

# The Influence of Discussion Prompts on Fostering Student Teachers' Competence in Knowledge of English Instruction

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This study analyzed questionnaire, pre-test, post-test, and online posts to explore influence of discussion prompts on the competence in English instruction of seven student teachers of elementary school EFL (English as a Foreign Language) in a practicum in Taiwan. This study reached the following conclusions. First, student teachers had good perceptions of the discussion prompts, particularly their effects on reflection on and relevance of English instruction. Secondly, student teachers had good perceptions of discussion prompts because of their clarity; however, they were not satisfied with inactive discussions among participants. Finally, participants' education background and teaching experience affected their perceptions and learning via discussion prompts. A conceptual framework on effective implementations of discussion prompts was suggested.

## INTRODUCTION

Teachers need to be equipped with different types of teaching knowledge, such as content knowledge, pedagogical content knowledge, knowledge of learners, and subject knowledge (Shulman, 1987). However, myths about English learning and teaching have been disseminated and pre-service teachers might be misled by these misconceptions.

Discussions have been widely used as a method of instruction and learners are engaged to construct their understanding of academic content (Larson, 1995, 2000; Niemela, 2019). Discussion prompts proposed by teachers can sustain discussions and knowledge construction among learners (Aloni & Harrington, 2018; Lovorn & Holaway, 2015; Richardson et al., 2013; Townsend, 2009).

To explore the influence of discussion prompts on the competence in English instruction of seven student teachers of elementary school EFL, this study drew on qualitative thematic data and quantitative assessments. This study discussed the following research questions. Firstly, what were elementary school EFL student teachers' perceptions of the discussion prompts? Secondly, how did the discussion prompts facilitate the acquisition of competency and knowledge among elementary school EFL student teachers? Thirdly, what factors affected student teachers' perception of and learning through the discussion prompts (e.g. practicum site, age, teaching experience, academic year)? Suggestions on effective designs and implementations of discussion prompts for teacher educators are provided.

## LITERATURE REVIEW

Issues discussed in the literature review include the definitions of prompts, benefits of prompts for text-based discussions, instructional strategies for discussion prompts, empirical studies on discussion prompts, gaps in the literature, and the conceptual framework. DeFrance and Fahrenbruck (2006) define prompts as "questions or statements that facilitate thinking with text in particular ways" (p. 581). Scholars propose different types of prompts, such as Davis and Linn's (2000) three types of prompts for the knowledge integration environment (generic, directed, activity), Rosenshine et al.'s (1996) formats of question prompts (signal words, generic question stems, generic questions, the main idea of a passage, the question types, and story grammar), or Ge and

Land's (2004) three types of question prompts for problem solving and high-order thinking (procedure, elaborative, reflective prompts).

First, teachers should raise authentic questions or design prompts for learners' discussions regardless of whether lessons are held in the classroom or online (Jarosewich et al., 2010). Discussion prompts can help students think and discuss disciplinary or complex texts in depth (e.g. DeFrance & Fahrenbruck, 2016; Giacomo & Savenye, 2020; James, 2011; Johnson, 2016). Thomas (2018) integrated discussion and reflection prompts into a TESOL (Teaching English to Speakers of Other Languages) method course to examine the effects of analogy used for Harry Potter novels to capitalize 20 pre-service language teachers' content knowledge of TESOL and ELLs (English Language Learners). The analysis of the questionnaire and participants' responses to prompts revealed that such instructional activity had a slight effect on their content knowledge but not on their disposition toward ELLs. Moreover, Garrison and Cleveland-Innes' (2005) experimental study explored the influence of four types of interactions on 75 online learners' learning. The results of the questionnaire indicated that learners experienced deep learning through the instructor's presence and facilitation. The teacher's presence and involvement provided learners with engaging questions, focused discussions, and time for challenging and testing ideas.

Secondly, the provisions of discussion prompts can foster learners' recall and comprehension of texts or videos (DeFrance & Fahrenbruck, 2016; James, 2011; Koc et al., 2009; Vaughan, 2014). In Koc et al. (2009), video cases along with discussion prompts were served as the anchor for 26 pre- and in-service mathematical teachers on three method courses in the United States, so participants were able to make theory-practice connections by articulating their thoughts based on what they saw on the videos.

Thirdly, discussion prompts foster learners' critical thinking (e.g. Ho, 2011; James, 2011; Richardson et al., 2013; Suh & Michener, 2019) and reflection (e.g. Dittrich et al., 2008; Fredricks, 2011; Hargrove et al., 2010; Hutchison & Colwell, 2012; Lai, 2006; McDuffie & Slavit, 2002; Putman et al., 2012). In Suh and Michener's (2019) study, dialogic online discussion prompts were integrated in six TESOL program courses to prepare language teachers for being linguistically responsive. The analysis of online

discussion prompts and teachers' reflections indicated that discussion prompts provide opportunities for teachers to develop their sociolinguistic consciousness, develop value for linguistic diversity, and identify the language of classroom tasks. The discussion prompts shaped their critical reflections. Hence, different types of questions in the discussion prompts can foster different levels of critical thinking and encourage teachers' reflections (Hutchinson & Colwell, 2012; Jaffee et al., 2015; Richardson et al., 2013).

In Hargrove et al.'s (2010) study, student teachers of mathematics were required to respond to online discussion prompts and other student teachers' concerns about instructional practice with regard to mathematics lesson plans. A similar study by McDuffie and Slavit (2002) explored the influence of online discussions with discussion prompts on student teachers' mathematics instruction practice. Discussion prompts were intended to foster student teachers' reflections and synthesis of foundational ideas of reform-based mathematics instruction.

Scholars recommend pedagogical principles in relation to discussion prompts (Niemela, 2019; Schwartz & Szabo, 2011). First, discussion prompts should be carefully designed based on the objectives of the lessons (Ciancio & Diaz-Rico, 2010; Kucan et al., 2011; Niemela, 2019). Sample answers or online forum posts relating to the discussion prompts can be provided to demonstrate the high-quality discussion, so learners can follow the sample answers and write their own responses (Niemela, 2019; Putman et al., 2012; Yen et al., 2018).

Next, a clear focus for discussion prompts should be provided (Mahmoudi & Gronseth, 2019; Myhill et al., 2016), and facilitation by teachers is critical to the success of discussion (Mahmoudi & Gronseth, 2019). Myhill et al. (2016) explored the influence of 53 elementary school teachers' explicit instructions on grammatical choices in primary school children's writing and metalinguistic discussion. The analysis of observations revealed that dialogic metalinguistic discussion was facilitated by the teachers' provision of clear focus for discussions and prompts and scaffolding of students in directing their talk and thoughts toward the pedagogical purpose.

Thirdly, Bloom's (1956) taxonomy can be integrated into the design of discussion prompts to trigger higher levels of thinking in learners (Aloni & Harrington, 2018; Ertmer et al., 2011; Pennington, 2015; Jarosewich et al., 2010; Schwartz & Szabo, 2011). Pre-service teachers were pushed to have higher-level thinking and to practice reflective teaching because Pennington's (2015) discussion prompts and questions were developed based on Bloom's taxonomy levels of application, analysis, synthesis, and evaluation. On the other hand, Schwartz and Szabo (2011) found no relationship between the levels of the discussion prompts and the levels of 46 pre-service teachers' online responses. The high-level prompts did not generate high-level responses due to the instructors' lack of active participation and facilitation of asynchronous online discussion.

Moreover, the wording of discussion prompts should be taken into consideration (Marshall & Callahan, 2014; Roth, 2010). Marshall and Callahan (2014) explored eleven prospective elementary school mathematics teachers' responses to online discussion prompts and concluded that the wordings of the discussion prompts directed participants to provide mathematical evidence.

Discussion prompts and rubrics for assessments should be aligned with the objectives (Aloni & Harrington, 2018; Dittrich et al., 2008; Engel, 2020; Mahmoudi & Gronseth, 2019). Engel (2020)

interviewed 21 online university instructors. The results of the interviews indicated the importance of discussion prompts and rubrics for the success of online courses.

Studies have explored the integration of discussion prompts in teacher education programs (e.g. Arnold, 2009; Brady, 2011; Brock et al., 2013; Dittrich et al., 2008; Koc et al., 2009; Vaughan, 2014), teachers' professional development (e.g. Borup & Evmenova, 2019; Lovorn & Holaway, 2015; Pawan et al., 2003; Üzümlü et al., 2020), and teacher leaders' learning (e.g. Borko et al., 2014). A limited number of studies have focused on the use of discussion prompts among language teachers (e.g. Fredricks, 2011; Lewis, 2018; Suh & Michener, 2019; Thomas, 2018; Warren & Paulus, 2020). Lewis's (2018) narrative inquiry into a novice language teacher's responses to discussion prompts revealed her challenges and struggles as she positioned her identity as a competent teacher. Ho's (2011) qualitative and discourse analysis explored the oral academic discourse socialization among four native English speakers and six non-native English speakers on an undergraduate TESOL course in the United States. Analysis of the observations revealed that participants' identity-construction, critical thinking, and making of intertextual connections through discussion prompts were fostered. Group discussions with discussion prompts enhanced participants' critical thinking and triggered prior existing knowledge (Ho, 2011).

Most studies have explored academic discourse socialization at tertiary level, particularly in academic writing (Mansor, 2008; Ho, 2011), but a limited number of researches have investigated teachers' academic discourse (Matusov et al., 2015; Lewis, 2018). Through a mixed-method data collection approach, this study aimed to address this by examining the academic discourse socialization of seven elementary school English teachers through discussion prompts on English teaching myths.

Based on Yen et al.'s (2018) criteria for the online learning environment, and other empirical studies (e.g. Waltonen-Moore et al., 2006), the conceptual framework of this study was proposed as revealed in Figure 1. Student teachers' myths about English teaching could be clarified through online discussions. Different levels of discussion prompts with clear focus, well-designed rubrics for assessment, peer interactions, and teacher trainer facilitation led to effective online discussion.

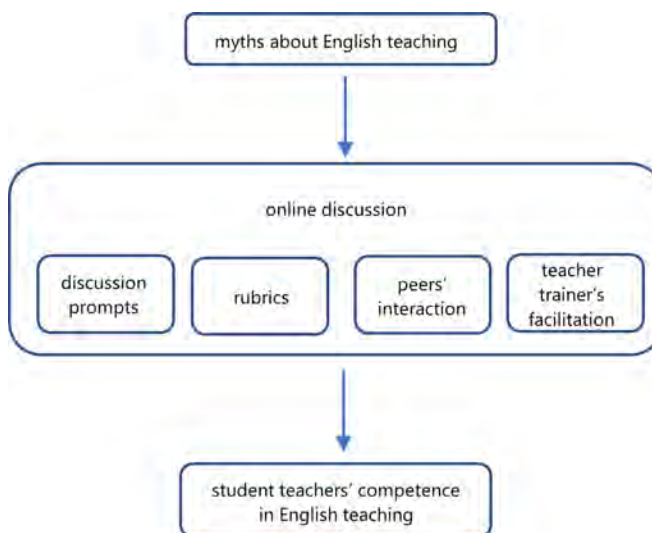


Figure 1. Conceptual Framework

## METHOD

Case study methodology enables an inquiry to focus on “a contemporary phenomenon within some real-life context” (Yin, 1994, p. 1). This research adopted a case study design to explore student teachers’ learning in the practicum, a real-life context. The researcher aimed for a holistic interpretation of discussion prompts and posts on myths about English instruction.

### Participants and Setting

This study was conducted in a pre-service language teacher education program in the northwest Taiwan. Seven student teachers who enrolled in a practicum for 2020 began a one-semester practicum in the collaborating elementary school. These student teachers were required to attend monthly meetings mandated by the teacher education program; each meeting lasted for at least two hours. They met their advisor, Ruth (a pseudonym), and shared their experience during the practicum.

Table 1 reveals the participants’ demographic data. Ada and Eva, the oldest students, had the most teaching experience. Ann, Liz, and May had graduated from university in spring 2020. Ada, Eva, Ina, and Zoe had completed their courses on the graduate program in English instruction but had not completed their theses. Eva’s school was large sized with 61 classes in an urban area. The rest of the practicum sites were medium sized, having from 33 to 59 classes.

Name	Age	Education	Teaching experience	Practicum site
Ada	32	master’s	8	medium, urban
Ann	22	bachelor	0	medium, urban
Eva	34	master’s	6	large, urban
Ina	25	master’s	0	medium, rural
Liz	22	bachelor	0	medium, urban
May	22	bachelor	0	medium, rural
Zoe	25	master’s	0	medium, rural

## DATA COLLECTION

Both quantitative (questionnaire, pre-test, and post-test) and qualitative data (participants’ posts) were collected in this case study to achieve different purposes. The quantitative data were used to explore participants’ attitudes toward the discussion prompts and their acquisition of competence and knowledge in English teaching at the beginning and end of the study. Qualitative data were used to analyze participants’ competence and knowledge of English teaching as they responded to the discussion prompts.

First, ten myths related to English instruction used in this practicum were collected and constructed by the researcher. The topics of these myths included English as a lingua franca, teacher talk, comprehensible input, phonics instruction, vocabulary instruc-

### Discussion Prompts

1. Read this statement.
2. Identify the major issues in this statement.
3. State your opinion (agree or disagree).
4. Use the theories to support your claims.
5. Explain the pedagogical implications.

**Figure 2. Discussion Prompts**

tion, differentiated instruction, content language integrated learning (CLIL), task-based language teaching, and culture instruction. The discussion prompts began with the myths that participants were required to clarify and respond to were designed based on empirical studies (e.g. Ertmer et al., 2011; Fredricks, 2011; Thomas, 2018). Figure 2 shows one of the discussion prompts. Two myths were posted along with a discussion prompt on Facebook every month. Participants were required to draw on their knowledge on English instruction and respond to the discussion prompts.

The assessment rubrics were provided on a scale of 1 (poor) to 5 (excellent) in terms of participants’ responses and replies to peers’ responses, as shown in Table 2. Participants’ responses were marked “Excellent – 5” if they posted a well-developed response with sufficient theoretical supports based on the prompts or if they posted a thoughtful reply to a peer’s response that extended the discussion in a meaningful way

A test was designed for the pre- and post-tests. The test consisted of 30 questions corresponding to the myths discussed during the practicum. These tests were constructed and modified based on the elementary school English screening tests in different cities and countries in Taiwan. At the beginning of the practicum, participants were asked to complete the pre-test. At the end of the practicum, participants took the same test as the post-test.

The questionnaire was developed based on empirical studies (e.g. Borko et al., 2014; Thomas, 2018; Truhlar et al., 2018; Yen et al., 2018). The questionnaire included two parts. The first part consisted of five questions and was used to gather participants’ demographic information. The second part was answered on a five-point Likert scale and consisted of 15 statements in terms of relevance, interactivity, designs of discussion prompts, and effects. The questionnaire was first given to two experts to evaluate its content validity and five pre-service teachers for the trial test. At the end of the practicum, these student teachers were asked to complete the questionnaire.

Criteria	Prompt responses	Reply
Excellent 5	Post a well-developed response with sufficient theoretical supports based on the prompts.	Post a thoughtful reply to a peer’s response that extends the discussions in a meaningful way.
Good 4	Post a response with sufficient theoretical supports based on the prompts. The response addresses to most of the aspects of the prompts.	Post a reply to a peer’s response that extends the discussions in a meaningful way.
Fair 3	Post a response with sufficient theoretical supports based on the prompts. The response addresses to some of the aspects of the prompts.	Post a reply to a peer’s response that extends some discussions in a meaningful way.
2	Post a response with limited theoretical supports based on the prompts. The response addresses to only a limited the aspects of the prompts.	Post a thoughtful reply to a peer’s response that extends limited discussions in a meaningful way.
1	Post a response without theoretical supports based on the prompts. The response did not addresses to all aspects of the prompts.	Post a reply to a peer’s response, but it does not extend the discussion in a meaningful way.
0	Does not post a response for the discussion prompt	Does not post a reply to a peer’s response.



## DATA ANALYSIS

Descriptive statistics (means and standard deviations) were calculated from the questionnaire and pre- and post-tests. Thematic analysis of the discussion posts was employed. The researcher read through all the data and gave tentative codes (e.g. clarify myths) as shown in Figure 3. Codes were put into categories (e.g. reflection, relevance, educational background, knowledge) and sorted into the major themes (e.g. perceptions, learning, factors).

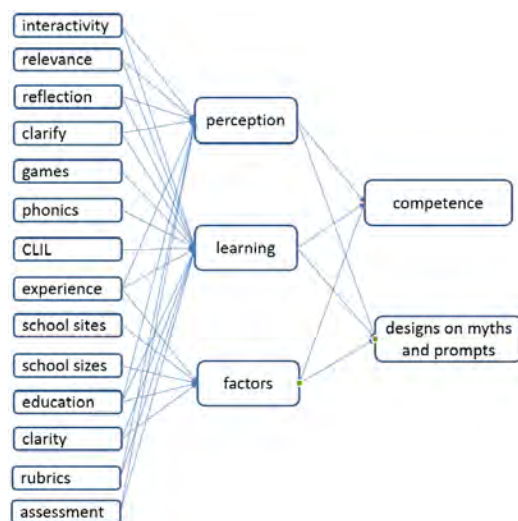


Figure 3. Data Analysis

In order to ensure the validity of the study, tentative coding and preliminary findings were shown to the student teachers for member checking. In addition, the findings were given to two colleagues of the researcher who also worked in language teacher education for peer review.

## RESULTS

The questionnaire, pre-test, post-test, and online posts were analyzed based on the conceptual framework. Four issues were discussed namely participants’ perceptions of discussion prompts, participants’ learning via discussion prompts, factors in participants’ perceptions of discussion prompts, and their learning via discussion prompts.

### Participants’ Perceptions of Discussion Prompts

As revealed in Table 3, participants had the best perceptions of discussion prompts because they led them to reflect (mean = 4.62), followed by their relevance to English instruction ( $M = 4.49$ ). However, participants did not regard the discussion prompts as a means to foster interactive discussion among peers, with a mean of only 3.29.

Attributes	Mean	Std. Deviation
relevance	4.49	0.56
reflection	4.62	0.50
interactivity	3.29	0.49
instructor support	4.09	0.74

Regarding discussion prompts and their relevance to English instruction, as shown in Table 4, participants had better perceptions of discussion prompts for helping “clarify the myths about English teaching” ( $M = 4.71$ ) and “acquire TESOL content knowl-

edge” ( $M = 4.71$ ). However, participants did not regard discussion prompts as relevant for helping them “acquire knowledge about working with learners” ( $M = 4.29$ ).

Statements	Mean	Std. Deviation
clarified the myths about English teaching	4.71	0.49
acquired TESOL content knowledge	4.71	0.49
acquired TESOL pedagogical knowledge	4.43	0.79
acquired knowledge about working with learners	4.29	0.49
prepared to be a competent English teacher	4.43	0.79

As revealed in Table 5, participants had better perceptions of discussion prompts for fostering their reflections on teaching education ( $M = 4.71$ ). Participants also regarded discussion prompts as a means to stimulate both their critical thinking ( $M = 4.57$ ) and thinking at different levels ( $M = 4.71$ ). However, participants did not regard the discussion prompts as a means to foster engagement with other student teachers ( $M = 3.29$ ) or active participation ( $M = 3.29$ ).

Statements	Mean	Std. Deviation
stimulated critical thinking	4.57	0.53
stimulated into different levels	4.57	0.53
fostered reflections	4.71	0.48
fostered engagements with other student teachers	3.29	0.49
enabled active participation in discussion.	3.29	0.49

As revealed in Table 6, participants had the best perceptions of the discussion prompts in terms of their clarity ( $M = 4.71$ ), followed by “different levels of thinking of discussion prompts” ( $M = 4.57$ ). However, participants had the lowest perceptions of the discussion prompts in terms of their clarity of assessment ( $M = 3.29$ ).

Statements	Mean	Std. Deviation
clear discussion prompts	4.71	0.49
participation in discussing	3.57	0.53
clear rubrics on assessments	3.29	0.49
different levels of thinking	4.57	0.83
a safe environment for discussion.	4.28	0.49

### Participants’ Learning via Discussion Prompts

As revealed in Figure 4, only two questions were answered 100% correctly in the pre-test. Question 1 was about English as a lingua franca, and question 6 was related to comprehensible input. Questions 1 and 6 were more related to language teachers’ content knowledge about English.

Take Myth 1, “We should be teaching British English or American English,” as an example. The two online posts below by Ada and Ina revealed that they considered that language is used for communication regardless of whether it is British or American English. They were aware of the importance of Englishes or a lingua franca in language education.

English as a second or foreign language should be a communicative tool to be learned but not the learning goal itself. Therefore, instead of debating over the legitimate of British English or American English, we should be focusing on the communicative function of English learning to the students – to teach world Englishes which English language users from



**Figure 4. Correct Responses in Pre- and Post-Tests**

all over the world could understand each other even with the differences of accent, vocabulary, or spelling that we are using. (Ada's online post)

We learned English for communicate. There is no stipulation that we should teach British English or American English. (Ina's online post)

Ada's post demonstrated more content knowledge of the issue of world *Englishes*. She identified the importance of learning English for communication in responding to whether teachers should teach British or American English. Ina reiterated Ada's claim about the importance of English for communication, but she did not elaborate on the concepts or demonstrate her competence in this issue.

Regarding Myth 4, "Exposure and interaction will result in English language learning," participants recalled Krashen's input hypothesis as in the following posts. Eve further used Long's modified interaction to explain the importance of teacher talk as comprehensible input for language learners.

English exposure and interaction in language learning have been widely discussed in recent years. The myth said that exposure and interaction will result in language learning. The research has pointed out that students can improve their language ability through exposure to comprehensible input. Therefore, as we discuss about language exposure, which is defined as the contact that the learners have with the target language, Krashen's comprehensible input should be the element in language learning. Furthermore, Long presented modified interaction. He argued that learners interact with other to reach comprehension through negotiation for meaning. To sum up the description above, we can understand that exposure and interaction should be included comprehensible input then can achieve the efficiency of language learning. (Eve's online post)

Discussion prompts can scaffold student teachers, such as May and Eve in this study, to engage in a higher level of thinking by connecting the theories on the acquisition of a second language (e.g. Krashen's comprehensible input) to their own teaching experiences (e.g. exposure to an English-speaking envi-

ronment and input) (Pawan et al., 2005). Hence, the designs of discussion prompts should target higher-order thinking skills and the language knowledge base (Schwartz & Szabo, 2011).

Seven questions were answered 100% correctly in the post-test. Issues covered by these questions were related to English as a lingua franca (question 1), Krashen's input hypothesis (questions 6 and 8), vocabulary instruction (question 11), CLIL (questions 15 and 16), and task-based language teaching (questions 17 and 18). While questions 1, 6, and 8 were more related to language teachers' content knowledge of English, the remaining questions were more related to language teachers' pedagogical knowledge.

Myth 9, "Learners can learn English through fun games", was related to the importance of meaningful activities and tasks in language learning rather than games alone. Zoe expected meaningful games to be related to learners' lives, rather than drill practices. She also quoted the findings of a study conducted by Huyen and Nga (2002) and regarded games as useful in helping learners' to memorize vocabulary. Moreover, Ada provided the implication for game designs and stated that learners' language levels and cognition development as well as the objectives of the lessons should be taken into consideration when teachers design games and tasks. Ada's responses revealed her different levels of thinking, moving from remembering and understanding to applying.

Teachers need to design some meaningful games which can connect to their life and learning. In this way, it can catch students' eyes. Therefore, students can learn under the fun game and it depends on teachers' instructional design. Based on Huyen and Nga (2002), they indicated that "students are gradually progressing in English vocabulary and games help them to learn new words and phrases that appear in the games and to recall their existing vocabulary at the same time". (p. 8) (Zoe's online post)

However, one of the biggest concerns of using games in a lesson would be that the learners might put too much efforts in "winning the game" or they might get too excited playing the games so that the goal of achieving the excellence in performing the target languages drifts away. To avoid it, language teachers could think carefully about the specific objectives of each games or tasks in a lesson, design the

games based on the language level and the cognition development of the learners, and lastly, prioritize the different exercises in a lesson in order to keep the learners motivated so that they truly learn from the lesson. (Ada's online post)

Questions 10 and 15 were answered least correctly in the pre-test, with only 20% of responses being correct. While question 10 was about "learn to blend" in phonics instruction, which is relevant to language teachers' pedagogical knowledge, question 15 was related to CLIL. Phonics and CLIL are the pedagogical content knowledge that language teachers are required to be equipped with.

Myth 5 was "Teaching phonics is teaching pronunciation." Participants such as Anna and Ina had wrong perceptions of phonics and pronunciation and they regarded phonics and pronunciation as similar. The integration of discussion of myths and discussion prompts into the practicum enables student teachers such as Anna and Ina to examine their knowledge and reveal their misconceptions about phonics and pronunciation.

Phonics and pronunciation are similar because they both involve the sound of English. (Anna's online post).

Phonics and pronunciation are similar because they both involve the sounds of English. (Ina's post)

Question 10 was answered least correctly in both the pre-test (20% of answers were correct) and the post-test (40%). The correct response rate of question 15 increased significantly from 20% in the pre-test to 100% in the post-test. Question 15 concerned the issue of CLIL.

As revealed in Figure 5, Ada's scores were the highest in both the pre-test (85%) and the post-test (95%). On the other hand, Ann's scores were the lowest in both the pre-test (50%) and the post-test (70%). Ada's score was the highest in the pretest (85%), followed by Ina's (80%). Ann and Liz had the lowest score (50%) in the pre-test. Ada's score was still the highest in the post-test (95%), followed by May's and Zoe's (90%). Liz made a significant improvement from 50% in the pre-test to 80% in the post-test, followed by Zoe with 65% in the pre-test to 90% in the post-test. All the participants in this study showed improvement from the pre- to the post-test.

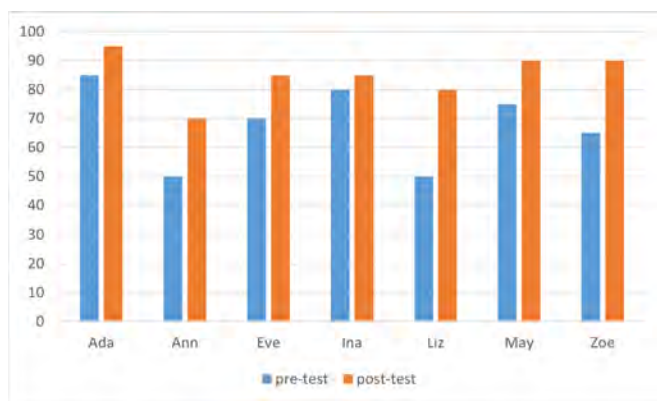


Figure 5. Participants' Performance in Pre- and Post-Tests

## Factors in Participants' Perceptions of Discussion Prompts

As revealed in Table 7, participants' education levels and teaching experience affected their perceptions of discussion prompts. While participants' education levels particularly affected their reflective practice ( $r = .72$ ), their teaching experiences affected their acquisition of TESOL pedagogical knowledge and knowledge about working with learners ( $r = .98$ ).

Table 7. Factors Impacting Participants' Perception

	education level	teaching experience
acquired TESOL pedagogical knowledge	0.55	0.98
acquired knowledge about working with learners	0.55	0.98
stimulated into different levels	-	0.54
fostered reflections	0.73	-
stimulated into different levels	-	0.54
fostered engagements with other student teachers	-	0.54
enabled active participation in discussion.	0.55	-

## Factors in Participants' Learning via Discussion Prompts

As revealed in Table 8, the education levels and teaching experience affected participants' performance in pre- ( $r = .53, .76$ ) and post-tests ( $r = .52, .47$ ). While Ada had the highest education level (she had completed courses on the master's degree program) and the most teaching experience (eight years) and achieved the highest scores in both pre- and post-tests, Ann, who had a bachelor's degree and no teaching experience, achieved the lowest scores in the pre- and post-tests.

Table 8. Factors Impacting Participants' Learning

	pre-test	post-test
education level	0.53	0.76
teaching experience	0.52	0.47

## DISCUSSION

Based on the framework in Figure 1, this study analyzed the questionnaire, pre-test, post-test, and online posts to explore the impacts of discussion prompts on seven elementary school student teachers' competence in and knowledge of English instruction. Three issues were explored namely the influence of discussion prompts on student teachers' competence, designed descriptions of myths to be discussed via discussion prompts, and facilitation of discussion prompts.

### Influence of Discussion Prompts on Student Teachers' Competence

Student teachers had good perceptions of the discussion prompts, particularly their effects on reflection on and relevance of English instruction, such as Ada and Zoe's online posts on the roles of games in English instruction. Teacher reflection is a significance component of teachers' professional learning and development, because reflection can be used to explore their own knowledge, competence, and beliefs (Calandra et al., 2009). Moreover, it can be used as a tool to deepen their understanding of effective instructional practice through structured discussion prompts on myths (Hargrove et al., 2010; Hutchison & Colwell, 2012; Schwartz & Szabo, 2011).



Discussion prompts helped the participants to clarify their misconceptions of English instruction and gain competence in the content knowledge. Compared to the pre-test, participants showed improvements in the post-test, particularly concerning issues related to pedagogical knowledge rather than content knowledge. Good discussion prompts foster participants' awareness of content and pedagogical knowledge. Student teachers are stimulated to examine and reflect on various aspects of issues related to the curriculum, language acquisition, and instructional strategies and practice (Hutchison & Colwell, 2012; Jaffee et al., 2015). So good discussion prompts and discussion of myths can generate students' insightful responses (Aloni & Harrington, 2018; Jaffee et al., 2015).

Hence, discussion prompts and discussion of myths in the online learning environment can be integrated into practicum or language teacher education programs. Such online learning with discussion prompts can challenge student teachers to associate the knowledge that they have learned before, apply their knowledge and competence at practicum sites, and shape their critical reflections and can position them to engage dialogically with other student teachers (Suh & Michener, 2019). Hence, student teachers' knowledge can be constructed and competence can be developed (Waltonen-Moore, 2007).

### Designed Descriptions of Myths for Discussions

Student teachers did not discuss myths related to different aspects of knowledge of and competence in English, such as knowledge related to learners. Participants' education background and teaching experience affected their discussions and these factors should be taken into consideration when trainers designed descriptions of myths and discussion prompts. This finding was in accord with empirical studies showing that teachers' prior knowledge and experience affected their responses to and reasoning about the discussion prompts (e.g. Golanics & Nussbaum, 2008).

Knowledge base is what people need to know and are able to do to carry out the work of a particular profession (Johnson, 2009). Teachers and educators can first identify the major concepts, principles, and generalizations to be emphasized in each discipline (Erickson, 2008). Take language teacher education as an example. Myths proposed for discussion should cover different issues related to language teachers' competence and knowledge base, such as knowledge about language (Bartels, 2019), language awareness (Thomas, 1987), knowledge of or competency in teaching in reality (Johnson, 2009; Mann, 2005; Morain, 1990), content knowledge, pedagogical knowledge, knowledge about learners, or curriculum knowledge (Shulman, 1987).

Teacher educators should have specialized knowledge in questioning strategies and response techniques, so the descriptions of myths and discussion prompts can be a well-developed representation of the language teacher's knowledge base. Hence, student teachers' competence can be constructed through meaningful questions, critical responses, and interactive peer discussions (Kucan et al., 2011).

### Facilitation of Learning Through Discussion Prompts

Participants had good perceptions of discussion prompts because of their clarity; however, they were not satisfied with inactive discussions among participants. Interaction is crucial in educa-

tion, particularly in online learning (Garrison & Cleveland-Innes, 2005). In this study, participants just posted their responses without responding to their peers' comments. Surface learning was observed in this study as in other empirical studies because learners made the least amount of effort to achieve the minimum required outcomes of the practicum (Garrison & Cleveland-Innes, 2005; Holmes & Prieto-Rodriguez, 2018).

Active online discussions among learners should be fostered with clear course requirements. Learners such as student teachers should not only post their answers online but also read and respond to peers' posts. Collective conversations and discussions about language teaching and learning among student teachers can enable them to call on their past teaching and learning experiences and connect the issues to the theories (Hargrove et al., 2010; Ho, 2011). Their knowledge can be collaboratively constructed through the interaction as the community of practice (Borup & Evmenova, 2019; Garrison & Cleveland-Innes, 2005). By doing so, student teachers can be expected to transform their experiences into their future teaching implications (Hargrove et al., 2010; Ho, 2011).

Participants did not have good perceptions of the assessment rubrics, because they only posted their responses but did not reply to their peers' posts. Posting responses and replying to peer responses were among the tasks mandated by Ruth, their advisor. Their performance during the practicum was not evaluated solely by their online posts. It is essential for advisors or instructors to help learners understand the purpose and value of interactive online discussions. Instructors should carefully consider how they will grade the online posts and the effect of the assessment practice on student teachers' professional learning (Giacumo & Saveny, 2020; Holmes & Prieto-Rodriguez, 2018; Jarosewich et al., 2010). They need to clearly describe the rationale for using discussion prompts and online discussions as learning tools (Aloni & Harrington, 2018; Bernstein & Isaac, 2018).

Hence, the assessment rubrics can be used for student teachers' own self-evaluation, so student teachers will develop self-regulated learning strategies for writing and responding and develop their critical thinking and different levels of thinking. Clear rubrics for assessments can increase learners' engagement in meaningful discussions that are aligned with the learning outcomes of the practicum and the advisor's expectations (Aloni & Harrington, 2018; Giacumo & Saveny, 2020; Schwartz & Szabo, 2011).

Thirdly, participants' education background and teaching experience affected their learning through and perceptions of the discussion prompts. A higher education level and more teaching experience enabled participants to improve in the post-test. Hence, discussion prompts can be carefully tailored to the level of student teachers' competence, interests, and experience. Thus, student teachers can chime in with the discussion with their opinions and values (Ciancio & Diaz-Rico, 2011).

## CONCLUSIONS

This case study analyzed both quantitative (questionnaire, pre-test, post-test) and qualitative (online posts) data to explore the influence of discussion prompts on seven elementary school student teachers' competence in knowledge of English instruction during a language teacher education program in Taiwan. The conceptual framework in Figure 1 and emphasis of fostering interactive discussion among learners provide teacher educators, language teacher education programs, and local bureaus of education with

insights into effective design on discussion prompts for online learning.

Findings of this study are in accord with empirical studies on designs and implementations of online academic discussions in tertiary education (Bernstein & Isaac, 2018; Hurt et al., 2012; Tsang, 2011). Learners' engagement in online academic discussions with reflective practice can prepare them for evolving professions (Hurt et al., 2012; Tsang, 2011). The rubric developed based on evidence-based practice can be able to foster learners' critical thinking and professional learning as the community of practice (Bernstein & Isaac, 2018; Hurt et al., 2012). This study can contribute to the literature in language teacher and tertiary education. The inclusion of the discussion prompts enables the learners to have better quality discussions in any educational context. This study sheds light on the potential value of discussion of myths and discussion prompts in language teacher and tertiary education.

This study has the following limitations. First, purposeful sampling rather than random sampling was employed in this study. The findings drawn from this case study cannot be generalized to a population of other cases. Secondly, the short duration was another limitation. The study was limited to one semester from August 2020 to January 2021. However, the triangulation of data (questionnaire, tests, participants' posts) and rich descriptions contextualized this study and increased the validity and reliability of this study. This study could fill the gap in the literature by using triangulated data to explore student teachers' perceptions of and learning via discussion prompts.

This study focused on seven elementary school student teachers' learning about English instruction through discussion prompts during their practicum. Student teachers' cooperating teachers in their partner schools were not involved in this study. A further study could explore the influence of the discussion prompts on cooperating teachers' competence in English instruction. Another study could also explore how student teachers integrate discussion prompts in their classroom practice.

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