a more productive discussion and to generate better questions" (Figs. 1 and 2).

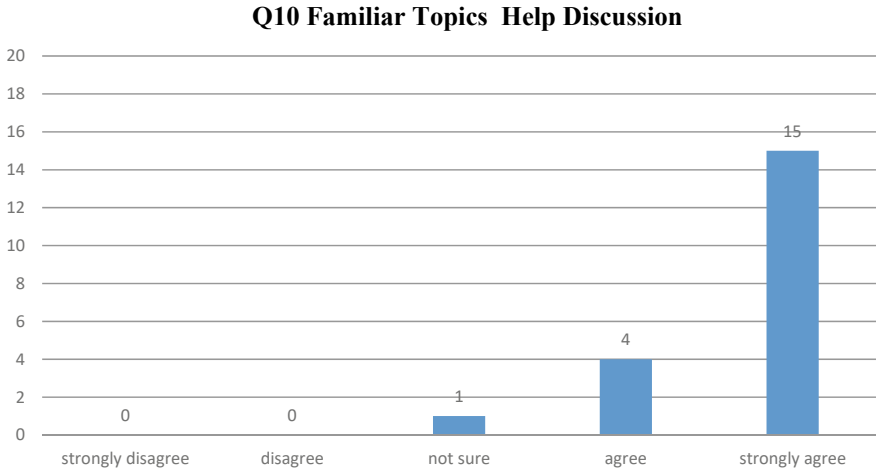

Fig. 1 Participants' ratings of the familiarity of the topics in relation to productive discussions

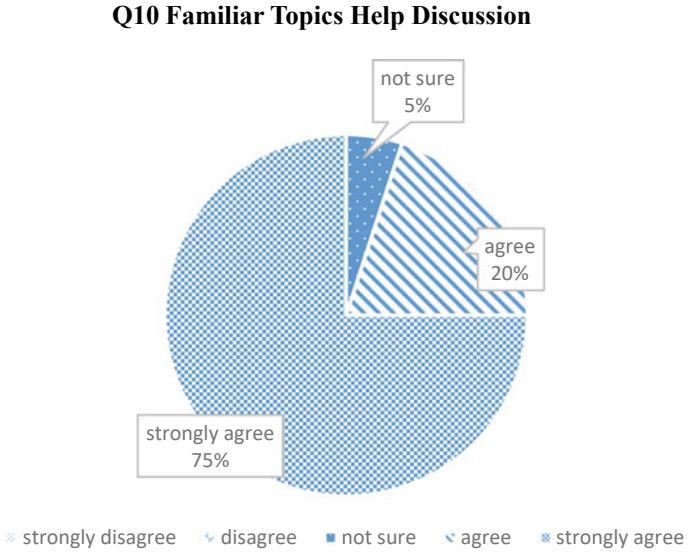

Fig. 2 Participants' identification of the importance of the familiarity of topics in discussions

Further, the participants also expressed the necessity of the supplementary background information inputs before their topical-based quality discussion, as 85% of the respondents agreed (75% strongly agreed, 10% agreed, and 15% were unsure) that "When engaging in the quality talk discussion, various inputs that provide me background information on a certain topic can facilitate my quality discussions" (Figs. 3 and 4). Thus, the students' self-identified issue of impeding smooth discussions due to their limited content knowledge supports the contention that one important facet

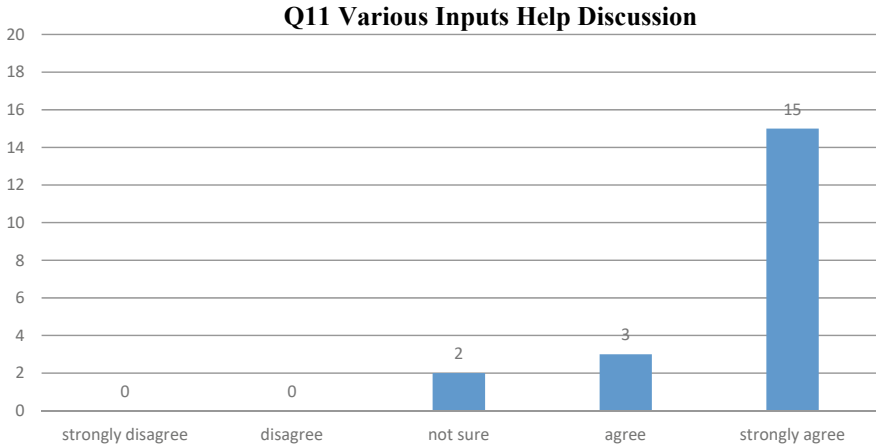

Fig. 3 Participants' ratings of the importance of supplementary inputs prior to discussions

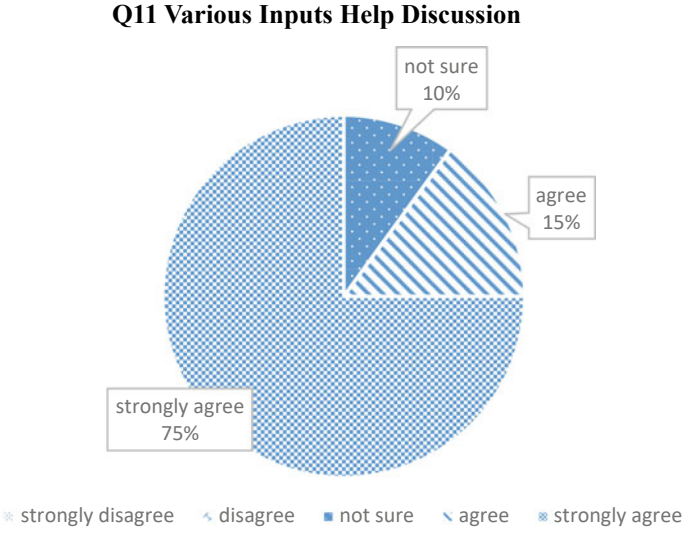

Fig. 4 Participants' identification of the importance of supplementary inputs prior to discussions

of theme-based CBI is the need "to tap students' existing schemata, since it helps to increase effectiveness of the reading… and [leads] them to the use of efficient comprehension strategies" (Kiziltan & Ersanli, 2007, p. 142).

Dimension 2: Schemata Versus Question Types

The findings presented three unique patterns with distinctive features, as follows:

1. When the topical issues can be connected to the students' daily life experiences—such as being bilingual, resolving conflicts, making transitions, or engaging in the relatable social media revolution—their questions tend to be authentic questions (AQs) that seek to elicit their peers' personal perspectives with respect to their own experiences and preferences. In some instances, a fairly large percentage of speculation questions (SQs) were used, such as in the case of bilingual discussions; however, at other times, connection questions (CQs) or affective questions (AFs) were employed. These questions attempted to draw connections among the members' shared experiences or the others' emotional perceptions and value attitudes, as shown by the thematic discussion on bilingualism, social media revolutions, life transitions, and conflicts and resolutions. (Figs. 5, 6, 7, and 8 respectively).
2. When the students lacked background knowledge (as indicated by the self-reported issues that they faced during the particular in-class discussions) about the latest technologies or Broadway musicals, for example, they heavily initiated AQs that attempted to address the content information that they encountered from a personal angle. For these less-familiar topical issues, the student-led AQs emphasized SQs that aimed to determine their peers' alternative choices indicated by the group's discussion about scientific inventions (Fig. 9). However, others—such as Broadway shows—predominately prompted AFs

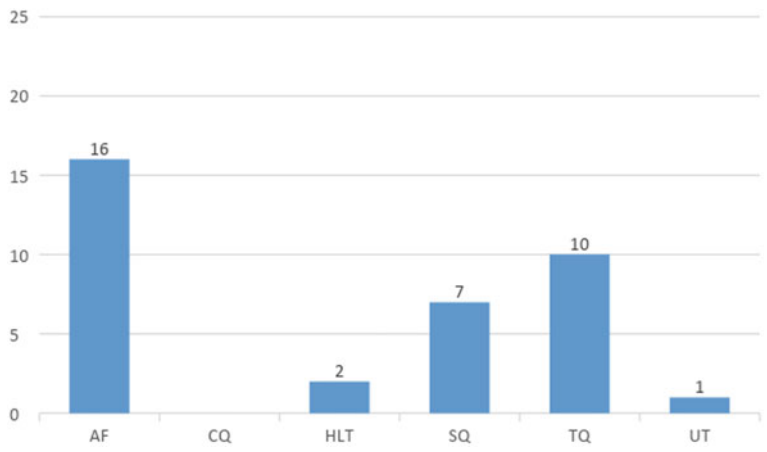

Fig. 5 Participants' self-initiated questions—topical discussion on bilingualism (*1-1 Bilingualism and Intelligence*)

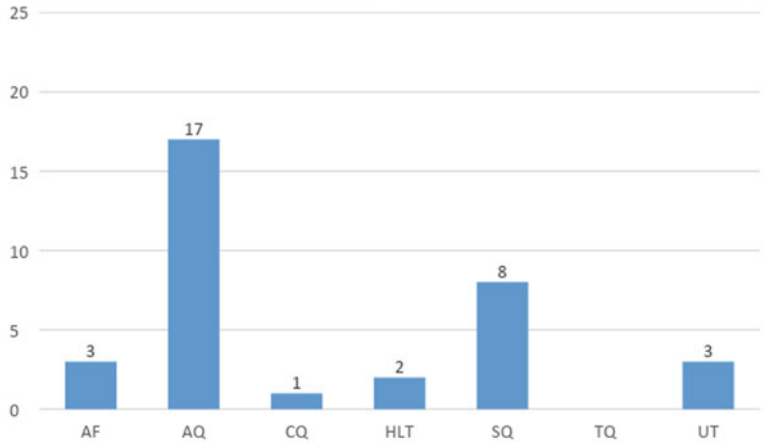

Fig. 6 Participants' self-initiated questions—topical discussion on social media revolution (*1-2 Social Media Revolution*)

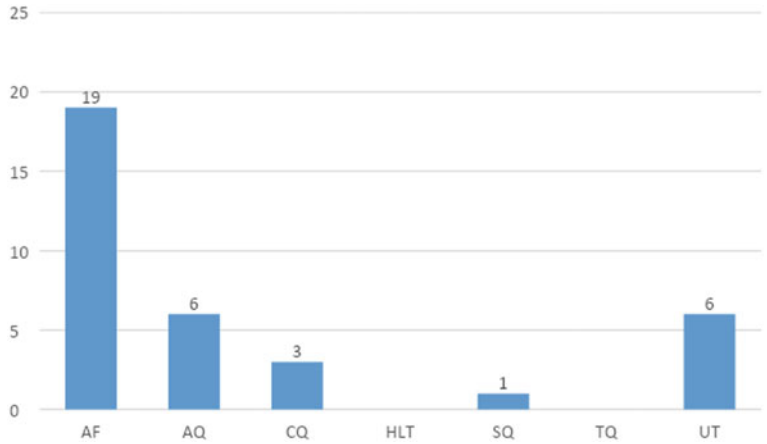

Fig. 7 Participants' self-initiated questions—topical discussion on life transitions (*1-6 Life Transitions*)

that attempted to address group members' individual preferences and personal attitudes toward musicals (Fig. 10).

3. When the topical issues under discussion are somewhat unfamiliar to the students due to contextual or knowledge gaps, but contain universal themes that maybe common among and easily identified by college learners, there is a higher frequency of HLT questions; such is evident in the topical discussions about Kenyan social and environmental activist Maathai's campaigns and initiatives for ecological concerns and social justice (Fig. 11). Or, when probing human-nature issues addressed in the topical discussion of *The Phantom of the*

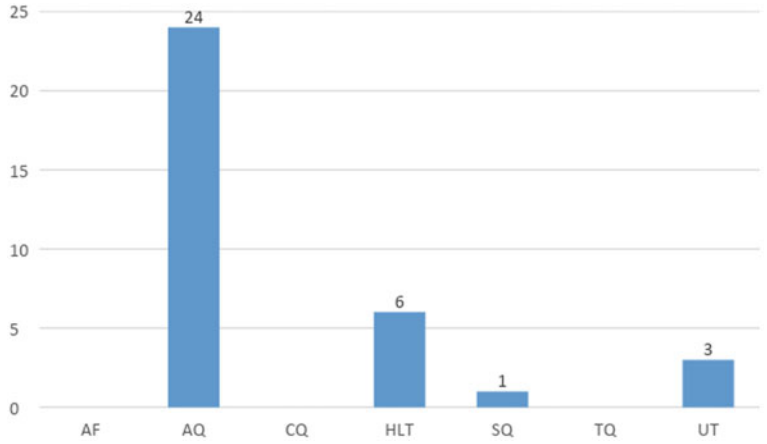

Fig. 8 Participants' self-initiated questions—topical discussion on conflicts and resolutions (*2-6 Conflicts and Resolutions*)

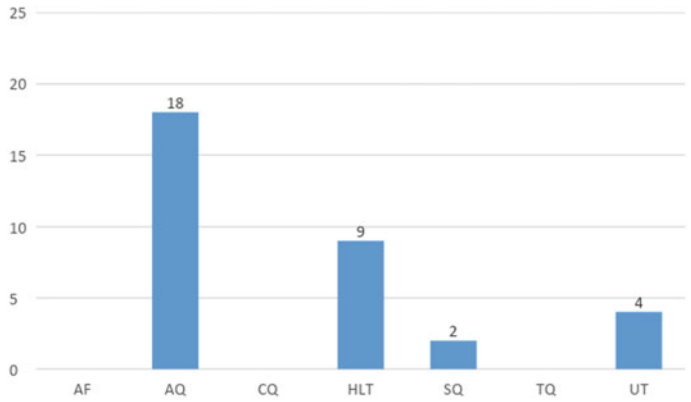

Fig. 9 Participants' self-initiated questions—topical discussion on technologies (*2-5 Technological Innovations*)

Opera, the students applied content information for HLT questions and were either able to examine the relationship between two events, as demonstrated by HLT analysis questions, or were able to make a generalization about the main concept (i.e., HLT generalization questions) presented in the text (Fig. 12).

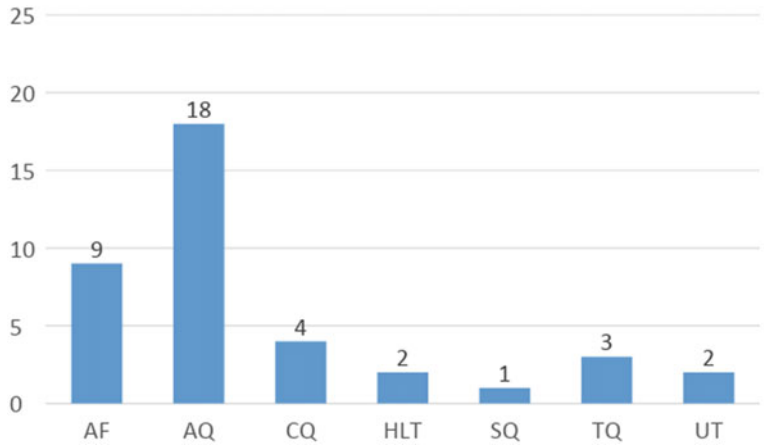

Fig. 10 Participants' self-initiated questions—topical discussion on broadway shows (*2-1 Broadway Shows*)

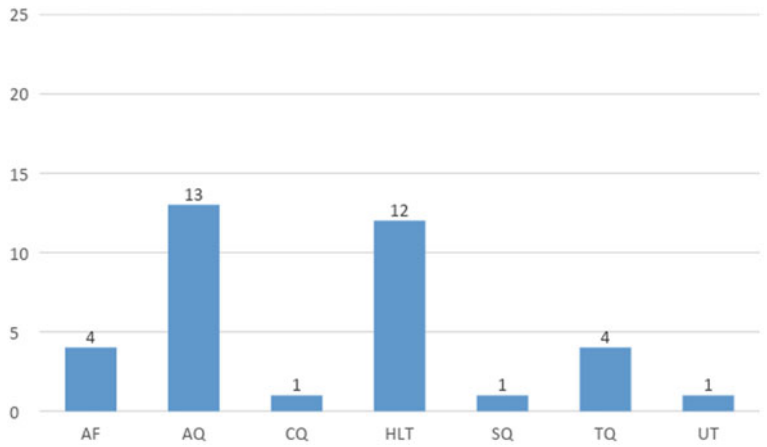

Fig. 11 Participants' self-initiated questions—topical discussion on a nobel peace prize laureate (*2-4 Wangari Maathai's Groundbreaking Work*)

3.2 Discussion

As noted, three patterns have emerged with respect to students' schemata of content subjects in relation to the extent of questions they raised during these topical discussions. Descriptive and interpretative analyses based on quantitative and qualitative data, as well as representative cases, are highlighted in the following.

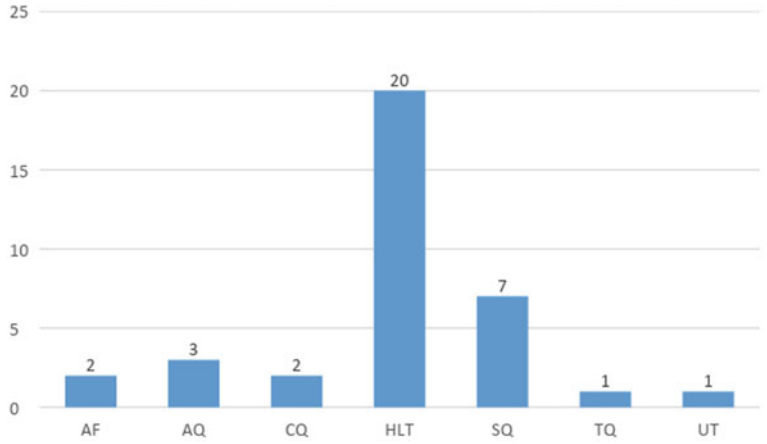

Fig. 12 Participants' self-initiated questions—topical discussion on The Phantom of the Opera (*2-2 The Phantom of the Opera)*

3.2.1 Topical Discussion—Pattern 1

Daily Life Subject Discussions. When topical issues were personal and can be relatable to the students' everyday life or can be drawn from the students' life-situational experiences, such as bilingualism, advertisements and gender stereotypes, social media usage and influences, transitions, and conflict resolutions, their questions were often geared toward questions that elicited sharing information about their personal lives and perspectives with AQs on a primary level. CQs or AFs were used on the secondary level.

For instance, on the topic of *bilingualism and intelligence* (Discussion 1-1), the students prompted AFs that attempted to draw connections between their lives and the text, which addressed the cognitive ability of a bilingual person by asking questions such as

- "Will the language you've learned disturb your learning of other languages?"
- "Have you faced any difficulties as a bilingual person?"
- "What's your English learning method?"

It should be noted that although the article about bilingualism addressed a research study and theories pertaining to a bilingual person's cognitive ability versus a monolingual person, the more predominant higher-order thinking questions were SQs, which elicited the participants' personal preferences from among various options (e.g., "If you could choose, what second language would you want to learn?" or "Would you like your children to attend a bilingual school or live in a bilingual environment?").

Hence, in the above case, because only two responses (10% of the total number of students) indicated that bilingualism was an unfamiliar topic, supposedly bilingualism did not present any particular content barrier. It appeared that the majority

of questions did not probe deeper into the HLT questions that required analytical or generalization abilities in regard to the text. In other words, although the questions were AQs with no predetermined answers, they appear to fall short of a critical–analytic stance with the interrogation or probation of the inner layers of claims, views, and assumptions presented in the text.

3.2.2 Topical Discussion—Pattern 2

Limited Schemata. When students were limited by their existing background knowledge, as reported in their entries, the analysis of these topical discussions indicated that the students' self-initiated questions tended to focus heavily on primary-level AQs or secondary-level AFs and CQs. Shown by the topical discussions on scientific innovations (Fig. 9) and Broadway musicals (Fig. 10), the findings suggest that when content knowledge is not familiar to the learners, they are likely to resort to questions that elicit personal reflections, experiential sharing, or perceptions. As such, these topical discussions of unfamiliar subject areas and specialized disciplinary concepts did not necessarily lend to the students' more advanced levels of critical engagements of the content materials, as would be otherwise indicated by HLT questions.

Take the topical discussion about Broadway shows and this type of musical genre as an example (Discussion 2-1). Given that only 10% of the participants are from the music department and that this type of music does not exist in Taiwan's conventional musical performances, there was a high reported rate (nine participants out of 20—close to 50% of the whole class) of unfamiliarity regarding this topic among respondents. One student noted that as a music major, even he could not derive sound questions for his team members. As a result, difficulties due to the lacking schemata may have barred the students from gaining a more critical–analytical understanding of such course materials with the application of HLT questions. In this case, though there were HLT questions initiated by the students, the number was limited in comparison. Some such questions included: "If musicals do not reflect or imply social issues, will people still watch them?"; "Do you think melodies play a more important role than lyrics [in Broadway musicals]?"; or "Do you think the Broadway musical reflects [the spirit of America] as a melting pot?"

Conversely, the top questioning types were AQs, which relied primarily on sharing personal perspectives and the reflective dimension, not necessarily questions that have to be delved into further via the application of critical analysis or generalization of the content. Some questions initiated by the students for this type of question included "When you are watching a musical, what do you pay attention to?" or "If you have to choose between the Broadway show and movie, which one would you choose as a pastime?" These questions leaned toward an AF orientation.

Furthermore, a substantial number of CQs emphasized the cultural differences between the East and West. These questions included: "In the West, musicals are popular; in contrast, traditional musicals in Asia are not so popular. Why is this so?" or "In terms of emotional expression, most Eastern dramas are implicit, and most Western dramas are bold and passionate. Which do you prefer and why?"

The CQs above indicate that the discernable features of musicals from the East and West were readily picked up by the participants through sharing common backgrounds of cultural knowledge. As these questions suggest, the students attempted to ask critical questions based on their shared information with a compare-and-contrast approach drawn from existential awareness. Hence, these questions did not seem to have supported the students' generalization or deconstruction of professional knowledge of Broadway musicals or the formation of a deeper understanding of this particular genre based on its roots, style, characteristic development, and musical elements delineated in the article and the supplemented documentary. It can thus be inferred that the students did not engage in deeper referencing or questioning from the contextual information presented.

3.2.3 Topical Discussion—Pattern 3

Universal Themes with Partial Background Knowledge. This is the most fruitful type for students' initiation and utilization of HLT questions. As indicated by the present study, learners' critical thinking processes are activated through content information exchanges of disciplinary knowledge that is somewhat distanced from their daily lives yet has relatable elements or common themes that they can connect to, even if they are not familiar with the details. Specifically, when students come across subject content containing global themes and agendas with recognizable associations but possess incomplete understanding or knowledge, then such topical discussions appeared to have stimulated the respondents' deeper inquisition and interpretation of these lesson materials with higher-order thinking.

This is reflected in the topical discussion about *The Phantom of the Opera* (Discussion 2-2) with commonly identifiable issues such as the love triangle and distorted life attitudes, or about Nobel Laureate-Wangari Maathai (Discussion 2-4), whose advocacy included campaigns for more tree plantations and human rights. For instance, in their responses to *The Phantom of the Opera*, the students asked questions intended to make generalizations: "What do you think the author of this story want[ed] to express?" Some of the questions were intended to rationalize the relationship between the main characters, including all the supposed "protagonists" and "antagonists" in the film: "Who do you think is the real hurt one, Christine, Raul, or the Phantom?"

As for the topical discussion based on a narrative piece about Maathai, a large proportion of student-led inquiries included HLT questions, such as asking about the kinds of attributes that encouraged Maathai's convictions or whether Maathai's educational upbringing in the Western context helped establish her awareness of the changes needed in her native Kenya. In fact, five students expressed their unfamiliarity with the topic, indicating, for example, that the issue under discussion was too "far from daily life," that they "lack the knowledge of Kenya's community," or that they did not "[have] enough knowledge about environmental issues." Nonetheless, the second major type of questions asked during the student-led discussion—analysis questions—included, "What is [are] Dr. Maathai's best characteristic[s] observable in her plans?"; "Why might people be against Dr. Maathai's thinking?"; and "What

does democracy have to do with ecology?" These questions sought to analyze the relationship of the political situation in Kenya to the exploitation of land resources.

In addition, there were HLT questions that resulted from this discussion, including broader macro-scale questions that elicited big-picture analysis. Questions included, "Reflecting on Dr. Maathai's conflict with the Kenyan government, what is your opinion on whether we should develop the economy or conserve the environment?"; "Do you think education influenced Dr. Wangari Maathai's choices, such as taking initiations to challenge the government?"; and "What characteristics of Dr. Maathai contributed to her success?" Thus, although the reading passage about Dr. Maathai's campaigns maybe considered distanced from students' everyday lives, eco-conservation issues, such as protection of forests, and other universal themes of corruption and social values are presumably relevant to college students and can be associated with their existing schemata.

3.3 Overall Findings

This study indicates that learners' schemata and familiarity with topical content influence the kinds of questions prompted during small group discussions. In particular, learners' familiarity with topics and their content knowledge about subjects under discussion appeared to correlate with their self-initiated questions and their level of engagement with the texts or other course materials. When topical content is too challenging, out of reach, and appears to require extensive content knowledge, students tend to resort to questions drawn from their existing knowledge, which may or may not add to deeper decoding and/or conceptualizing of the main issues and details presented in class materials. On the other hand, if a topic is too closely related to daily life and too familiar to learners, they may lose focus and not investigate more deeply to discover underlying messages or evaluate the information critically. In such cases, student-initiated questions tend to emphasize their individual and shared experiences, and most HLT questions are speculative, without much emphasis on generalization and/or analysis. In essence, for most fruitful QT- and TBI-combined group discussions leading to students' enhanced critical thinking with HLTQs, the results indicate that thematic lessons presenting a moderate amount of unknown contextual information and some knowledge differentials—accompanied by universally recognizable issues or themes—are most effective.

3.3.1 Educational Implications

Suggested by the current findings, for productive integration of QT and TBI in EFL university settings, the following measures may need to be taken into consideration.

Needs Analysis. The QT framework with an ancillary component of TBI should be implemented in classrooms where students are cognitively and psychologically prepared for such academic discourse. Specifically, topics must be selected for critical

information exchange after carefully considering learners' conceptual knowledge, schemata, and awareness to strike a balance between new disciplinary content and challenging academic information. Therefore, a needs analysis can be quite essential prior to the implementation of CBI (e.g., Butler, 2005). Such necessity was also shrewdly pointed out by a student in class; "Some students may not have much experience or background knowledge of the chosen topic. I think it's one of the biggest hazard[s] for an efficient quality talk" (S12). Another student agreed, commenting, "It [an integrated QT and TBI model] requires some information and knowledge before getting involved in the discussion" (S17). In essence, assessments of students' background knowledge with needs analyses are required so that appropriate course materials can encourage students to branch out of their comfort zones and to amend the gaps of the unknown and their existential schemata that ultimately lead to HLT-driven questions with high order processing.

Cognitive Load and Language Readiness. In terms of the cognitive aspect, it should be noted that for non-native English speakers, using the target language for oral reporting in an academic discipline is already largely considered to be cognitively demanding (Cummins, 1981, 1984), not to mention students' application of critical–analytical and critical–reflective abilities premised under QT (Wilkinson et al., 2010) or meaningful and purposeful content learning under TBI. Furthermore, given that linguistic or extra linguistic clues (e.g., audience responses) may not be widely abundant in EFL college settings, students' cognitive ability to engage in academic discussions is a prerequisite for effective implementation of TBI (Cummins, 1979, 1984). Hence, in the case of joint adoption of QT and topical issues in content learning, individual proficiency in idea exchanges and academic discourse becomes important.

Affective Dimension. One other need to be taken into account for an integrated QT and TBI framework is the affective or emotional dimension. As noted by Dueñas (2004), appropriate content-based materials should correspond to learners' affective readiness, not just cognition. This study supports this notion, as when learners are not emotionally ready for course content, there is a decline in their critical–analytic abilities indicated by a discernable outcome in lecture discussions about gender, marriage, and how social media affects people's relationships. These were evident in students' reporting of their lack of experience with romantic relationships and perspectives on marriage, and as a result, the students' self-initiated questions were mostly about their emotions and personal attitudes about relationships in general and scarcely relied upon the critical–analytical stance presented in the text.

Cultural Aspect. Finally, it should be noted that students' cultural awareness of course contents should also be considered in terms of successful outcomes of higher-order learning and information exchanges with HLT questions. As indicated by this study, one obstacle faced by students when engaging in topical discussions was their unfamiliarity with content that maybe US-specific, such as the Broadway musical genre, which yielded significantly fewer HLT questions (two out of 39 questions) compared to AFs or AQs (nine and 18 out of 39 questions, respectively). Given that, in the EFL context in Asia, students may not necessarily possess the cultural background knowledge presented in authentic English textbooks, which stems from

Western notions and practices, selected topics must align with students' cognitive readiness to handle complex content presented in English (Warrington, 2010), such as particular art styles found in culturally specific content. Hence, one way to curb unfamiliarity with content due to cultural differences, such as norms, conventions, and practices, is by presenting supplemental information about local and global cultures prior to group discussions. Such resources, aside from biographical and historical texts, can also be from interviews, commercials, and documentaries, as suggested by Dueñas (2004).

Supplementary Inputs. One proven case regarding the employment of supplementary information can be gleaned from a lecture discussion about Vincent van Gogh's life account and his postimpressionism artworks (Discussion 2-3). To bridge gaps in students' art content knowledge and this topical discussion, additional information shared included local artists' handicrafts, styles, forms, and media. Further, biographical information about van Gogh's challenges and milestones was incorporated into the lesson. Hence, despite the students' claims of their unfamiliarity with the topic of fine art, the discussion yielded positive outcomes in HLT (generalization and analysis) questions, constituting 61% of responses (or 14 out of 23 questions) across six question types: AFs, AQs, CQs, SQs, HLT questions, and uptake questions. HLT questions included: "What is the reason that van Gogh [painted] differently?"; "Why did most people start to appreciate van Gogh after he died?"; and "Do you think people in the next generation will consider van Gogh a great artist?" Students also indicated exchanging diverse opinions with a deeper understanding of van Gogh's influences, the value of the arts, and the relationship between expression and creativity that illustrated their critical–analytical and critical–reflective thinking.

In brief, to implement QT and CBI/TBI and facilitate a heightened critical–analytic stance toward lesson materials and content, instructors need to consider the adequacy of students' cognitive load, language preparedness, emotional maturity, and culturally specific information for the domestic and global contexts. Also, for academically challenging topics with unfamiliar content information, supplementary information maybe helpful in rekindling learners' prior experiences and bridging the gap between learners' existential knowledge and previously unknown academic subjects.

4 Summary and Conclusion

This research explored the way a QT framework, administered in an East Asian EFL college setting with topical discussions within a TBI approach, can be integrated to help promote students' HLT and comprehension of ideas and concepts presented in authentic English-language materials, including reading passages and audio-visual resources. This study supports the benefits of the integrated adoption of QT and TBI in the facilitation of students' HLT abilities, as shown by encouraging expansive types of self-initiated questions requiring generalization, analysis, and speculation. This research also revealed that the best course materials and thematic discussions

provide adequate content challenges and cognitive processing loads that stimulate students' higher-order thinking to fill voids in their background knowledge and new information presented. In essence, to evoke and facilitate students' HLT abilities with the engagement of critical–analytic stances, the subject content should contain identifiable universal themes or global agendas with novel knowledge and moderately distanced or partially known disciplinary content. Overall, positive outcomes arising from this study indicate that students may acquire interdisciplinary information with enhanced critical thinking abilities via multifaceted, self-initiated questions during QT discussion and exchanges, though to various extents based on their schemata and previous areas of study. The key findings and educational implications are highlighted as follows:

- Students' familiarity with daily-life subject content in thematic lessons led to students' reliance on AQs, AFs, or CQs emphasizing personal lives and perspectives and exercising HLTQs sparingly.
- Students' limited schemata resulted in primary-level AQs, AFs, and CQs that largely drew on individuals' perceptions and experiential sharing.
- Students' partial background knowledge of topical issues containing universal themes yielded the most fruitful QT and TBI integrated group discussions for the elicitation and facilitation of HLTQs (generalizations and analyses).
- Needs analyses among the intended students' groups are beneficial for the curricula setup of a joint QT and CBI/TBI instructional approach.
- For enhancements of students' HLT in EFL university settings via an integrated QT and CBI frame, four dimensions need to be considered: cognitive load, language readiness, affective dimension, and cultural awareness.
- Supplementary (printed and audio-visual) materials paired with the main text(s) of topical discussions are helpful to lay the groundwork for critical discussions of unfamiliar disciplinary contents.

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