UNIVERSITI PUTRA MALAYSIA

ENGLISH TEACHERS' EPISTEMIC BELIEFS AND METACOGNITIVE KNOWLEDGE ABOUT TEACHING THINKING SKILLS FOR ENGLISH LANGUAGE LEARNERS AT AN INTERNATIONAL SECONDARY SCHOOL

SEYED HESAMEDDIN TAHSILDAR TEHRANI

FPP 2021 18

ENGLISH TEACHERS' EPISTEMIC BELIEFS AND METACOGNITIVE KNOWLEDGE ABOUT TEACHING THINKING SKILLS FOR ENGLISH LANGUAGE LEARNERS AT AN INTERNATIONAL SECONDARY SCHOOL

By

SEYED HESAMEDDIN TAHSILDAR TEHRANI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

August 2020

COPYRIGHT

DEDICATION

To my wife for her immeasurable patience, kind encouragement constructive REMINDERS...
To my vision of future and joy of life, Diba…
To my parents, for their overseas yet genuine love…
To my supervisor for his professional, mindful and supportive guidance…
To all my friends in Iran, Canada and Malaysia…
To espresso and brown sugar for their constant support…

I dedicate this work.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

ENGLISH TEACHERS' EPISTEMIC BELIEFS AND METACOGNITIVE KNOWLEDGE ABOUT TEACHING THINKING SKILLS FOR ENGLISH LANGUAGE LEARNERS AT AN INTERNATIONAL SECONDARY SCHOOL

By

SEYED HESAMEDDIN TAHSILDAR TEHRANI

August 2020

Chairman : Associate Professor Abu Bakar Mohamed Razali, PhD
Faculty : Educational Studies

Thanks to the recent attention to thinking skills in the context of English as a Second/Foreign language, many studies have been. However, there is a dearth of studies on English teachers at secondary schools and their metacognition, epistemic beliefs, along with their approach to developing and teaching thinking skills. Thus, this research aimed at studying teaching thinking skills among teachers of English as a First language at an international secondary school in Kuala Lumpur, Malaysia. The objectives of the study, a descriptive case study, are to explore English language teachers' approach to teaching thinking skills and their metacognitive knowledge of teaching thinking skills as well as their epistemic beliefs about knowledge and learning of thinking skills. The data was collected through interviews with the selected teachers, class observation, video-recording teaching sessions, and video-stimulated recall interviews. The findings show that the participating teachers exposed learners to cognitively loaded activities, yet their epistemic views and declarative metacognitive knowledge were different in addition to the nature of cognitive engagements of learners. While some thinking skills were stimulated through collaboration and group work suitable for language learning contexts, the others were individually engaged in class activities that required thinking with little or no group work and oral communication. It was found that sophisticated epistemic beliefs and declarative knowledge of the person (learner) coexisted in teachers who encouraged group work and communication, and more straightforward and naïve epistemic beliefs and declarative knowledge of affective and memory strategies were identified in the teacher who highlighted individual engagement in the given tasks. The teachers with sophisticated epistemic beliefs were metacognitively aware of the learners and their needs and lack in learning; they were able to predict learning challenges and provide suitable teaching decisions that resulted in communication. This is where the students' involvement in thinking skills was achieved by asking

various WH questions, providing a psychologically safe learning environment, promoting metacognitive strategies, and collaborative lesson tasks. However, naïve epistemic beliefs, insistence on precision, little wait-time, long teacher-talk time, and the teacher's attention to their teaching procedural knowledge were found together. Hence, despite the cognitive orientation of the introduced activities, the students were would not need to communicate with peers as an ingredient of task fulfillment. The current results indicate that holding sophisticated epistemic beliefs is crucial in developing thinking skills in the L2 context. One implication is that sophisticated beliefs in ESL / EFL teachers can be developed by creating declarative knowledge about the learner through keeping a journal of goals coordinated with the ongoing needs and difficulties learners, curriculum goals, and the success of learners in achieving those goals. Moreover, the results indicated that the novice teacher mainly used the procedural knowledge of teaching which according to the literature (Mackenzie, 2018) is acquired in the teacher education course that she was undergoing with little understanding of the underlying theories. Hence, the current teacher training syllabuses can be developed by providing chances for trainees to reflect on the learning theories and declarative knowledge of teaching strategies.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

KEPERCAYAAN EPISTEMIK DAN PENGETAHUAN METAKOGNITIF GURU BAHASA INGGERIS MENGENAI PENGAJARAN KEMAHIRAN BERFIKIR DALAM PEMBELAJARAN BAHASA INGGERIS DI SEKOLAH MENENGAH ANTARABANGSA

Oleh

SEYED HESAMEDDIN TAHSILDAR TEHRANI

Ogos 2020

Pengerusi : Profesor Madya Abu Bakar Mohamed Razali, PhD
Fakulti : Pengajian Pendidikan

Data dikumpulkan melalui wawancara dengan guru terpilih, pemerhatian kelas, sesi pengajaran rakaman video, dan wawancara penarikan semula video. Hasil kajian menunjukkan bahawa guru yang mengambil bahagian mendedahkan pelajar kepada aktiviti yang dimuat secara kognitif, namun pandangan epistemik dan pengetahuan metakognitif deklaratif mereka berbeza selain sifat penglibatan kognitif pelajar. Walaupun beberapa kemahiran berfikir dirangsang melalui kolaborasi dan kerja kumpulan yang sesuai untuk konteks pembelajaran bahasa, yang lain secara individu terlibat dalam aktiviti kelas yang memerlukan pemikiran dengan sedikit atau tanpa kerja kumpulan dan komunikasi lisan. Didapati bahawa kepercayaan epistemik yang canggih dan pengetahuan deklaratif seseorang (pelajar) wujud bersama dengan guru yang mendorong kerja dan komunikasi kumpulan, dan kepercayaan epistemik yang lebih lurus dan naif dan pengetahuan deklaratif mengenai strategi afektif dan ingatan dikenal pasti pada guru yang menonjolkan penglibatan individu dalam tugas yang diberikan. Guru-guru dengan kepercayaan epistemik yang canggih menyedari secara sedar tentang pelajar dan keperluan mereka serta kekurangan dalam pembelajaran; mereka dapat meramalkan cabaran pembelajaran dan memberikan keputusan pengajaran yang sesuai yang menghasilkan komunikasi. Di sinilah penglibatan pelajar dalam kemahiran berfikir dicapai dengan mengajukan pelbagai soalan WH, menyediakan persekitaran pembelajaran yang selamat secara psikologi, mempromosikan strategi metakognitif, dan tugas pelajaran kolaboratif. Namun, kepercayaan epistemik yang naif, desakan pada ketepatan, sedikit masa menunggu, waktu bercakap guru yang panjang, dan perhatian guru terhadap pengetahuan prosedur pengajaran mereka dijumpai bersama. Oleh itu, di sebalik orientasi kognitif aktiviti yang diperkenalkan, para pelajar tidak perlu berkomunikasi dengan rakan sebaya sebagai ramuan pelaksanaan tugas. Hasil semasa menunjukkan bahawa memegang kepercayaan epistemik yang canggih sangat penting dalam

mengembangkan kemahiran berfikir dalam konteks L2. Salah satu implikasinya adalah bahawa kepercayaan yang canggih dalam guru ESL / EFL dapat dikembangkan dengan mewujudkan pengetahuan deklaratif tentang pelajar melalui penyusunan jurnal tujuan yang diselaraskan dengan keperluan dan kesukaran yang berterusan bagi pelajar, tujuan kurikulum, dan kejayaan pelajar dalam mencapai tujuan tersebut. Lebih-lebih lagi, hasilnya menunjukkan bahawa guru pemula menggunakan pengetahuan prosedural pengajaran yang menurut literatur (Mackenzie, 2018) diperoleh dalam kursus pendidikan guru yang dia lalui dengan sedikit pemahaman tentang teori-teori yang mendasari. Oleh itu, silibus latihan guru semasa dapat dikembangkan dengan memberi peluang kepada pelatih untuk merenungkan teori pembelajaran dan pengetahuan deklaratif mengenai strategi pengajaran.

ACKNOWLEDGEMENTS

In the Name of His Nameless Name

First and foremost, I am grateful to my Creator for giving me the health and strength to complete this work. From the bottom of my heart, I owe gratitude, appreciation, and respect to my supervisor, Dr. Abu Bakar Mohamed Razali, for his professional supervision, mindful leadership, and immeasurable sympathy with me in my rainy days. During my years of study, Dr. Abu Bakar was very patient, and his unceasing inspiration motivated me to keep on going until I finished my work.

I am also thankful to my co-supervisors Dr. Othman Talib and Dr. Nurzatulshima Kamarudin who influenced and inspired my work profoundly with their precious notes and comments. I was assisted by their valuable guidelines and advice during all the phases of my Ph.D. journey.

I owe my gratitude to the study participants, to the school principal, to the staff, students, and teachers where I conducted the study. Without their participation and their help, I would never finish this work. I admire their benevolence in hosting me during my data collection.

My sincere gratitude to my beloved family, my wife, Azam Eslamloo, and my daughter Diba for their never-ending love, support, and understanding throughout this long challenging journey.

I would like to convey my appreciation to my brother, Farhang for being there for me whenever I stumbled during my life.

Last but not least, I would like to express my sincere and warmest gratitude to my beloved father and mother, Mahmood Tehrani and Masi Hafariyan, who have always been my inspiration, idol, and source of strength throughout my life

This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Abu Bakar Mohamed Razali, PhD
Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

Othman Talib, PhD
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

Nurzatulshima Kamarudin, PhD
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

ZALILAH MOHD SHARIFF, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 14 January 2021

TABLE OF CONTENTS

		Page
ABSTRACT		i
ABSTRAK		iii
ACKNOWLEDGEMENTS		v
APPROVAL		vi
DECLARATION		viii
LIST OF FIGURES		xiii
LIST OF ABBREVIATIONS		xiv
CHAPTER		
1	**INTRODUCTION**	1
	1.1 Background of the Study	1
	1.2 Teachers' Beliefs and Epistemic Beliefs	3
	1.2.1 Second Language Teacher Beliefs and Thinking Skills	3
	1.2.2 Second language Teachers Epistemic Beliefs	6
	1.3 Teacher Metacognition and Thinking Skills	7
	1.4 Statement of the Problem	9
	1.5 Research Objective	11
	1.6 Research Questions	11
	1.7 Significance of the Study	11
	1.8 Scope of the Study	12
	1.9 Definitions of Terms	13
	1.9.1 Thinking Skills	13
	1.9.2 Metacognition	14
	1.9.3 Epistemic Beliefs	15
2	**LITERATURE REVIEW**	16
	2.1 Introduction	16
	2.2 Importance of Thinking Skills in Education	16
	2.2.1 Thinking skills for Language Learners	17
	2.2.2 Teaching Thinking Skills to ESL/EFL Learners What is Missing?	20
	2.2.3 Teaching Thinking Skills in EFL Setting: What is Missing	25
	2.3 Importance of Teacher's Metacognition	26
	2.4 Language Teacher Metacognition and Thinking Skills	27
	2.4.1 Teachers' Declarative Metacognition	29
	2.5 Teachers' Epistemic beliefs	32
	2.6 Teacher Metacognition, Epistemic Beliefs, and Thinking Skills	35
	2.7 Theoretical Framework	37

3	**RESEARCH METHODOLOGY**		47
	3.1	Introduction	47
	3.2	Research Design	47
		3.2.1 Qualitative Research	47
		3.2.2 Case Study Approach	48
	3.3	Research Setting	48
	3.4	Research Participants and Sampling Procedures	49
	3.5	Data Collection Instruments	51
		3.5.1 Video-Stimulated Recall Interviews	51
		3.5.2 Semi-Structured Interview	51
		3.5.3 In-Class Observation	53
		3.5.4 Document Analysis	53
	3.6	Data Collection	53
		3.6.1 Process of Gaining Access	53
		3.6.2 Data Collection Procedure	54
	3.7	Pilot Study	55
	3.8	Data Analysis	56
		3.8.1 Stage One	56
		3.8.2 Stage Two	57
		3.8.3 Stage Three	58
		3.8.4 Stage Four	59
		3.8.5 Teachers' Metacognition Data Analysis	59
	3.9	Trustworthiness	61
	3.10	Conclusion	63
4	**RESULTS AND DISCUSSION**		64
	4.1	Introduction	64
	4.2	Research Setting	64
	4.3	Research Question 1 – What Are Secondary School English Teachers' Epistemic Beliefs on Teaching Thinking Skills in English Classes?	65
		4.3.1 Teachers' Role in Teaching and Developing Thinking Skills	65
		4.3.2 Students' Role in Learning and Developing Thinking Skills	67
		4.3.3 Teacher's Metacognitive Monitoring and Student Metacognitive Learning	68
		4.3.4 Knowledge Transfer	69
	4.4	Research Question 2 – What is Secondary School English Teachers' Metacognitive Knowledge about teaching Thinking Skills in English Classes?	70
		4.4.1 Declarative Knowledge of Person	72
		4.4.2 Declarative Knowledge of Affective Strategies	74
		4.4.3 Declarative Knowledge of Memory Strategies	76
	4.5	Research Question 3 - How do Secondary School English Language	77
		4.5.1 WH Questions for Clarification	78
		4.5.2 Creating a Psychologically Safe Learning Environment	80

4.5.3 Open-Ended Tasks 82
4.5.4 Lower-Order Thinking Skills 83
4.6 Research Question 4 -How do secondary school English teachers' epistemic beliefs and metacognitive knowledge influence their teaching of thinking skills in English classes? 87
4.6.1 The Interaction Between Epistemic Beliefs and Metacognition 87
4.6.2 Interaction between Epistemic Beliefs and metacognition and their effects on Teachers' Role 90
4.7 Discussion – Cross-Case Analysis of Three Participants 93
4.7.1 Teachers' Epistemic Beliefs 93
4.7.2 Teachers' Metacognitive Knowledge 95
4.7.3 Teaching Thinking Skills 97
4.7.3.1 WH Questions 98
4.7.3.2 Creating a Psychologically Safe Learning Environment 99

5 CONCLUSION 101
5.1 Introduction 101
5.2 Teachers' Epistemic Beliefs 101
5.3 Teachers' Metacognitive Knowledge 102
5.4 Teaching Thinking Skills 103
5.5 Contributions of the Study 104
5.5.1 Contributions to Practice (Teachers and Students) 105
5.5.2 Contributions to Teacher Education Institutions, Policymakers and Curriculum Developers 106
5.5.3 Contributions to Theory 107
5.6 Recommendations for Future Research 109
5.7 Conclusion 111

REFERENCES 112
APPENDICES 130
BIODATA OF STUDENT 141
LIST OF PUBLICATIONS 143

LIST OF FIGURES

Figure		Page
2.1	How the requisite types of knowledge and objects of knowledge are related	31
2.2	How the requisite types of knowledge and objects of knowledge are related	43
3.1	One of the Seven Maps Allowing for Describing and Defining Various Beliefs Held by Teachers	52
3.2	Data Collection Procedure	54
3.3	Horizontal structure of data	60
3.4	Vertical structure of data	61
4.1	The relationship between two interpretations of metacognitive knowledge	71
4.2	Higher-Order and Lower-Order thinking skills	78

LIST OF ABBEREVIATIONS

EFL	English as a First Language
ESL	English as a Second Language
TESL	Teaching English as a Second Language
TBI	Teacher Beliefs Interview
TPDs	Professional Development Workshops
IGCSE	International General Certificate of Secondary Education
SRI	Stimulated Recall Interview
TELL	Teaching English Language and Literacy program
KSSR	Kurikulum Standard Sekolah Rendah
MKS	metacognitive knowledge of self
MKP	metacognitive knowledge of person
COPES	Conditions(C) Operations (O), Products (P), Evaluations (E) and Standards (S)
TESOL	Teaching English to Speakers of Other Languages
CELTA	Certificate in English Language Teaching to Adults
PGCEi	Postgraduate Certificate Education (International)

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Developing thinking skills has emerged as a fundamental pursuit in school curricula in general (Margana & Widyantoro, 2017; Sulaiman et al., 2015) and in teaching English as a second or foreign language in particular (Li, 2016a; Nejmaoui, 2018; Sehic, 2017). The research attention to thinking skills as a route to improve language acquisition and sustain its developments in learners began in the 1980s with the marked shift from structural linguistics and behavioral psychology to cognitive skills. Cognitive abilities were given an unprecedented priority under the assumption that raising learners' linguistic knowledge would not be the priority in teaching a language and learners' awareness and ability to engage in thinking were prioritized. This view was later endorsed by scholars who prioritized thinking skills in language learning. For instance, it was proposed that making sense of the text or class discourse that language learners are exposed to depends on cognitive processes inherent in daily use of language during social interactions such as negotiating the meaning (Pennycook, 1997).

The application of thinking skills in language teaching and learning has therefor appeared a rather recent yet dynamic area of investigation, which mainly encompasses three subcategories of research: students' undeveloped thinking skills, the benefits of thinking skills in teaching and learning a foreign language (Alsowat, 2016; Stefanova et al., 2017), and teachers' roles in and insights into teaching thinking skills (Aziz et al., 2017; Li, 2016a).

Highlighting the need for teaching higher-order thinking skills, the previous research (Hayikaleng et al., 2016) indicates that language learners find it challenging to answer reading comprehension questions that require higher-order thinking skills: the questions that lead students to use lower-order thinking skills such as memorization are more commonly and easily answered in contrast to the questions that entail evaluation and synthesis. Similarly, this incompetence in students is also found in other studies where the participating students would present constrained ability to use *synthesis, analysis,* and e*valuation* as the main taxonomies of thinking skills. Allen and Wern (2017) conducted a study to investigate if a preparatory course taken for a university entrance test (MUET) in Malaysia involves learners in thinking skills. The findings determined that despite the course teacher's effort and the syllabus objectives to encourage the students to generate ideas, little *synthesis* was observed in the participants' work. Such little growth in learners' ability to use thinking skills in language learning contexts has alluded to the content of teaching courses and programs. In one study (Alidmat & Ayassrah, 2017), conducted to find and describe the writing tasks in an ESP program which stimulate thinking skills, the writing tasks were reported to feature more mechanical aspects of task fulfillment.

Hence, implying the learners' unmet need for thinking skills that facilitate the process of writing tasks, the findings revealed the writing tasks had little correspondence with thinking skills featuring more mechanical writing than thinking. The previous research also, indicates that thinking skills are learned and developed with implicit or explicit instructions to learners positively influencing language learning.

For instance, teaching thinking skills improves the reading comprehension of intermediate EFL learners (Akbari et al., 2018; Karimi & Veisi, 2016). In Karimi and Veisi's study, the researchers involved the control group participants in different thinking stimulant activities, such as researching and discussing the topic, debating, and presenting findings. The results indicated a positive and significant relationship between thinking skills and reading comprehension strategy. The benefits of enhanced thinking skills are also indicated in other L2 studies. Regarding the effectiveness of the strategies used to enhance thinking skills, research has shown that a great bulk of such strategies used in previous research has resulted in better and efficient thinking skills and language learning developments among English language learners (El Soufi & See, 2019). For example, the explicit teaching of critical thinking skills including the exposure of learners to critical thinking skills and their connection to the learners' own lives and habits led to effective reading comprehension and the production of correct argumentative texts (Akbari et al., 2018). Moreover, previous research (Altay & Saracaloglu, 2017) indicates that developed thinking skills observed in highly achieved learners correspond with behaviors that represent thinking skills: learners with the highest grade average point encourage themselves to solve their problems in learning and are prone to ask more questions. In other words, by developing and teaching thinking skills one can expect improved learning behaviors and strategies.

However, the need for teaching thinking skills is only partially met when learners are exposed to effective methods and materials that hone thinking skills: teachers are likely to hinder thinking skills. The third subcategory of previous research across various subjects including foreign languages indicates that teachers' perception, competence, and beliefs impair students' capacity to learn and practice thinking skills. Teachers perceive thinking skills as memorization (Li, 2016b; Saido et al., 2017), demonstrate fragmented knowledge of thinking skills, and have undeveloped competence to enhance students' thinking skills (Fitriani et al., 2019; Retnawati et al., 2018).

By evaluating the findings of the three aforementioned subcategories of research: learners' needs, thinking skills benefits, and the role of teachers in teaching thinking skills, one can conclude that the development of thinking skills in learning a foreign language mainly depends upon teachers. Although the learners' proclivity to learning and improving the use of thinking skills and the effectiveness of the materials, course, and program contents are the chief pillars of teaching thinking skills, teachers still play the main role in such endeavors: teachers eventually decide to use the available well-researched techniques and methods and motivate and train their

students not only to learn thinking skills but also to excel in using them. On the contrary, teachers' incompetence, cognition, and undeveloped thinking skills are highly likely to slow down or discourage the development of thinking skills even if they are provided with well-written materials and well-developed content with a highly motivated audience, i.e. learners.

The majority of research projects on thinking skills in L2 contexts have studied learners (Alidmat & Ayassrah, 2017; Sehic, 2017), teaching approaches and methods (Akbari et al., 2018; Khonamri & Farzanegan, 2016), and teaching materials and textbooks (Dolunay & Savaş, 2016; Margana & Widyantoro, 2017). Yet, teachers, as the chief decision-makers in class have been given little attention, with only some studies exploring the teaching practice, (Saido et al., 2017; Stefanova et al., 2017), EFL teachers' critical thinking abilities (Retnawati et al., 2018), and teachers' insights into teaching thinking skills (Li, 2016a). Because teachers' cognition and teaching practice are mutually influential and informed (Borg, 2003; Burns et al., 2015), this study sought to explore two qualities of teachers that considerably determine their teaching behavior and decision making in class, which are their epistemic beliefs about knowledge and learning and their metacognition in implementing thinking skills in their English lessons.

1.2 Teachers' Beliefs and Epistemic Beliefs

1.2.1 Second Language Teacher Beliefs and Thinking Skills

Language teachers' approach to teaching and learning a second or foreign language is mediated and influenced by their mentally constructed concepts that dominantly guide their decisions and teaching practice (Barcelos & Ruohotie-Lyhty, 2018; Borg, 2015). Studying teachers' beliefs is such an influential aspect of the investigation in foreign language teaching and learning that Borg (2003) believes investigating teachers' beliefs has been the most contributing research area to our perception about teachers and their practice. Hence, studying teachers' beliefs can potentially provide an accurate account of teachers' practice of teaching thinking skills. However, the current research findings about both language teachers' beliefs and the instruction of thinking skills imply two categories of inadequacies and limitations that require attention if the investigation of teaching thinking skills in L2 settings is the purpose. These categories include the reliance of research findings on self-reported data and the researchers' outlook on the nature of teachers' beliefs and contradictions found within previous research findings about teaching thinking skills. The following section will elaborate on these categories of limitations which led the researcher to investigate the participants' epistemic beliefs to understand their instructional decisions in class regarding thinking skills.

Despite the growing attention to investigate teachers' beliefs about thinking skills in general, one main limitation has remained unchanged, which is the reliance on self-reported data elicited from interviews and surveys (Katz-Buonincontro et al., 2020; Kusaeri, 2019; Tuzlukova et al., 2017). Although the previous research highlights

the teachers' beliefs about the benefits of teaching and developing the learners' thinking skills, their findings i.e. teachers' beliefs could be interpreted as teachers' preference or professional ambitions in teaching thinking skills which fall under their peripheral beliefs about teaching thinking skills. This interpretation is due to the adopted research methodology and research instruments in previous research, which reflect the ontological outlook of the researchers on teachers' beliefs and consequently on the epistemological outlook on the methods used to elicit teachers' beliefs.

Teacher beliefs have been implied as one single truth that resides in their minds. In other words, the belief of teachers in recent L2 studies has been seen as an aspect of knowledge that has no inherent nuances or discrepancies in teachers. (Kartchava et al., 2020; Yussof & Sun, 2020). Teachers' views have been seen in this respect as a collective cluster that can be elicited either through survey or interview questions and once elicited, teachers' beliefs can explain their instructional decisions in class (Tuzlukova et al., 2017). However, investigating teachers' beliefs is a complicated concept and needs further elaboration (Wilkinson et al., 2017). This complication can be seen in the contrast between findings in previous research on teachers' beliefs, which led the researcher to study previous research that uses both self-reported and observed-data collected through class-observations.

First, the reported divergence between teachers' stated beliefs and their teaching decisions in class implies that beliefs do not lead to teaching decisions (Basturkmen, 2012; Rahimi & Sahragard, 2019). For example, using both self-reported data; i.e. a semi-structured interview and a questionnaire observed data; i.e. class observation, Rahimi and Sahragard (2019) found little convergence between ESP teachers' beliefs and their actual practices in formative assessment practice: the researchers' observation of class would not indicate the use and implementation of the assessment theories the teachers had already stated as their beliefs. Similarly, little congruence was reported in a study conducted in Malaysia to investigate whether the beliefs held by pre-service ESL teachers at a local university matched with their classroom practices (Othman & Kiely, 2016). Using a mixed-mode approach, Othman and Kelly elicited quantitative data from seventy participants about their teaching beliefs, interviewed four randomly chosen teachers from the pool of seventy survey respondents, and analyzed their lesson plans. The results indicated the divergence between teachers' stated beliefs and their observed teaching practices. Such divergence has also been reported in other aspects of L2 teaching and learning such as corrective feedback (Kartchava et al., 2020), teaching speaking (Gandeel, 2016), error correction (Yigzaw, 2017), and code-switching in a bilingual class (Yussof & Sun, 2020). Therefore, one conclusion might be teachers' beliefs do not constitute a solid basis for understanding their teaching practice.

However, despite the noticeable divergence, previous research also indicates certain and yet fewer studies that report convergence between teachers' practice and beliefs (See Basturkmen, 2012; Moodie, 2016). This dichotomy in research findings implies that although certain beliefs do not manifest in class instructions, there exists a

category of teachers' beliefs that are fixed and permanent and are visible in one's instructions. Because some previous research has consistently used both the self-reported data i.e. interviews and surveys, and the observed data i.e. class observations and lesson plan analysis, the reported divergence and convergence could not be due to the research methods and instrument. Besides, the literature reveals an aspect of teachers' beliefs that not only mutually informs practice (Borg, 2003; Phipps & Borg, 2009) but also communicates stability and permanency in teaching decisions (Peacock, 2001).

This inquiry led the researcher to pay attention to teachers' core and peripheral beliefs that are suggested for further study in previous research (Phipps & Borg, 2009). The peripheral beliefs do not mainly lead to class instruction and have been suggested as the main cause of consistent divergence between teachers' stated beliefs and teaching instructions found in previous research (Basturkmen, 2012; Karimi & Dehghani, 2016; Pham & Hamid, 2013). One's peripheral beliefs are still forming and are subject to the formative process (Luft & Roehrig, 2007) and will not always lead to teachers' decisions and class instruction (Phipps & Borg, 2009). Hence, in this research the researcher aimed at investigating teachers' core beliefs that would surely lead to class instructions suitable for teaching and developing thinking skills.

Another limitation of the previous research, implying the need for studying teachers' core beliefs, supports the modest effect of language teachers' peripheral beliefs on teaching thinking skills that can be traced in previous research. Despite the researchers' (Kusumastuti et al., 2019) claim regarding the consistency between teachers' beliefs supporting teaching thinking skills and their instructional decisions in class, the analysis of provided data informs the reader that the elicited beliefs would not lead to teaching thinking skills. Kusumastuti et al. elicited language teachers' beliefs about teaching thinking skills which according to the observed class instruction reported by the researchers had led to teaching thinking skills. However, delving into the provided description of the class observation and the participating teachers' transcripts enclosed in the paper, it was found that the instructional class decisions would not lead to thinking skills as the teachers complained about the teacher-centered approach they would adopt despite their preference for the student-centered approach to teaching and the implied lack of teaching approach that would lead to the implementation of thinking skills. Hence, one main limitation of the current research findings in addition to the mere reliance on self-reported data is the lack of epistemological definition of the type of elicited beliefs: the beliefs to be elicited need to be core beliefs that lead to class instruction.

Therefore, the current mismatch between the language teacher's beliefs and practice stems from the lack of attention to second language teachers' beliefs as a multifaceted system. Teachers' beliefs about teaching a second language, therefore would have to be studied in a framework that enables researchers to investigate more subtle aspects of teachers' beliefs about learning and knowledge. Therefore, this gap invited the researcher to study teachers' epistemic beliefs, which according to the literature result in solid class decisions (Wilkinson et al., 2017). The following

section is intended to reveal why studying teachers' epistemic corresponds to thinking skills, yields more valid results in terms of predicting teachers' decisions, and is consonant with metacognitive knowledge.

1.2.2 Second language Teachers Epistemic Beliefs

Initially proposed by Schommer (1994), epistemic beliefs were introduced as a multidimensional framework that was comprised of five dimensions, which are omniscient authority (viewing knowledge as best accessed by authorities), certain knowledge (viewing knowledge as entire and static), simple knowledge (viewing knowledge as a collection of disconnected and explicit facts), quick learning (viewing knowledge as either learned fast or never learned) and fixed/innate ability (viewing the capability of learning as stable).

Schommer (1994) developed and introduced a redefined framework with two components known as naïve and sophisticated beliefs. According to the redefined framework being sophisticated portrays an individual who conceives that a magnificent bulk of our knowledge is developing, some knowledge has not been discovered or produced yet, and only a small body of knowledge is known, constant, and static. Naïve learners, on the contrary, believe that a considerable body of information has already been discovered and is fixed, with some knowledge to be discovered or produced in the future, and a meager amount of knowledge being evolved and subject to change. But how is the epistemic belief framework associated with enhancing thinking skills in a second/foreign language context?

Teaching and learning are viewed as a continuum, whose two ends are filled with traditional and constructivist conceptions(Brownlee et al., 2017). This binary view of teaching and learning is in line with two dimensions of epistemic beliefs proposed by Schommer (1994). Advocates of the traditional views of teaching and learning share their opinions about knowledge and learning with learners with naïve epistemic beliefs. Regarding naïve learners, for them, much of the knowledge has been discovered, for which they are naturally dependent on a knowledgeable authority to transfer this knowledge. This need, in turn, is fundamentally fulfilled in traditional views of teaching and learning, where the teacher must highly knowledgeable and competent to be able to transfer the wealth of knowledge to learners. Other ramifications of traditional teaching such, "rote-learning routines of instruction and recitation" (Fisher, 2007, p. 618), teaching grammar as discrete points, and imparting knowledge to students overlap with naïve epistemic beliefs. Besides, naïve learners assume that a teacher expresses little tolerance for learners' errors due to the assumption that knowledge is fixed and therefore learning must be immaculate imparting of the knowledge through prolonged teachers' lectures. Therefore, these assumptions in learners characterized by naive epistemic beliefs are fundamentally approved in rote-learning and teacher-centered classes.

At the other end of the continuum, sophisticated epistemic beliefs are supported in the constructivist view of learning. Within constructivism, learning is the interactional activity between two learners and/or their teachers. This need is fulfilled in the learner-centered conception of teaching, where the goal is to improve learners' experiences of learning through learners' self-motivated, self-regulated and reflective attempts of learning with a presence of a teacher as a facilitator. Similarly, research has shown that sophisticated learners expect knowledge is derived from reasoning and empirical evidence, and engagement in learning activities (Barzilai & Chinn, 2018).

The previous research in language teaching shows that teachers' conception of teaching correlates with their epistemic beliefs. Teachers with naïve epistemic beliefs tend to have a traditional conception of teaching and similarly teachers with sophisticated beliefs tend to advocate a constructivist conception of teaching (Ketabi et al., 2014). Therefore, exploring teachers' epistemic beliefs enables us to determine and understand their teaching behaviors more in depth.

Also, the type of epistemic beliefs a teacher holds shapes the instructional decisions in class. Teachers characterized by naïve epistemic beliefs tend to dominate class discussions, do not provide room for learner's questions, and emphasize accurate answers, on the contrary, sophisticated teachers support discussions among learners and stimulate learners' formulation of questions in the learning process (Brownlee et al., 2017). The literature reveals that teachers whose epistemic beliefs are of constructivist type tend to introduce activities that engage learners in thinking processes whereas those with empiricist beliefs pursue traditional teaching methods where memory and the retrieval of taught content is a huge priority. This connection has also been researched within EFL/ESL contexts. In one study, Ammar (2005) investigated the relationships between the epistemological beliefs of 114 pre-service EFL teachers and the strategies they use for learning and teaching along with their classroom anxiety through four different questionnaires. The study findings were indicative of the participants' naïve epistemic beliefs and their reliance on lower-order thinking skills like memory-based practices. Similarly, the teacher role was tended to be more traditional rather than constructivist as the teacher was believed to be the dominant party in class activities determining the pace, type, and nature of class activities. In a nutshell, this study revealed that most of the participants' epistemic beliefs revolved around the naïve side of the continuum. Therefore, this study sought to explore ESL/EFL teachers' epistemic beliefs and their metacognitive knowledge to grasp a fuller understanding of implementing thinking skills in their English language teaching.

1.3 Teacher Metacognition and Thinking Skills

The instruction and implementation of thinking skills depend on teachers' metacognitive knowledge of thinking skills, which enables them to monitor, control, and improve their teaching practice in terms of thinking skills (Zohar, 1999). Hiver and Whiteboard (2018) argue that effective language teachers are the ones who are

thoughtfully adaptive in reaction to the dynamic and unexpected problems that occur. Hence investigating effective teaching which depends on teachers' metacognitive knowledge of teaching strategies, decisions, and content knowledge is conducive to the profession.

Yet, despite the important role of metacognition in teaching a language, which is inherently a cognitive endeavor (Kubanyiova & Crookes, 2016), research on language teacher metacognition appears as challenging. First, there has been a great deal of conceptual and experimental work in this area to date based on the metacognition of language learners (Goh, 2018; Zhang & Zhang, 2019). Also, research that explores teacher metacognition in detail has been performed mainly with mathematics and science teachers (Braund, 2019; Mai, 2015). Moreover, most of the studies on language teachers' metacognition have adopted quantitative methods to reflect on language teachers' metacognition rather than depicting it as it occurs in teachers' minds (Abdellah, 2015; Moradkhani et al., 2017).

Yet, the benefits of quantitative studies cannot be overlooked as conventional empirical research may remain important because they present an incentive to detect variations in, for example, how teachers who function from a metacognitive perspective differ from those who operate from a less reflective position. Adopting an experimental method with a pre-test and post-test design, Yildiz and Akdag (2017) concluded that teachers with higher self-efficacy and metacognitive awareness show higher engagement in reflecting on students' learning, behavior, and performance. Correlational research may also remain relevant because they provide insights into the potential interaction between the behavior of teachers, their behaviors, and student learning. For example, adopting a correlational survey model Kozikoglu (2019), found a positive association among prospective teachers' critical thinking, metacognitive, and problem-solving skills, and academic self-efficacy and concluded their interaction in teachers'.

Yet, more specifically, reflection is a strictly descriptive term that is restricted to applying continuity to ambiguous circumstances in the past (Clarà, 2015). Metacognition in teachers is an assessment and attribution mechanism that focuses on observation and inference. The Latin roots of the word indicate that it is fundamentally a retrospective mechanism which enables the instructor to remember and establish a reason or excuse for past actions, rather than guiding future actions. Therefore, qualitative research connecting verbal accounts of thought while the teacher is engaged in teaching may be highly advantageous in the clarification of identification and situational problems of metacognition. Qualitative research may give comprehensive perspectives into how individual teachers learn and behave. Much of the previous research on teacher metacognition has tended to adopt the positivist approach, providing decontextualized findings despite sophisticated statistical data analysis. The critique against the adoption of the positivist approach is that it provides simple insights about a complex arena of thinking about one's thinking, which is an artificial grasp of this world (Hiver et al., 2019).

In meeting this challenge, this study sought to capture second language metacognition of thinking skills through the relativist paradigm as a contextualized paradigm that is likely to provide complex insights about the real world of metacognition. Therefore, the current study aimed to investigate English teachers' metacognitive knowledge and epistemic beliefs about thinking skills instruction in the teaching of the English language. In other words, the researcher intends to know how English teachers approach teaching thinking metacognitively and whether this knowledge is translated into their teaching practice.

1.4 Statement of the Problem

Developing thinking skills for young adolescent language learners has been proposed as an essential, constructive, and demanding research endeavor. Regarding teaching and learning English as a first/second language, thinking skills have also resulted in manifold research endeavors including evidence of thinking skills in learners language teaching programs, (e.g. El Soufi & See, 2019), effective courses to enhance thinking skills (Rear, 2017), affective factors and thinking skills ESL/EFL contexts (e.g. Aghajani & Gholamrezapour, 2019), and teaching methods (e.g. Ziadat & Al Ziyadat, 2016).

However, there are still some major problems that have either hindered or slowed down the improvement of thinking skills in ESL/EFL contexts. First, the literature reveals that English teachers have a wrong perception of thinking skills (Li, 2016a). Teachers' wrong perception might be attributed to the complexity of thinking skills, however, it also indicates the need for further research on ESL/EFL teachers and their beliefs and the approaches and techniques they use to improve thinking skills in ESL/EFL context. While most studies have investigated the contributions of thinking skills to learning a second language little do we know how ESL/EFL teachers implement thinking in the context of language learning in general.

This gap can be seen in past studies, where the practice, knowledge, and question types of ESL / EFL teachers were identified as prospective barriers to the growth of learners' thinking skills(Li, 2016a). The implementation of thinking skills, moreover, has resulted in a considerable number of research publications in the Malaysian context (Rahman & Manaf, 2017; Singh & Shaari, 2019). However, this effort has not expanded the practice of thinking skills improvement in practical terms despite the Malaysian government's emphasis on improving education (Othman & Mohamad, 2014). Teachers still play the role of knowledge transferors rather than facilitators of learning through cognitive engagement. The emphasis on transferring the knowledge might be due to the emphasis on examination results, which might have influenced teachers, parents, and educational authorities' beliefs about the purpose of education causing the digression from thinking skills within classroom walls.

Therefore, one major research gap lies in teachers' knowledge, understanding, and beliefs about teaching thinking skills, all of which should be bridged with teacher training courses or explicit teaching-how-to-teach thinking skills programs. On the one hand, we seek teacher training programs that train English teachers to adhere to constructivist views of teaching in their own classes. Yet, on the other hand, English teachers are the main obstacle to the development of thinking skills at school, as they discourage proactive thinking through creating the expectation in learners to strive for a correct answer (Li, 2016a).

Simply put, the development of thinking skills does not occur as a spontaneous and cumulative by-product of maturation, nor does it manifest as a result of teaching classroom subject matters, and requires more than indirect teaching (Bobkina & Stefanova, 2016). On the contrary, the literature tells us about the efficient role of teachers in creating thinking skills, where the purpose, understanding, and expertise of teachers add to the thinking skills of learners (Retnawati et al., 2018; Shaughnessy & Boerst, 2018). However, many researchers concentrated primarily on the quantifiable findings regarding requirements wants, and shortcomings of teachers by generating quantitatively measurable information (Dilekli & Tezci, 2016; Fitriani et al., 2019). However, the very nature of thinking skills belongs to constructivism, which endorses different views about learning and knowledge.

Having the experience of teaching English, the subject pertinent to this research provided an interesting and suitable case for this research. First, Teo states that teaching as a socially constructed activity is based on the concepts and meanings latent in classroom interactions that become active through teaching experience (Teo, 2019a). Also, the previous research findings regarding the role of teachers' experience reveal that experience plays a significant role in building teachers' metacognition (Hiver et al., 2019), ESL/EFL teachers beliefs (Basturkmen, 2012; Crusan et al., 2016), and developing students' thinking skills (Jager, 2014).

All in all, the domination of positivism in both research and teaching training courses somehow contributes to the persistent problems in teaching thinking skills in general and improving thinking skills in teaching English as a first/second language. Adopting the constructivist standpoint, therefore, this study addressed these gaps through exploring English language teachers' epistemic beliefs, their metacognitive knowledge in thinking skills in the context of teaching English as a first/second language in the secondary school context.

1.5 Research Objective

This study aimed to investigate English language teachers' epistemic beliefs about learning and knowledge through a case study approach to research. In specific terms, this study sought to achieve the following objectives:

1. To investigate international secondary school English teachers' epistemic beliefs on learning and knowledge in the context of English language teaching.
2. To investigate international secondary school English teachers' metacognitive knowledge about teaching thinking skills in an English language context.
3. To explore how the English language teachers' epistemic beliefs and metacognitive knowledge play a role in their implementation of thinking skills in teaching English as a first/second language.
4. To explore how secondary school English teachers' epistemic beliefs and metacognitive knowledge influence their teaching of thinking skills in teaching English

1.6 Research Questions

There are four primary research questions in this study:

1. What are secondary school English teachers' epistemic beliefs on teaching thinking skills in English classes?
2. What is secondary school English teachers' metacognitive knowledge about teaching thinking skills in English classes?
3. How do secondary school English language teachers tap into thinking skills (activities and learning tasks) in English classes?
4. How do secondary school English teachers' epistemic beliefs and metacognitive knowledge influence their teaching of thinking skills in English classes?

1.7 Significance of the Study

This study can contribute to curriculum development in terms of English teachers' metacognitive knowledge of choosing, modifying, and introducing thinking activities at secondary schools. Adopting, adapting, and creating learning activities that both induce learning English as a first/second language and enhance thinking skills is a demanding concern for English teachers today. By gaining knowledge about English teachers' metacognitive knowledge of teaching thinking skills, potentially problematic epistemic beliefs, teaching preferences, and misconceptions about thinking skills in the context of English as a first/second language can be better understood and addressed. Moreover, potentially effective and well-organized

teachers' routines for selecting and adapting teaching materials will be promoted. Such insights are likely to contribute to the curriculum development in terms of embedding learning activities, selecting teaching materials, and teacher manuals that are compatible with teachers' awareness and thinking styles, thereby enhancing thinking skills at secondary schools' English classes. Through the findings that will be gathered from this research, English teachers should be able to design or choose learning activities that encourage pupils to learn language input using cognitive processes and thinking skills. This study can also shed light on English teachers' knowledge and capacity for creating such learning activities.

The findings of the present study thus may generate a range of information for both researchers and curriculum designers regarding the current state of thinking skills instruction in the context of teaching the English language at secondary schools. The present study is likely to further the dialogue between teachers on the one hand and researchers, syllabus and curriculum designers on the other hand regarding the professional development that secondary school teachers require to integrate thinking skills with first/second language instruction. This kind of communication is necessary to enhance the quality of teacher training courses.

Thus far, there has been little research to study teachers' metacognition, epistemic beliefs, and their teaching practice concerning teaching thinking skills. Therefore, this study can contribute to the instruction of teaching thinking skills in general and in teaching thinking skills in the context of first/second language, in particular. Moreover, the outcomes of this type of research study can assist the design of teaching practices that contribute to teaching thinking skills at secondary school in English as a first/second language context and the progress in first/second language teacher training courses.

1.8 Scope of the Study

This study is based on a collective case study. This study attempts to describe English teachers' epistemic beliefs about knowledge and learning along with their metacognitive knowledge. Also, this study aims to explore how thinking skills are taught at a secondary school and what the influence of epistemic beliefs and metacognition on teaching thinking skills are.

The study findings are confined to the existing conditions of the workplace in the International Secondary School where the study was carried out. Within the same school, there were only four teachers, three of whom agreed to cooperate with the researcher; the fourth English teacher, however, preferred not to be observed while teaching, therefore, did not agree to be a research participant. Moreover, the researcher had no option to choose exemplary teachers trained in teaching thinking skills. Therefore, before the research, the researcher would not know if the instructional decisions would stimulate thinking skills or not. The field observations were made only on the days suggested by the teachers so the researcher would not

know about the instructional decisions and teaching thinking skills beyond observation sessions.

In addition, the researcher confined the scope of the research by not including learner variables such as motivation, progress, and feedback about the teachers' approach to teaching. Moreover, due to the logistical constraints of the research, the researcher did not and could not negotiate the type of lesson content for observation with the teaching participants. The teachers were the main decision-makers who chose the type of lesson they preferred to be observed. Therefore, the study scope was limited as the researcher did not choose specific lessons deemed more relevant to thinking skills. For example, in this study, one selected lesson was on descriptive writing while another one was on grammar lessons. However, another participant mainly focused on implied meaning and exam-type questions. Different types of activities, teacher questions, and lesson tasks might have been used because of their different pedagogical purposes and therefore.

Another logistical constraint imposed on the researcher was finding ESL/EFL teachers who aimed to teach thinking skills. The current research mainly focused on activities and teachers' decisions that were interpreted as effective for applying thinking skills. In other words, neither their lesson plans nor the syllabus they were teaching overtly sought to teach thinking skills.

1.9 Definitions of Terms

1.9.1 Thinking Skills

Given the purpose of this research and the plausibility of improving thinking skills rather than teaching them as discrete skills in teaching English as a first/second language, the researcher adopted an infusion approach in researching thinking skills in secondary school English classroom. In the infusion approach, the teacher uses the mainstream day-to-day lessons to enhance and develop learners' thinking skills, without allocating extra time to teach thinking skills discretely (Zohar, 2013). Also, the researcher required the operational definition of thinking skills used in teaching English to be able to identify the teachers' decisions that develop different thinking skills. Thinking skills have been defined by different scholars in miscellaneous ways and the differences of thinking skills definitions include the purposes, procedures, strategies used in different contexts. Kuhn (2005) believes that thinking skills are different aspects of metacognition that include thinking about procedural and declarative knowledge. Willingham (2007), however, defines thinking skills in terms of the ability to choose and adopt optimal strategies in learning. Fisher (2007), yet adds a practical aspect of thinking for students defining thinking skills as the children's ability to ask questions and reason while learning a new task.

However, in terms of teaching English and the various activities that are inherently cognitive, and due to the purpose of this study, which is the exploration of teaching

thinking skills, Bloom's taxonomy of thinking skills (1956) is probably still the most comprehensive classification; the variety of tasks, activities, and projects in teaching English requires a classification that can address different types of thinking learners are exposed to.

Waters (2006) has introduced a category of thinking skills which categorizes cognitive processes in the context of teaching English that clarify aspects of thinking skills congruent with Bloom's taxonomy of thinking skills. The following categories were used in this study to investigate thinking skills in the L2 context.

1. **Memory:** the recall or recognition of information
2. **Translation**: changing information into a different symbolic form or language
3. **Interpretation**: the discovery of relationships among facts, generalizations, definitions, values, and skills
4. **Application**: solving a lifelike problem that requires the identification of the issue and the selection and use of appropriate generalizations and skills
5. **Analysis**: solving a problem in the light of conscious knowledge of the parts and forms of thinking
6. **Synthesis**: solving a problem that requires original, creative thinking
7. **Evaluation**: making a judgment of good or bad, right or wrong, according to standards designated by the student

1.9.2 Metacognition

Metacognitive knowledge has been defined as an individual's awareness of their thinking/learning strategies (Flavell, 1976), or their ability to gain knowledge about themselves through self-reflection and to monitor their decision-making in cognitive performance (Schraw, 1998) and comprises three aspects: (1) declarative knowledge, or awareness of what strategies and concepts are important concerning a specific task, (2) procedural knowledge or awareness of how to apply concepts and strategies (how to perform the task), and (3) conditional knowledge, or the awareness of when and why to apply certain knowledge and strategies (Schraw, 1998). As the current study aimed to elicit teachers' knowledge of teaching and developing thinking skills, the researcher chose declarative knowledge to investigate teachers' metacognition. The reason why declarative knowledge is chosen for this study lies in its definition, which according to Zohar is "what is known in a statable, propositional manner, knowing 'that' or knowing 'about' things" (1999, p. 414). Besides, Zohar defined metacognitive declarative knowledge as "knowledge that includes an explicit awareness (that may be described in words) of one's reasoning patterns as well as the ability to think of (and talk about) reasoning patterns as distinct entities that may be related to specific tasks" (1999, p. 416). This definition would be in line with the purpose of the study; teachers' metacognition of teaching thinking skills as the researcher aimed to investigate their reasoning, strategies, and ideas of teaching thinking skills eliciting their reflection about their teaching decisions about teaching thinking skills.

1.9.3 Epistemic Beliefs

Schommer (1994), reported that individuals hold beliefs independent of others that influence their thinking and behaviors. Epistemic beliefs are one's assumptions about the nature of knowledge and learning this knowledge. Schommer categorizes epistemic beliefs in certain dimensions: simple knowledge, certain knowledge, fixed ability, and innate ability. Simple knowledge embraces the opinion that knowledge is structured as isolated and unambiguous facts. Certain knowledge identifies beliefs about knowledge as absolute rather than tentative. Fixed *ability* beliefs view the ability of an individual to learn as fixed at birth rather than and an entity that is subject to improvement. The *quick learning* aspect of epistemic beliefs views learning as a quick process rather than a gradual and incremental process. Each of these dimensions exists independent of one another and they do not follow a simultaneous pattern in the development. Schommer (1994) subsequently provided an added feature of epistemic beliefs in terms of sophisticated and naïve beliefs. In her elaboration on sophisticated and naïve beliefs, Schommer reveals that individuals with sophisticated beliefs consider a large body of knowledge is developing; yet some knowledge has yet to be evolved. Moreover, they believe that only a trivial body of knowledge is constant and will never evolve. On the other hand, individuals with naïve beliefs suppose that a big bulk of knowledge is constant, some will be created in the future and a small part of it will be developed.

The current study adopted Schommer's (1994) perception of epistemic beliefs as a system of more or less independent beliefs where some beliefs are more sophisticated while others are naïve. This adoption was due to the following reasons. First, by adopting this view the researcher could analyze teachers' epistemic beliefs independent of one another. The epistemic interview questions would elicit teachers' beliefs about different phenomena such as teachers' roles, students' learning, and optimal learning. Adopting a system that would allow for analyzing elicited information about their role independent of their beliefs about learning, for example, would provide a clear and deeper understanding of teachers' beliefs about teaching thinking skills. For example, a teacher's epistemic beliefs about learning might be naïve leading to more repetition and longer teacher talk-time, while their epistemic beliefs about knowledge might be sophisticated resulting in more projects and group work in class. and Also, this freedom would be necessary for understanding the relationship between teachers' metacognitive knowledge and their epistemic beliefs. independent of or different variations of this conceptualization.

REFERENCES

Abdellah, R. (2015). The Storyline approach: promoting learning through cooperation in the second language classroom. *Procedia - Social and Behavioral Sciences*, *174*, 560–567.

Abednia, A., Hovassapian, A., Teimournezhad, S., & Ghanbari, N. (2013). Reflective journal writing: Exploring in-service EFL teachers' perceptions. *System*, *41*(3), 503–514.

Adadan, E., & Oner, D. (2018). Examining preservice teachers' reflective thinking skills in the context of web-based portfolios: The role of metacognitive awareness. *Australian Journal of Teacher Education (Online)*, *43*(11), 26.

Aghajani, M., & Gholamrezapour, E. (2019). Critical Thinking Skills, Critical Reading and Foreign Language Reading Anxiety in Iran Context. *International Journal of Instruction*, *12*(3), 219–238.

Akbari, M., Seifoori, Z., & Ahour, T. (2018). Enhancing Comprehension and Production of Argumentation through Critical Thinking Awareness-Raising. *Linguæ & - Rivista Di Lingue e Culture Moderne*, *16*(2), 111–130. https://doi.org/10.7358/ling-2017-002-seif

Akbay, T., Akbay, L., & Başer Gülsoy, V. G. (2018). Causal effect of epistemological beliefs and metacognition on critical thinking disposition. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, *1*(45), 88–104.

Aksoy, K. (2015). What you Think is not what you do in the Classroom: Investigating Teacher's Beliefs for Classroom Management in an EFL Classroom. *Procedia - Social and Behavioral Sciences*, *199*(2012), 675–683.

Al-Zahrani, M. Y., & Al-Bargi, A. (2017). The impact of teacher questioning on creating interaction in EFL: a discourse analysis. *English Language Teaching*, *10*(6), 135–150.

Alexander, R. (2006). *Towards dialogic teaching: Rethinking classroom talk*. Dialogos.

Alidmat, A. O. H., & Ayassrah, M. A. (2017). Development of critical thinking skills through writing tasks: challenges facing maritime English students at Aqaba College, AlBalqa Applied University, Jordan. *International Journal of Higher Education*, *6*(3), 82–90.

Allen, S. H. L., & Wern, L. E. (2017). Involvement of higher order thinking skills within a preparatory course for the Malaysia university English test. *The English Teacher*, *XL*, 95–112.

Alsowat, H. (2016). An EFL flipped classroom teaching model: Effects on English language higher-order thinking skills, student engagement and satisfaction. *Journal of Education and Practice*, *7*(9), 108–121.

Altay, B., & Saracaloglu, A. S. (2017). Investigation on the relationship among language learning strategies, critical thinking and self-regulation skills in learning English. *Novitas-ROYAL (Research on Youth and Language)*, *11*(1), 1–26.

Ammar, I. (2005). An investigation of the relationships between EFL pre-service teachers' epistemological beliefs and their learning strategies teaching practices and foreign language classroom anxiety. *Journal of Scientific Research in Education and Psychology*, *18*(3), 1–33.

Anandari, C. L. (2015). Indonesian EFL students'anxiety in speech production: possible causes and remedy. *TEFLIN Journal*, *26*(1), 1–16.

Anderson, J. (2000). *Learning and memory: An integrated approach (Second edition)*. Wiley.

Atmatzidou, S., & Demetriadis, S. (2016). Advancing students' computational thinking skills through educational robotics: A study on age and gender relevant differences. *Robotics and Autonomous Systems*, *75*, 661–670.

Aziz, A. A., Ismail, F., Ibrahim, N. M., & Samat, N. A. (2017). Investigating the implementation of higher-order thinking skills in Malaysian classrooms: insights from L2 teaching practices. *Sains Humanika*, *9*(4–2), 65–73. https://doi.org/10.11113/sh.v9n4-2.1361

Babaei, M., & Abednia, A. (2016). Reflective teaching and self-efficacy beliefs: Exploring relationships in the context of teaching EFL in Iran. *Australian Journal of Teacher Education*, *41*(9), 1.

Baker, L., & Beall, L. C. (2009). Metacognitive processes and reading comprehension. In I. S. E. Israel & G. G. Duffy (Eds.), *Handbook of research on reading comprehension* (pp. 373–388). Lawrence Erlbaum Associates.

Barcelos, A. M. F., & Ruohotie-Lyhty, M. (2018). Teachers' emotions and beliefs in second language teaching: Implications for teacher education. In Martínez Agudo J. (Ed.), *Emotions in Second Language Teaching* (pp. 109–124). Springer. https://doi.org/10.1007/978-3-319-75438-3

Barzilai, S., & Chinn, C. A. (2018). On the goals of epistemic education: Promoting apt epistemic performance. *Journal of the Learning Sciences*, *27*(3), 353–389.

Basturkmen, H. (2012). Review of research into the correspondence between language teachers ' stated beliefs and practices. *System*, *40*(2), 282–295.

Bendixen, L. D. (2002). A process model of epistemic belief change. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemological: The psychology of beliefs about knowledge and knowing* (p. 191−208). Mahwah, NJ: Erlbaum.

Bergmann, J., & Sams, A. (2014). *Flipped learning: Gateway to student engagement*. International Society for Technology in Education.

Bloom, B. S., Englehard, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: the classification of educational goals*. Longmans, Green and Co LTD.

Bobkina, J., & Stefanova, S. (2016). Literature and critical literacy pedagogy in the EFL classroom: Towards a model of teaching critical thinking skills. *Studies in Second Language Learning and Teaching*, *6*(4).

Borg, S. (2003). Teacher cognition in language teaching : A review of research on what language teachers think , know , believe , and do. *Language Teaching*, *36*(2), 81–109.

Borg, S. (2015). *Teacher cognition and language education: research and practice*. Bloomsbury Publishing.

Borg, Simon, & Burns, A. (2008). Integrating grammar in adult TESOL classrooms. *Applied Linguistics*, *29*(3), 456–482.

Boyd, M. P. (2015). Relations between teacher questioning and student talk in one elementary ELL classroom. *Journal of Literacy Research*, *47*(3), 370–404.

Braund, H. (2019). Supporting metacognitive development in science education: exploring Ontario elementary teachers' beliefs and practices in metacognition. *Alberta Science Education Journal*, *46*(1).

Bromme, R., Pieschl, S., & Stahl, E. (2010). Epistemological beliefs are standards for adaptive learning: A functional theory about epistemological beliefs and metacognition. *Metacognition and Learning*, *5*(1), 7–26.

Brown, A. (1987). Metacognition, executive control, self-regulation, and other more mysterious mechanisms. *Metacognition, Motivation, and Understanding*, 65–116.

Brownlee, J., Ferguson, L. E., & Ryan, M. (2017). Changing teachers' epistemic cognition: a new conceptual framework for epistemic reflexivity. *Educational Psychologist*, *52*(4), 242–252.

Burns, A., Freeman, D., & Edwards, E. (2015). Theorizing and studying the language-teaching mind: mapping research on language teacher cognition. *Modern Language Journal*, *99*(3), 585–601.

Busse, A., & Ferri, R. B. (2003). Methodological reflections on a three-step-design combining observation, stimulated recall and interview. *Zentralblatt Für Didaktik Der Mathematik*, *35*(6), 257–264.

Ça, S. (2015). Examining EFL students ' foreign language speaking anxiety : The case at a Turkish state university. *Procedia-Social and Behavioral Sciences*, *199*, 648–656. https://doi.org/10.1016/j.sbspro.2015.07.594

Cansoy, R., & Türkoglu, M. E. (2017). Examining the relationship between pre-service teachers' critical thinking disposition, problem solving skills and teacher self-efficacy. *International Education Studies*, *10*(6), 23–35.

Cheung, C. K., & Jhaveri, A. D. (2016). Developing students' critical thinking skills through visual literacy in the new secondary school curriculum in Hong Kong. *Asia Pacific Journal of Education*, *36*(3), 379–389.

Chevalier, T. M., Parrila, R., Ritchie, K. C., & Deacon, S. H. (2017). The role of metacognitive reading strategies, metacognitive study and learning strategies, and behavioral study and learning strategies in predicting academic success in students with and without a history of reading difficulties. *Journal of Learning Disabilities*, *50*(1), 34–48.

Clarà, M. (2015). What is reflection? Looking for clarity in an ambiguous notion. *Journal of Teacher Education*, *66*(3), 261–271.

Creswell, J. W. (2012a). *Educational research : planning, conducting, and evaluating quantitative and qualitative research* (4th ed., Vol. 4). Pearson.

Creswell, J. W. (2012b). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). Sage Publications.

Cross, J. (2015). Metacognition in l2 listening: clarifying instructional theory and practice. *Tesol Quarterly*, *49*(4), 883–892. https://doi.org/10.1002/tesq.258

Crusan, D., Plakans, L., & Gebril, A. (2016). Assessing Writing Writing assessment literacy : Surveying second language teachers ' knowledge , beliefs , and practices. *Assessing Writing*, *28*, 43–56.

de Acedo Lizarraga, M. L. S., de Acedo Baquedano, M. T. S., Mangado, T. G., & Cardelle-Elawar, M. (2009). Enhancement of thinking skills: Effects of two intervention methods. *Thinking Skills and Creativity*, *4*(1), 30–43.

Demir, Ö., Doganay, A., & Kaya, H. İ. (2016). Investigation into the prediction level of professional values of prospective teachers within the context of critical thinking, metacognition and epistemological beliefs in Turkey. *International Education Studies*, *9*(5), 204–218.

Dewey, J., & Bento, J. (2009). Activating children's thinking skills (ACTS): The effects of an infusion approach to teaching thinking in primary schools. *The British Journal of Educational Psychology*, *79*(2), 329–351.

Dilekli, Y., & Tezci, E. (2016). The relationship among teachers' classroom practices for teaching thinking skills, teachers' self-efficacy towards teaching thinking skills and teachers' teaching styles. *Thinking Skills and Creativity*, *21*, 144–151.

Dolunay, S. K., & Savaş, Ö. (2016). Assessing listening activities in secondary school Turkish language textbooks in terms of higher order thinking skills. *Eğitimde Kuram ve Uygulama*. https://doi.org/10.17244/eku.98782

Doyle, W. (1983). Academic work. *Review of Educational Research*, *53*(2), 159–199.

Duffy, G. G., Miller, S., Parsons, S., & Meloth, M. (2009). Teachers as metacognitive professionals. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Handbook of Metacognition in Education* (Vol. 53, Issue 9, pp. 240–256). NJ: Lawrence Erlbaum.

Durdukoca, Ş. F. (2016). The effect of systematic education on learners' epistemological beliefs, learning approaches, metacognitive awareness and academic achievement. *Journal of Human Sciences*, *13*(2), 3073–3091.

Efklides, A. (2009). The role of metacognitive experiences in the learning process. *Psicothema*, *21*(1), 76–82.

El Soufi, N., & See, B. H. (2019). Does explicit teaching of critical thinking improve critical thinking skills of English language learners in higher education? A critical review of causal evidence. *Studies in Educational Evaluation*, *60*, 140–162. https://doi.org/10.1016/j.stueduc.2018.12.006

Ellis, R. (2017). Task-based language teaching. In *The Routledge Handbook of Instructed Second Language Acquisition*.

Etemadfar, P., Soozandehfar, S. M., & Namaziandost, E. (2020). An account of EFL learners' listening comprehension and critical thinking in the flipped classroom model. *Cogent Education*, *7*(1).

Farrell, T. S. C. (2015). *Promoting teacher reflection in second language education: a framework for TESOL professionals*. Routledge. https://doi.org/10.1002/tesj.222

Farrell, T. S. C. (2016a). Surviving the transition shock in the first year of teaching through reflective practice. *System*, *61*, 12–19.

Farrell, T. S. C. (2016b). The practices of encouraging TESOL teachers to engage in reflective practice: An appraisal of recent research contributions. *Language Teaching Research*, *20*, 223–247.

Fisher, R. (2007). Dialogic teaching: developing thinking and metacognition through philosophical discussion. *Early Child Development and Care*, *177*(March 2015), 615–631.

Fitriani, H., Asy'ari, M., Zubaidah, S., & Mahanal, S. (2019). Exploring the prospective teachers' critical thinking and critical analysis skills. *Jurnal Pendidikan IPA Indonesia*, *8*(3), 379–390. https://doi.org/10.15294/jpii.v8i3.19434

Flavell, J. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231–235). Hillsdale, NJ: Erlbaum.

Flavell, J. (1987). Speculations about the nature and development of metacognition. In F. Weinert & R. Kluwe (Eds.), *Metacognition, motivation, and understanding* (pp. 65–116). Lawrence Erlbaum Associate.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive- developmental inquiry. *American Psychologist*, *34*, 906–911.

Freeman, D., & Richards, J. C. (1996). *Teacher learning in language teaching*. Cambridge University Press.

Gandeel, A. M. (2016). *English language teachers' beliefs and practices regarding the teaching of speaking*. Doctoral dissertation, University of Leeds.

Garton, S., Copland, F., & Burns, A. (2011). Investigating global practices in teaching English to young learners. *British Council ELT*, *11*, 1–29.

Gass, S. M., & Mackey, A. (2000). *Stimulated recall methodology in second language research.* NJ: Lawrence Erlbaum.

Goh, C. C. (2018). Metacognition in second language listening. *The TESOL Encyclopedia of English Language Teaching*, 1–7.

Green, T. F. (1971). *The Activities of Teaching*. McGraw-Hill.

Griffin, P., Burns, M. S., Snow, C. E., & Council, N. R. (1998). *Preventing reading difficulties in young children*. National Academies Press.

Guba, E. G., & Linkoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105–117). Thousand Oaks, CA: Sage.

Gunning, P., & Oxford, R. L. (2014). Children's learning strategy use and the effects of strategy instruction on success in learning ESL in Canada. *System*, *43*, 82–100. https://doi.org/10.1016/j.system.2013.12.012

Guven, M. (2012). Epistemological beliefs and metacognitive strategies of elt pre-service teachers in distance and formal education. *Turkish Online Journal of Distance Education*, *13*(2), 346–369.

Harris, K. R., Graham, S., Brindle, M., & Sandmel, K. (2009). Metacognition and children's writing. In *Handbook of metacognition in education* (pp. 131–153).

Hayikaleng, N., Nair, S. M., & Krishnasamy, H. N. (2016). Thai students' l2 reading comprehension level for lower order thinking skills and higher order thinking skills questions. *Journal of Applied Linguistics and Language Research*, *3*(5), 83–91.

He, G. (2012). Cultivation mechanism of critical thinking skills based on language learning tasks. *International Conference on Future Computers in Education*, 102–107.

Heigham, J., & Croker, R. A. (2009). *Qualitative research in applied linguistics: a practical introduction*. Palgrave Macmillan.

Hiver, P., & Whitehead, G. E. (2018). Teaching metacognitively: Adaptive inside-out thinking in the language classroom. In *Adaptive inside-out thinking in the language classroom. In Metacognition in language learning and teaching (Open Access)* (pp. 243–262). Routledge.

Hiver, P., Whiteside, Z., Sánchez Solarte, A. C., & Kim, C. J. (2019). Language teacher metacognition: beyond the mirror. *Innovation in Language Learning and Teaching*, 1–14. https://doi.org/10.1080/17501229.2019.1675666

Hofer, B. K. (2002). Personal epistemology as a psychological and educational construct: An introduction. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemological: The psychology of beliefs about knowledge and knowing* (pp. 3–14). Mahwah,NJ: Erlbau.

Hofer, B. K. (2004). Epistemological understanding as a metacognitive process: thinking aloud during online searching. *Educational Psychologist*, *39*(1), 43–55.

Holstein, J. A., & Gubrium, J. F. (1994). Phenomenology, ethnomethology, and interpretive practice. In N. K. Denzin & L. Y.S. (Eds.), *Handbook of qualitative reserach*. Thousand Oaks, CA: Sage.

Howe, J. (2006). The rise of crowdsourcing. *Wired Magazine*, *14*(6), 1–4.

Hsieh, M. F. (2011). Learning English as a foreign language in Taiwan : students ' experiences and beyond. *Language Awareness*, *20*(3), 255–270.

Huang, K. M. (2011). Motivating lessons: A classroom-oriented investigation of the effects of content-based instruction on EFL young learners' motivated behaviours and classroom verbal interaction. *System*, *39*(2), 186–201.

Hussin, H. B. (2006). *Dimensions of questioning: a qualitative study of current classroom practice in Malaysia*. *10*(2), 1–18.

Igbaria, A. K., & Ghanayem, A. (2020). A content analysis of the wh-questions in the EFL textbook of that's right. *Advances in Social Sciences Research Journal*. https://doi.org/10.14738/assrj.73.7942

Ismail, A. A. M. (2016). EFL teachers' epistemological beliefs and their assessment orientations. *International Journal of Applied Linguistics and English Literature*, *6*(1), 99–114.

Jacobs, J. E., & Paris, S. G. (1987). Children's metacognition about reading: issues in definition, measurement, and instruction. *Educational Psychologist*, *22*(3–4), 255–278.

Jager, T. De. (2014). Science teachers and student-teachers' perceptions of challenges in the development of critical thinking skills: South african secondary schools. *International Journal of Science, Mathematics and Technology Learning*, *20*(3), 1–13.

Janfeshan, K. (2017). Iranian EFL teachers' beliefs about how to teach English grammar. *Porto Alegre*, *8*(2), 335–354.

Jensen, J. L., McDaniel, M. A., Woodard, S. M., & Kummer, T. A. (2014). Teaching to the test...or testing to teach: exams requiring higher order thinking skills encourage greater conceptual understanding. *Educational Psychology Review*, *26*(2), 307–329.

Jiang, Y., Ma, L., & Gao, L. (2016). Assessing teachers' metacognition in teaching: The Teacher Metacognition Inventory. *Teaching and Teacher Education*, *59*, 403–413.

Jumal, N. A. B., AlSaqqaf, A., & Mohamed, N. Z. N. (2019). Code switching in Malaysian secondary ESL classroom: a preliminary study from Sabah. *International Journal of Asian Social Science*, 327–334.

Kagan, D. M. (1992). Implication of research on teacher belief. *Educational Psychologist*, *27*(1), 65–90.

Kahasey, M. T. (2019). EFL students' epistemological beliefs and use of cognitive and metacognitive strategies in Bahir Dar University. *International Journal of Foreign Language Teaching and Research*, *7*(26), 69–83.

Karimi, L., & Veisi, F. (2016). The impact of teaching critical thinking skills on reading comprehension of Iranian intermediate EFL learners. *Theory and Practice in Language Studies*, *6*(9), 1869.

Karimi, M. N., & Dehghani, A. (2016). EFL teachers' beliefs/practices correspondence in reading instruction: does language teacher education make a difference? *International Journal of Pedagogies and Learning*, *11*(1), 35–48.

Kartchava, E., Gatbonton, E., Ammar, A., & Trofimovich, P. (2020). Oral corrective feedback: Pre-service English as a second language teachers' beliefs and practices. *Language Teaching Research*, *24*(2), 220–249.

Katz-Buonincontro, J., Perignat, E., & Hass, R. W. (2020). Conflicted epistemic beliefs about teaching for creativity. *Thinking Skills and Creativity*, 100651.

Ketabi, S., Zabihi, R., & Ghadiri, M. (2014). Pre-service English teachers' epistemological beliefs and their conceptions of teaching. *International Journal of Research Studies in Psychology*, *3*(1), 3–12.

Khonamri, F., & Farzanegan, M. (2016). Literature-based extensive reading accompanied by reading logs: A case for developing critical thinking skills of English literature students. *International Journal of Education, 9 (1)*(59), 68.

Kozikoglu, I. (2019). Investigating critical thinking in prospective teachers: metacognitive skills, problem solving skills and academic self-efficacy. *Journal of Social Studies Education Research*, *10*(2), 111–130.

Krathwohl, D. R. (2002). A Revision of Bloom's Taxonomy: An Overview. *Theory Into Practice*, *41*(4), 212–218.

Kubanyiova, M., & Crookes, G. (2016). Re-envisioning the roles, tasks, and contributions of language teachers in the multilingual era of language education research and practice. *The Modern Language Journal*, *100*(S1), 117–132.

Kuhn, D. (2005). *Education for thinking*. Harvard University Press.

Kulekci, G. (2018). Identifying the perceptions of prospective English language teachers on characteristics of effective teachers: who is the ideal teacher?. *Novitas-ROYAL (Research on Youth and Language)*, *12*(1), 1–15.

Kumaravadivelu, B. (1994). The postmethod condition:(E) merging strategies for second/foreign language teaching. *TESOL Quarterly*, *28*(1), 27–48.

Kusaeri, K. (2019). Pedagogical beliefs about critical thinking among Indonesian mathematics pre-service teachers. *International Journal of Instruction*, *12*(1), 573–590.

Kusumastuti, I., Fauziati, E., & Marmanto, S. (2019). Revealing teachers'beliefs of higher order thinking skills in teaching reading at junior high school. *English Language and Literature International Conference (ELLiC) Proceedings*, *3*, 155–162.

Lam, D. M. K. (2016). Contriving authentic interaction: task implementation and engagement in school-based speaking assessment in Hong Kong. In *Assessing Chinese Learners of English: Language Constructs, Consequences and Conundrums* (pp. 38–60).

Leat, D. (2010). Rolling the stone uphill: teacher development and the implementation of thinking skills programmes. *Oxford Review of Education*.

Lee, C. B., & Teo, T. (2011). Shifting Pre-service Teachers' Metacognition Through Problem Solving. *The Asia-Pacific Education Researcher*, *20*(3), 570–578.

Lee, I., & Mak, P. (2018). Metacognition and Metacognitive Instruction in Second Language Writing Classrooms. *TESOL Quarterly*, *52*(4), 1085–1097.

Lefstein, A., & Snell, J. (2013). *Better than best practice: Developing teaching and learning through dialogue*. Routledge.

Li, L. (2011). Obstacles and opportunities for developing thinking through interaction in language classrooms. *Thinking Skills and Creativity*, *6*(3), 146–158.

Li, L. (2016a). Integrating thinking skills in foreign language learning: What can we learn from teachers' perspectives? *Thinking Skills and Creativity*, *22*, 273–288.

Li, L. (2016b). Thinking skills and creativity in second language education: Where are we now? *Thinking Skills and Creativity*, *22*, 267–272.

Lipman, M. (2003). *Thinking in education*. New York: Cambridge University Press.

Liu, Y., Mishan, F., & Chambers, A. (2018). Investigating EFL teachers' perceptions of task-based language teaching in higher education in China. *Language Learning Journal*, *1*(16). https://doi.org/10.1080/09571736.2018.1465110

Luft, J. A., & Roehrig, G. H. (2007). Capturing science teachers ' epistemological beliefs : the development of the teacher beliefs interview. *Electronic Journal of Science Education*, *11*(2), 38–63.

Mackenzie, L. (2018). Teacher development or teacher training? an exploration of issues reflected on by CELTA candidates. *English Teaching and Learning*, *42*(3–4), 247–271.

Mai, M. Y. (2015). Science teachers self perception about metacognition. *Journal of Educational and Social Research*, *5*(1), 77–86.

Margana, M., & Widyantoro, A. (2017). Developing English textbooks oriented to higher order thinking skills for students of vocational high schools in Yogyakarta. *Journal of Language Teaching and Research*, *8*(1), 26–28. https://doi.org/10.17507/jltr.0801.04

Merk, S., Rosman, T., Rueß, J., Syring, M., & Schneider, J. (2017). Pre-service teachers' perceived value of general pedagogical knowledge for practice: Relations with epistemic beliefs and source beliefs. *Plos One*, *12*(9), e0184971.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Metallidou, P. (2009). Pre-service and in-service teachers' metacognitive knowledge about problem-solving strategies. *Teaching and Teacher Education*, *25*(1), 76–82.

Miri, B., David, B. C., & Uri, Z. (2007). Purposely teaching for the promotion of higher-order thinking skills: A case of critical thinking. *Research in Science Education*, *37*(4), 353–369.

Moodie, I. (2016). The anti-apprenticeship of observation : How negative prior language learning experience in fl uences English language teachers ' beliefs and practices. *System*, *60*, 29–41.

Moradkhani, S., Raygan, A., & Moein, M. S. (2017). Iranian EFL teachers' reflective practices and self-efficacy: Exploring possible relationships. *System*, *65*, 1–14.

Muñoz, C. (2014). Exploring young learners' foreign language learning awareness. *Language Awareness*, *23*(1–2), 24–40.

Murphy, P. K., Greene, J. A., Firetto, C. M., Hendrick, B. D., Li, M., Montalbano, C., & Wei, L. (2018). Quality Talk: Developing Students' Discourse to Promote High-level Comprehension. *American Educational Research Journal*, *55*(5), 1113–1160.

Nejmaoui, N. (2018). Improving EFL learners' critical thinking skills in argumentative writing. *English Language Teaching*, *12*(1), 98.

Nguyễn, T. M. T., & Nguyễn, T. T. L. (2017). Influence of explicit higher-order thinking skills instruction on students' learning of linguistics. *Thinking Skills and Creativity*, *26*, 113–127.

Nisbet, J., & Shucksmith, J. (1986). *Learning strategies.* Taylor & Frances/Routledge.

Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia Pacific region. *TESOL Quarterly*, *37*(4), 589–613.

Obari, H., & Lambacher, S. (2015). Successful EFL teaching using mobile technologies in a flipped classroom. *Critical CALL–Proceedings of the 2015 EUROCALL Conference*, 433–438.

Olafson, L., & Schraw, G. (2006). Teachers' beliefs and practices within and across domains. *International Journal of Educational Research*.

Othman, J., & Kiely, R. (2016). Preservice teachers' beliefs and practices in teaching English to young learners. *Indonesian Journal of Applied Linguistics*, *6*(1), 50–59.

Othman, N., & Mohamad, K. A. (2014). Thinking skill education and transformational progress in Malaysia. *International Education Studies*, *7*(4), 27–32.

Özcana, D. (2010). Contributions of English teachers' behaviours on students' creative thinking abilities. *Procedia - Social and Behavioral Sciences*, *2*(2), 5850–5854.

Pajares, F., Schunk, D. H. (2001). Self-efficacy beliefs and school success: Self-efficacy, self-concept, and school achievement. In *Perception*. Ablex Publishing.

Pajares, M. F. (1992a). Teachers' beliefs and educational research: cleaning up a messy construct. *Review of Educational Research*, *62*(3), 307–332.

Pajares, M. F. (1992b). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research*, *62*, 307–332. https://doi.org/10.3102/00346543062003307

Parsons, S. A., Vaughn, M., Scales, R. Q., Gallagher, M. A., Parsons, A. W., Davis, S. G., Pierczynski, M., & Allen, M. (2018). Teachers' instructional adaptations: a research synthesis. *Review of Educational Research*, *88*(2), 205–242. https://doi.org/10.3102/0034654317743198

Pashangzadeh, A., Ahmadian, M., & Yazdani, H. (2016). From narrativity to criticality: developing EFL learners' critical thinking skills through short narratives/stories reading. *Education and Linguistics Research*, *2*(1), 98.

Paskins, Z., McHugh, G., & Hassell, A. B. (2014). Getting under the skin of the primary care consultation using video stimulated recall: a systematic review. *BMC Medical Research Methodology*, *14*(1), 101.

Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.

Peacock, M. (2001). Pre-service ESL teachers' beliefs about second language learning : a longitudinal study. *System*, *29*(2), 177–195.

Pennycook, A. (1997). Cultural alternatives and autonomy. *Autonomy and Independence in Language Learning*, 35–53.

Pham, L. N. K., & Hamid, M. O. (2013). Beginning EFL teachers' beliefs about quality questions and their questioning practices. *Teacher Development*, *17*(2), 246–264.

Phipps, S., & Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. *System*, *37*(3), 380–390.

Rachmawaty, N., & Ariani, S. (2019). Investigating the types of teacher questions in EFL secondary classroom. *Sixth of International Conference on English Language and Teaching (ICOELT 2018)*.

Rahardjanto, A. (2019). Hybrid-PjBL: learning outcomes, creative thinking skills, and learning motivation of preservice teacher. *International Journal of Instruction*, *12*(2), 179–192.

Rahimi, M. (2013). The relationship between EFL teachers' critical thinking skills and vocabulary learning strategy instruction across gender. *International Journal of Applied Linguistics & English Literature*, *3*(1), 107–114.

Rahimi, S. A., & Sahragard, R. (2019). The Mismatch between EAP Teachers ' Beliefs and Classroom Practices toward Formative Assessment in the EFL Context of Hormozgan. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, *3*(1), 40–49.

Rahman, S. A., & Manaf, N. F. A. (2017). A critical analysis of Bloom's taxonomy in teaching creative and critical thinking skills in Malaysia through English literature. *English Language Teaching*, *10*(9), 245–256. https://doi.org/10.5539/elt.v10n9p245

Rao, Z. (2007). Training in brainstorming and developing writing skills. *ELT Journal*, *61*(2), 100–106.

Rear, D. (2017). Critical thinking, language and problem-solving: scaffolding thinking skills through debate. In R. Breeze & C. Guinda Sancho (Eds.), *Essential Competencies for English-medium University Teaching. Educational Linguistics* (pp. 51–63). Springer.

Retnawati, H., Djidu, H., Kartianom, A., & Anazifa, R. D. (2018). Teachers' knowledge about higher-order thinking skills and its learning strategy. *Problems of Education in the 21st Century*, *76*(2), 215–230.

Richards, J. C., & Burns, A. (2012). *The Cambridge guide to pedagogy and practice in second language teaching*. Cambridge University Press.

Richards, K. (2003). *Qualitative inquiry in TESOL*. Palgrave Macmillan.

Rojas-Drummond, S., Maine, F., Alarcón, M., Trigo, A. L., Barrera, M. J., Mazón, N., Vélez, M., & Hofmann, R. (2017). Dialogic literacy: Talking, reading and writing among primary school children. *Learning, Culture and Social Interaction*, *12*, 45–62.

Roothooft, H. (2014). The relationship between adult EFL teachers' oral feedback practices and their beliefs. *System*, *46*(1), 65–79.

Ruiz de Zarobe, Y., & Cenoz, J. (2015). Way forward in the twenty-first century in content-based instruction: moving towards integration. *Language, Culture and Curriculum*, *28*(1), 90–96.

Saido, G. A., Siraj, S., Nordin, A. B., & Al-Amedy, O. S. (2017). Teaching strategies for promoting higher order thinking skills: A case of secondary science teachers. *MOJEM: Malaysian Online Journal of Educational Management*, *3*(4), 16–30.

Sarıcoban, A. (2015). Metacognitive awareness of pre-service English language teachers in terms of various variables. *Procedia - Social and Behavioral Sciences*, *186*(2007), 664–669.

Sato, M., & Loewen, S. (2018). Metacognitive instruction enhances the effectiveness of corrective feedback: variable effects of feedback types and linguistic targets. *Language Learning*, *68*(2), 507–545. https://doi.org/10.1111/lang.12283

Schmitt, C., & Newby, T. (1986). Metacognition: Relevance to instructional design. *Journal of Instructional Development*, *9*, 29-33.

Schommer-Aikins, M. (2004). Explaining the epistemological belief system: introducing the embedded systemic model and coordinated research approach. *Educational Psychologist*, *39*(1), 19–29.

Schommer-Aikins, Marlene. (2002). An evolving theoretical framework for an epistemological belief system. In B. K. Hofer & P. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 103–118). Mahwah, NJ: Erlbaum.

Schommer, M. (1994). Synthesizing epistemological belief research : tentative understandings and provocative confusions. *Educational Psychology Review*, *6*(4), 293–319.

Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, *26*(1), 113–125.

Schraw, G., Crippen, K. J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. *Research in Science Education*, *36*(1–2), 111–139.

Sehic, S. (2017). The effect of english language learning on creative thinking skills: a mixed methods case study. *English Language Teaching*, *10*(3), 82–94. https://doi.org/10.5539/elt.v10n3p82

Shafeei, K. N., Hassan, H., Ismail, F., & Aziz, A. A. (2017). Incorporating higher order thinking skill (HOTS) questions in ESL classroom contexts. *LSP International Journal*, *1*, 4. https://doi.org/10.11113/lspi.v4n1.49

Shak, J., & Gardner, S. (2008). Young learner perspectives on four focus-on-form tasks. *Language Teaching Research*, *12*(3), 387–408.

Shaughnessy, M., & Boerst, T. A. (2018). Uncovering the skills that preservice teachers bring to teacher education: The practice of eliciting a student's thinking. *Journal of Teacher Education*, *69*(1), 40–55.

Shen, C. H. C. (2014). Differentiating digitally to investigate young EFL learners' metacognitive reading strategies. *2014 IEEE 14th International Conference on Advanced Learning Technologies*, 416–420.

Shirkhani, S., & Fahim, M. (2011). Enhancing critical thinking in foreign language learners. *Procedia - Social and Behavioral Sciences*, *29*, 111–115.

Singh, R. K. V., & Shaari, A. H. (2019). The analysis of Higher-Order Thinking skills in English reading comprehension tests in Malaysia. *Geografia-Malaysian Journal of Society and Space*, *15*(1).

Siswono, T. Y. E., Kohar, A. W., Kurniasari, I., & Hartono, S. (2017). Inconsistency among beliefs, knowledge, and teaching practice in mathematical problem solving: A case study of a primary teacher. *Southeast Asian Mathematics Education Journal*, *7*(2).

Sivaci, S. (2020). An investigation into the teacher talk and questions in English as a foreign language classrooms. *Linguistic Forum-A Journal of Linguistics*, *2*(2), 1–6.

Smith, L., & King, J. (2017). A dynamic systems approach to wait time in the second language classroom. *System*, *68*, 1–14.

Soleimani, N. (2020). ELT teachers ' epistemological beliefs and dominant teaching style : a mixed method research. *Asian-Pacific Journal of Second and Foreign Language Education*, *5*(1), 1–20.

Soodla, P., Jõgi, A.-L., & Kikas, E. (2017). Relationships between teachers' metacognitive knowledge and students' metacognitive knowledge and reading achievement. *European Journal of Psychology of Education*, *32*(2), 201–218.

Stake, R. E. (2000). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 435–454). Thousand Oaks, CA: Sage.

Stefanova, S., Bobkina, J., & Pérez, S. V. F. J. (2017). The effectiveness of teaching critical thinking skills through literature in EFL context: a case study in Spain. *International Journal of Applied Linguistics and English Literature*, *6*(6), 252.

Suherman, A. (2019). Investigating different types of EFL teacher questions as a formative assessment tool. *Proceedings of INACELT (International Conference on English Language Teaching)*, *3*(1), 44–51.

Sulaiman, T., Ayub, A. F. M., & Sulaiman, S. (2015). Curriculum change in English language curriculum advocates higher-order thinking skills and standards-based assessments in Malaysian primary schools. *Mediterranean Journal of Social Sciences*, *6*(2), 494–500.

Teng, L. S. (2016). Changes in teachers' beliefs after a professional development project for teaching writing: two Chinese cases. *Journal of Education for Teaching*, *42*(1), 106–109.

Teo, P. (2016). Exploring the dialogic space in teaching : A study of teacher talk in the pre-university classroom in Singapore. *Teaching and Teacher Education*, *56*, 47–60.

Teo, P. (2019a). Learning, culture and social interaction teaching for the 21st century : a case for dialogic pedagogy. *Learning, Culture and Social Interaction*, *21*(January), 170–178. https://doi.org/10.1016/j.lcsi.2019.03.009

Teo, P. (2019b). Teaching for the 21st century: A case for dialogic pedagogy. *Learning, Culture and Social Interaction*, *21*, 170–178.

Tezci, E., Erdener, M. A., & Atıcı, S. (2016). The effect of pre-service teachers ' epistemological beliefs on teaching approaches. *Universal Journal of Educational Research*, *4*, 205–215.

Toshpulatova, D., & Kinjemuratova, A. (2020). Teacher perceptions on developing students' critical thinking skills in academic English module. *International Journal of Psycho-Educational Sciences*, *9*(1), 48–60.

Tracy, S. J. (2012). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.

Tuzlukova, V., Al Busaidi, S., & Burns, S. L. (2017). Critical thinking in the language classroom: teacher beliefs and methods. *Pertanika Journal of Social Sciences & Humanities*, *25*(2).

Tyas, M. A., Nurkamto, J., & Marmanto, S. (2020). Cultivating students' higher-order thinking skills in EFL classes: the role of the teacher and the textbook. *International Online Journal of Education and Teaching*, *7*(1), 267–276.

Veenman, M. V. J. (2016). Learning to self-monitor and self-regulate. In R. E. & P. A. Alexander (Eds.), *Handbook of Research on Learning and Instruction* (2nd ed., pp. 197–218). Routledge.

Veenman, M. V. J., H.A.M., B., & Afflerbach, P. (2006). Metacognition and learning: Conceptual and methodological considerations. *Metacognition and Learning*, *1*(1), 3–14.

Vygotsky, L. S. (1978). *Mind in society : the development of higher psychological processes*. Cambridge : Harvard University Press,.

Waters, A. (2006). Thinking and language learning. *ELT Journal*, *60*(4), 319–327.

Wilkinson, I. A., Reznitskaya, A., Bourdage, K., Oyler, J., Glina, M., Drewry, R., Kim, M., & Nelson, K. (2017). Toward a more dialogic pedagogy : changing teachers ' beliefs and practices through professional development in language arts classrooms. *Language and Education*, *3*(1), 65–82.

Willingham, D. T. (2007). Can critical thinking be taught. *American Educator*, *31*(2), 8–19.

Wilson, N. S., & Bai, H. (2010). *The relationships and impact of teachers ' metacognitive knowledge and pedagogical understandings of metacognition*. 269–288.

Wong, B. K. S., & Chai, C. S. (2010). Asian personal epistemologies and beyond: Overview and some reflections. *The Asia-Pacific Education Researcher*, *19*(1), 1–6.

Yenicea, N. (2015). An analysis of science student teachers' epistemological beliefs and metacognitive perceptions about the nature of science. *Educational Sciences: Theory & Practice*, *15*(6).

Yerdelen-Damar, S., Özdemir, Ö. F., & Ünal, C. (2015). Pre-service physics teachers' metacognitive knowledge about their instructional practices. *Eurasia Journal of Mathematics, Science and Technology Education*, *11*(5), 1009–1026.

Yigzaw, A. (2017). Expressed beliefs and actual classroom practices of high school English teachers concerning error correction. *The Ethiopian Journal of Education*, *20*(1), 91–108.

Yildiz, H., & Akdag, M. (2017). The effect of metacognitive strategies on prospective teachers' metacognitive awareness and self efficacy belief. *Journal of Education and Training Studies*, *5*(12), 30–40.

Yousefzadeh, M., & Azam, L. B. (2015). The effect of Iranian teachers' epistemological beliefs on their teaching practice. *Advances in Language and Literary Studies*, *6*(6), 25–28.

Yuan, R., & Zhang, L. J. (2019). Teacher metacognitions about identities: case studies of four expert language teachers in China. *TESOL Quarterly*.

Yusnaeni, Y., Corebima, A. D., Susilo, H., & Zubaidah, S. (2017). Creative thinking of low academic student undergoing search solve create and share learning integrated with metacognitive strategy. *International Journal of Instruction*, *10*(2). https://doi.org/10.12973/iji.2017.10216a

Yussof, N. T., & Sun, H. (2020). Mismatches between teacher beliefs, practices and reasons for English use in preschool Malay language classrooms. *Language and Education*, 1–20.

Zepeda, C. D., Hlutkowsky, C. O., Partika, A. C., & Nokes-Malach, T. J. (2019). Identifying teachers' supports of metacognition through classroom talk and its relation to growth in conceptual learning. *Journal of Educational Psychology*, *111*(3), 552.

Zhang, D., & Zhang, L. J. (2019). Metacognition and self-regulated learning (SRL) in second/foreign language teaching. *Second Handbook of English Language Teaching*, *August*, 883–897.

Zheng, Y., & Yu, S. (2018). Student engagement with teacher written corrective feedback in EFL writing: A case study of Chinese lower-proficiency students. *Assessing Writing*, *37*, 13–24.

Ziadat, A. H., & Al Ziyadat, M. T. (2016). The effectiveness of training program based on the six hats model in developing creative thinking skills and academic achievements in the Arabic language course for gifted and talented Jordanian students. *International Education Studies*, *9*(6), 150–157.

Zohar, A. (1999). Teachers' metacognitive knowledge and the instruction of higher order thinking. *Teaching and Teacher Education*, *15*(4), 413–429.

Zohar, A. (2004). Elements of teachers ' pedagogical knowledge regarding instruction of higher order thinking. *Journal of Science Teacher Education*, *15*(4), 293–312.

Zohar, A. (2006). The nature and development of teachers' metastrategic knowledge in the context of teaching higher order thinking. *The Journal of Learning Sciences*, *15*(3), 331–377.

Zohar, A. (2013). Challenges in wide scale implementation efforts to foster higher order thinking (HOT) in science education across a whole school system. *Thinking Skills and Creativity*, *10*, 233–249.

Zohar, A., & Dori, Y. J. (2003). Higher order thinking skills and low-achieving students: Are they mutually exclusive? *Journal of the Learning Sciences*, *12*(2), 145–181. https://doi.org/10.1207/S15327809JLS1202

Zohar, Anat, & Peled, B. (2008). The effects of explicit teaching of metastrategic knowledge on low- and high-achieving students. *Learning and Instruction*, *18*(802), 337–353.

Zohar, Anat, & Schwartzer, N. (2005). Assessing teachers' pedagogical knowledge in the context of teaching higher-order thinking. *International Journal of Science Education*, *27*(13), 1595–1620.