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METACOGNITIVE AWARENESS IN UNIVERSITY STUDIES: THE COMPARATIVE STUDY OF LITHUANIAN AND IRANIAN CASES

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Doctoral thesis
Social Sciences, Education Science (S 007)

Vilnius, 2020

The dissertation was written during the period of 2015-2020, defended at Mykolas Romeris University according to the right to implement doctoral studies awarded to Vytautas Magnus University together with Klaipėda University, Mykolas Romeris University and Vilnius University by the order of the Minster of Education, Science and Sport (Republic of Lithuania) No. V-160, signed on 22 February, 2019.

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METAKOGNITYVUS SĄMONINGUMAS UNIVERSITETINĖSE STUDIJOSE: LYGINAMOJI LIETUVOS IR IRANO STUDIJA

Daktaro disertacija
Socialiniai mokslai, edukologija (S 007)

Mokslo daktaro disertacija rengta 2015–2020 metais, ginama Mykolo Romerio universitete pagal Vytauto Didžiojo universitetui su Klaipėdos universitetu, Mykolo Romerio universitetu ir Vilniaus universitetu Lietuvos Respublikos švietimo, mokslo ir sporto ministro 2019 m. vasario 22 d. įsakymu Nr. V-160 suteiktą doktorantūros teisę.

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ACKNOWLEDGEMENTS

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GLOSSARY OF KEY TERMS

Attitudes: Attitude is deconstructed into three parts: "Affective (how people feel), Behavioral intentions (what people intend to do, also called conative), and Cognitive (what people think). Or you can think of attitudes as beliefs, feelings, and intentions" (Sauro, 2019, p.2). **"**It is a compound construct, composed of what people think and feel and intend to do. People's thoughts and feelings affect their behavior" (Sauro, 2019, p.7). "Attitudes are tendencies towards expression of positive or negative feeling or evaluations of something. There are effective, behavioral, and cognitive components to attitudes (…) The learning theory states that attitudes are developed through forms of learning: direct contact, direct interaction, direct instruction and conditioning" (Kaplan, 2019, p.98).

Comparative study: "It is the act of evaluating two or more things by determining the relevant, comparable characteristics of each thing, and then determining which characteristics of each are similar to the other, which are different, and to what degree. Where characteristics are different, the differences may then be evaluated to determine which thing is best suited for a particular purpose. The description of similarities and differences found between the two things is also called a comparison" (Wikipedia, the free encyclopedia (online), 2020). "Comparison of outcomes, results, responses, etc for different techniques, therapeutic approaches or other inputs" (The Web's Largest Resource for Definitions (online), 2020).

Knowledge of cognition: It includes three sub-categories of declarative knowledge (knowledge about self and about strategies), procedural knowledge (knowledge about how to use strategies), and conditional knowledge (knowledge about when and why to use strategies) (Harris, Santangelo & Graham, 2010; Ma & Baranovich, 2015; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Young & Fry, 2008).

Regulation of cognition: Activities that assist learners in regulating their learning, which consists of five subcomponents of planning, monitoring, evaluation, debugging and information management, are considered regulation of cognition (Schraw & Dennison, 1994). Planning encompasses target setting, applying related background knowledge, allocating resources and time management (Schraw et al., 2006). During Information management, the learner applies a chain of strategies to process information properly (Schraw et al., 2012). Schraw and Moshman (1995) explained monitoring as finding out the errors, assessing strategy effectiveness and being aware of making mistakes. Evaluation is a learner's own learning evaluation, reevaluating his/her objectives, changing the estimations and ascertaining mental gains (Schraw et al., 2012). Debugging means applying strategies for error correction and asking for help from peers when you are faced with a problem during the learning process (Schraw et al., 2012).

Metacognitive awareness: Flavell (1976, p.232) first defined it as "the knowledge of one's own cognitive process". He conceptualized it also as "knowledge and cognition about cognitive phenomena" simply stated it as "thinking about thinking". It refers to "understanding of knowledge, an understanding that can be reflected in either effective use or overt description of the knowledge in question" (Brown, 1987, p. 65). It includes two main interrelated components of "knowledge about cognition" and "regulation of cognition".

OPERATIONALISED TERMS

Metacognitive Awareness: means you as the learner are considered as another person who observes the learning process. It includes awareness of the learning process, learning evaluation, creating metacognitive strategies and implementing these strategies. Thus, in this thesis this term can be defined as conscious thinking of one's own learning, understanding and controlling one's learning process. This term has got two different but interrelated parts of **knowledge of cognition** and **regulation of cognition** (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012).

Knowledge of cognition: refers to what individuals know about their own cognition. This component has three subcomponents: declarative, procedural, and conditional knowledge (Harris, Santangelo & Graham, 2010; Ma & Baranovich, 2015; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Young & Fry, 2008).

Declarative knowledge: An individual's cognitive knowledge which includes his/her attitudes towards his/her capabilities is regarded as declarative knowledge. Therefore, we can say that attitude is a subcategory of declarative knowledge.

Procedural knowledge: refers to the individual's awareness considering how to employ strategies to solve problems. Taking notes, slowing down to achieve main ideas, skimming unnecessary information, using mnemonics, summarizing vital information and testing oneself periodically are good examples of this knowledge. The higher level of procedural knowledge leads to spontaneous and prompt employment of appropriate strategies for the regulation of cognition.

Conditional knowledge: means that an individual knows when and why to apply declarative and procedural knowledge or is to determine the appropriate conditions in which to apply procedural and declarative knowledge. Individuals with a high level of conditional knowledge can choose the most suitable strategies for each situation.

Regulation of cognition: Activities that assist learners in regulating their learning, which consists of **five subcomponents** of planning, monitoring, evaluation, debugging and information management, are considered regulation of cognition (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012).

Planning: Suitable strategies and cognitive skill selections for a good outcome are called planning which encompasses target setting, applying related background knowledge, allocating resources and time management.

Information management: The subcategory of organizing is information management. During Information management, the learner applies a chain of strategies to process information properly.

Monitoring: is understanding when some thing is not going right in completion of a task, identifying errors and correcting them before evaluation stage.

Evaluation: is a learner's own learning process evaluation.

Debugging: Using any strategy for correction of errors or asking for help as encountaring any problem is referred to as Debugging.

LIST OF ACRONYMS

CLIL	Content and Language Integrated Learning
EFL	English as a Foreign Language
ESL	English as a Second Language
ESP	English for Specific Purposes
LEU	Lithuanian University of Educational Sciences
IG	Iranian Group
LG	Lithuanian Group
MAI	Metacognitive Awareness Inventory
MARSI	Metacognitive Awareness of Reading Strategies Inventory
MALQ	Metacognitive Awareness Listening Questionnaire
MRU	Mykolas Romeris University
PCK	Pedagogical Content Knowledge
SILL	Strategy Inventory for Language Learning
SORS	Survey of Reading Strategies
SRL	Self-regulated Learning
VGTU	Vilnius Gediminas Technical University
VU	Vilnius University

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INTRODUCTION

Relevance of the thesis. Over the last few decades, metacognition has become one of the most significant concepts in theories of educational psychology (Flavell, 1976; Zhang, 2010) which has contributed to a shift in classroom instruction style from a teaching-centered pedagogy to a learning-centered one. Metacognition is associated with the theory of the mind. It is the ability to understand the mental state of yourself and others. In fact, mentalizing our mental states occurs before mentalizing about others. In this field, inspecting our unknown motivates us to discover new information (Metcalfe & Finn, 2008) and share our uncertainty with others, which not only opens the lifelong learning doors but also helps us to direct our forthcoming learning (Bahrami et al., 2010).

As recent studies have elaborated on the ingenious role of metacognition in transforming old concepts, problem solving (Ghorbani Nejad & Farvardin, 2018), critical and creative thinking (Gok, 2010; Tolutienė, 2010; Valiukienė, 2014) and learning achievement (Cheng, 2011; Mačiulienė, 2019) there is a growing requirement for the better understanding of the nature and conceptualization of this unclear construct. The most common approach among all the definitions is regarding it as a componential rather than a uni-dimensional one. Flavell (1976) who coined this concept, introduced it as "one's knowledge concerning one's own cognitive processes and products" (p. 232) while Schraw and Dennison (1994) described it as knowledge of cognition and regulation of cognition with more focus on its pedagogical implications.

Metacognition is also thought to play a main role in self-regulation (Šliogerienė, 2013; Zimmerman & Schunks, 2011), encouraging reflective thinking (Ansarin, Farrokhi & Rahmani, 2015; Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008), self-efficacy (Schunk, 2008), building self-confidence (Ghahari & Basanjideh, 2015; Tolutienė, 2010) to make decisions quickly and emotional-motivational constructs (Doğan, 2016). Self-regulation, for instance, is a decisive aspect in learning and helpful in problem solving involving information management and reasoning (Kramarski & Michalsky, 2009). A self-regulated student can regulate his/her cognition and has a developed metacognitive awareness (Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008).

Self-efficacy, reflection on mind and own effectiveness, is an emotional-motivational construct in students' metacognition which has been emphasized in relevant studies (Flavell, 1976; Schraw, Olafson, Weibel & Sewing, 2012; Schunk, 2008; Tavakoli & Koosha, 2016). A student with higher self-efficacy, which is context-specific, has better desire to apply effective and extensive metacognitive strategies. The level of students' motivation, which directly influences on their performance, is in accordance with their attitudes.

A student with metacognitive awareness is a socialized person. In fact, metacognitive awareness teaching is not individualized instruction with absolute freedom of students. It is a social process whereby all people in the class are considered and lecturers share the learning responsibility with students without any fear of losing their authority. This sociological perspective emphasizes the effect of context. Therefore, in a globalized, interconnected world, a good level of metacognitive awareness allows students to participate in the modern multilingual society.

Metacognitive awareness is not innate and must be taught formally. Students' and lecturers' metacognitive awareness are interdependent (Garmabi & Zareian, 2016), lecturers who desire to foster metacognitive awareness in the classroom should commence with themselves and reflect on their own attitudes, practices, and perspectives in this regard (Atai, Babaii & Taherkhani, 2017; Masouleh & Jooneghani, 2012; Nazari, 2018). As Willis (2011) stressed, it is crucial to get access to lecturers' attitudes towards their students' level of metacognitive awareness and their related practices in class.

Still, metacognitive awareness is not always easy to integrate in a classroom. On one hand, lecturers can have students with various levels of metacognitive skills and on the other hand, the current training schedules are mostly traditional, unrealistically long, and underestimate the role of metacognitive awareness in students' success. As a matter of fact, the workshops offered by universities to get students fully involved in the learning process with small and large group discussions, activities and exercises do not often focus on the development of metacognitive awareness in the classroom (Pucheu, 2008). Since the notion of encouraging metacognitive awareness instruction in Lithuania and Iran, the two contexts of this study, has not yet penetrated the university curriculum, effective programs are required to guide lecturers to understand students' learning needs in this field (Prytula, 2012; Pucheu, 2008).

Metacognition is teachable (Al-Jarrah & Obeidat, 2011; Cheng, 2011; Coutinho, 2007; Sperling, Howard, Staley & DuBois, 2004; Young & Fry, 2008). Since lecturers play an important role in helping students to develop metacognitive awareness (Pucheu, 2008), lecturers' development of their own metacognitive skills is needed, so that they can support their students (Prytula, 2012; Pucheu, 2008). Therefore, effective teaching and learning depends upon both students' and lecturers' levels of metacognitive awareness (Pucheu, 2008).

The significance of identifying metacognitive awareness as an essential factor in university studies entails the necessity of understanding the nature of students' and lecturers' attitudes. Despite still being a fuzzy concept, hard to conceptualize and to implement, attitudes have been reported to play an important role in driving one's actions, namely in resorting to metacognitive awareness strategies (Bullock, 2010), and accepting and rejecting new information and how knowledge is employed (Borg, 2009, 2015, 2018; Mansour, 2013; Pajares, 1992).

Lecturers' attitudes are thought to include their educational or pedagogical attitudes towards their teaching (Borg, 2009, 2018; Pajares, 1992). Successful experience in teaching has a positive effect on the sense of efficacy and engages the lecturer to repeat the same behavior in teaching (Bandura, 2008; Bullock, 2010). Even if there is a systematic metacognitive awareness program imposed by some universities, lecturers will have the final word in implementing it or rejecting it based on their attitudes. Lecturers' actions are habitually or spontaneously driven by their attitudes more than by a pre-determined methodology or course book that they have to follow.

Despite the interlocked complex and dynamic process of learning and teaching, a clear connection has been found between lecturers' and students' attitudes. Lecturers' expectations and their attitudes towards their students are closely connected to each other and many students perform in the manner that their lecturers, even unintentionally and

non-verbally, expects them to perform (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Attitudes also have a connection to the level of expectation from learning and teaching (Bernat, 2008) and class practices (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013). Attitudes are also associated to one's social systems, to economic and political situations, class observation and experience, selection of objectives in class, what language lecturers and students think, believe in and act upon, and the level of consciousness (Bullock, 2010). Analysing students' metacognitive awareness attitudes can assist lecturers not only in reflecting on their own teaching and modifying it in a creative way based on their students' requirements and expectations, but also to guide the students to get rid of their detrimental notions of learning (Bernat, 2008; Eliss, 2008).

Previous studies have advocated for the usefulness of raising and training students' metacognitive awareness. However, it is fundamental that before starting metacognitive instruction in any setting, the nature of students' metacognitive awareness is explored through identifying both lecturers' and students' attitudes. To the best of the researcher's knowledge, no research has sought to analyse the overall level of metacognitive awareness in such a detailed manner and especially comparing students in two different countries, such as Lithuania and Iran, using Schraw and Dennison's Metacognitive Awareness Inventory (MAI) developed by them in 1994. Only a few research studies have analysed the metacognitive awareness of Lithuanian or Iranian university students in specific skills or subskills such as reading, writing, listening, speaking, grammar or vocabulary or language proficiency. Consequently, the lack of relevant research in both contexts burdens the researcher's mission in comparing and contrasting the findings of current research with the relevant international literature. In this direction, identifying and comparing the general metacognitive awareness levels of Lithuanian and Iranian university students considering two-dimensions – knowledge of cognition and regulation of cognition - their related subcomponents and the MAI items can help unveil weaknesses and strengths in each component in detail and contribute to furthering knowledge on this issue.

The relevance of exploring university students in these two settings is related not only to personal reasons, as the researcher is an Iranian national conducting her studies in Lithuania who is deeply interested in this subject, but also to contextual factors that nowadays affect research worldwide. In a globalized and interconnected world that allows us to access the latest information across the globe, various educational and learning issues can best be detected and solved from an international-comparative viewpoint. The students from Lithuania and Iran differ in language (though both languages originated from Indo-European), culture, social environment, interests, prior learning experience and curriculum. These factors have a huge impact on their learning (Zohar & Dori, 2012). Thus, investigating similarities and differences between these two countries in the field of metacognitive awareness can add valuable information to learning not only in these two contexts but also in other academic settings.

Scientific novelty and significance of the research. Despite the fact that the exploration of a student's metacognitive awareness at university studies is gaining momentum as an educational phenomenon, there is no simultaneous and comprehensive research globally aimed

at identifying students' level of metacognitive awareness by considering both students' and lecturers' attitudes. Therefore, the research field is scientific, developing and encompassing many unanswered questions and featuring the prevailing tendencies to employ a pragmatic view for finding ways to analyse metacognitive awareness in university studies. Furthermore, the research is new and unique since no studies have compared and contrasted the levels of metacognitive awareness in Lithuanian and Iranian university settings so far.

Metacognitive awareness has been analysed in the context of education in international studies mostly regarding students' metacognitive awareness (Adiguzel & Orhan, 2017; Aljaberi & Gheith, 2015; Costabile et al., 2013; Kallay, 2012), lecturers' attitudes towards metacognitive awareness (Bidabedian & Tabatabaei, 2015), lecturers' attitudes and knowledge (Borg 2015, 2018; Mansour, 2013), lecturers' attitudes, pedagogical knowledge and practice (Desautel, 2009; Ozturk, 2017; Spruce & Bol, 2015; Wilson & Bai, 2010). However, it is necessary to analyse this complex concept more in depth and both from students' and lecturers' perspectives. This study is significant since it provides comprehensive information concerning the analysis of metacognitive awareness by considering students' and lecturers' atitudes, lecturers' pedagogical knowledge (applied metacognitive awareness strategies), reported practices and the nature of what it means to teach students to be metacognitive. Moreover, since previous related studies have mainly focused on using either qualitative or quantitative methods, the present study expands the existing methods to include a mixed-methods approach which may contribute to a better understanding and to a more systematic, effective and in-depth exploration of this phenomenon.

In analysing metacognitive awareness, lecturers' attitudes are crucial because their attitudes towards student's metacognitive awareness may, intentionally or unintentionally, either impede the development of students' metacognitive awareness or provide them with an opportunity to reflect on various ways of enhancing their metacognitive awareness. Borg (2009, 2015, 2018) noted that lecturer's cognition and practice are related to each other which means that attitudes affect practices and practices can also cause changes in attitudes. Without such an insight on lecturers' attitudes, the analysis of students' metacognitive awareness may not be comprehended fully.

Moreover, effective teaching and learning depends upon students' and lecturers' metacognitive awareness (Pucheu, 2008). If improving students' metacognitive awareness continues to be an important part of educational reform, then raising lecturers' metacognitive awareness will be an important emphasis in education as well. In addition, learning how to learn which develops knowledge of one's cognitive process and improves learning skills is a worthwhile issue that may help people, especially university students.

The theoretical significance of this study is that the results may further contribute to the literature on the connection between students' and students' attitudes and promote understanding on how lecturers' attitudes towards students' metacognitive awareness are manifested into teaching practices in teaching and learning situations. Thus, the current research adds new information about metacognitive awareness to the growing, yet limited, literature.

The practical significance of this study is that it will not only contribute to both lecturers' and students' development of metacognitive awareness but will also guide the design

and implementation of future metacognitive awareness programs for lecturers. The findings can increase lecturers' pedagogical knowledge, which is associated with their teaching practice. The outcome can not only lead to the reformation of methodology but also contribute to formulate future interventions to change attitudes towards students' metacognitive awareness, to increase lecturers' instructional abilities by cultivating the use of appropriate and required metacognitive awareness strategies and removing those which obstruct learning, particularly in Lithuanian and Iranian university studies. The findings will also be useful for curriculum designers, policy makers and educationalists by helping them to gain an insight into this phenomenon.

The scientific problem, the research questions and null hypotheses of the thesis. Many students come to the university with limited study skills, over-dependence on the lecturers for their learning, lack of motivation and relying on a fixed curriculum. Therefore, we are faced here with the problem of how to identify students' level of metacognitive awareness and their preferred applied metacognitive strategies. The goals of many studies on the metacognitive field have been to recognize the level of metacognitive awareness of more and less efficient students and to provide instruction in the way to assist less successful students become more competent in their learning. For instance, students with higher scores on metacognition measurement are smarter, better predictors of their own learning process and control their cognitive processes, have better academic achievement, attempt to find out their own mistakes and interests and know what to do or need to do when they do not know what to do (Schraw & Dennison, 1994; Whitebread & Pino Pasternak, 2010) compared to less competent students with lower scores of metacognitive awareness. According to Hacker et al. (2009) and Jansiewicz (2008) metacognitive strategies are used as tools for becoming a proficient student. However, they claimed that there is always the possibility that less competent students deploy the same metacognitive strategies while becoming unsuccessful. and Lee and Oxford (2008) and McMullen (2009) asserted that applying the same appropriate metacognitive strategies does not guarantee that unskilled students will also become successful in learning. These problems impact the study process and student achievements in university studies.

Previous studies have advocated for the usefulness of raising and training students' metacognitive awareness. Yet, applying metacognitive awareness teaching has not been motivated sufficiently in both Lithuanian and Iranian university studies. Hence, it is fundamental that before starting metacognitive instruction in any setting, the nature of students' metacognitive awareness, their strengths and weaknesses in that specific setting are explored in detail.

Metacognitive awareness does not come naturally, but must be taught by sharing lecturers' responsibility to some extent (Masouleh & Jooneghani, 2012) and without any fear of losing authority in the classrooms (Madjar et al., 2013). Lecturers' voices have, however, been largely absent from such analyses, and little is actually known about what students' metacognitive awareness means to lecturers. This is a significant gap which affects lecturers' attitudes on how they teach metacognitive awareness (Borg, 2011). There is a body of literature on identifying the level of students' metacognitive awareness internationally

(Adiguzel & Orhan, 2017; Aljaberi & Gheith, 2015; Costabile et al., 2013; Kallay, 2012) but still there is limited simultaneous attention to lecturers' attitudes toward this concept. Consequently, identifying such attitudes is central to the process of understanding and promoting changes in the extent to which lecturers raise students' metacognitive awareness in their practice. That is why it is essential to access students' attitudes toward their own level of metacognitive awareness and those of lecturers in any specific context (Willis, 2011).

Teaching and learning are two sides of a coin and are not independent of each other. Metacognitive pedagogical knowledge is defined in this research as lecturers' knowledge regarding effective metacognitive strategy instruction for helping students to become metacognitively aware. However, despite the recognition of the role of lecturers' pedagogical knowledge in student metacognitive awareness level (Desautel, 2009; Ozturk, 2017; Wilson & Bai, 2010), limited research has been done globally to explore lecturers' metacognitive pedagogical knowledge and its relation to their metacognitive practices in the classroom. Since the early 1990s, different studies (Curwen 2010; Perry, Hutchinson & Thauberger, 2008) have enriched the problem by their observations that lecturers' instructions lack pedagogies of metacognition. Lecturers are required to be metacognitively aware, which is central to their teaching and helps fostering student learning (Kramarski & Michalsky, 2009; Pucheu, 2008; Schraw, Olafsan, Weibel & Sewing, 2012; Young, 2010). However, lecturers' lack of metacognitive awareness are associated with their students' lack of metacognitive awareness and being unsuccessful at fostering students' metacognitive awareness (Pucheu, 2008; Schraw et al., 2012).

Hence, educational problems tend to remain and make some lecturers still struggle to teach metacognitively due to a lack of sufficient knowledge about metacognition despite their theoretical studies (Veenman, 2012). The problem which is described by Kerndl and Aberšek (2012) indicates that lecturers can understand the relevance of metacognitive awareness, yet they still have difficulty in teaching it. A considerable lack of specification in teaching metacognition was identified, which highlights a lack of pedagogy of metacognition.

Furthermore, with globalization and internalization of higher education, the cross-cultural comparison study of metacognitive awareness and related strategies can not only greatly contribute to our understanding of different problems of human learning processes but also prevent us from being mono-cultural bias in our cultural mix classroom and society.

Therefore, the disconnection between the studies which identify students' attitudes towards their own level and applied subcomponents of metacognitive awareness and lecturers' attitudes towards those of students, the concept of metacognitive awareness, their own metacognitive pedagogical knowledge as well as the dependency between these attitudes and learning process on one hand, and the lack of such relevant and comprehensive research in both Lithuanian and Iranian university studies and the comparative analysis of these two contexts that can add precious information to learning process not only in these two settings but also in other academic contexts, on the other hand, led the researcher to explore all of these issues together pursuing answers to the following research questions: (i) How do the level, applied subcomponents and Metacognitive Awareness Inventory

items of metacognitive awareness of Lithuanian university students differ/compare with those of Iranians'? (ii) Is there any relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition? and (iii) What are Lithuanian and Iranian lecturers' attitudes toward the students' level and applied subcomponents of metacognitive awareness, metacognition awareness concept and their own related pedagogical knowledge in university studies? (iv) How do the trend, diversity of approaches and complexity of the concept of metacognitive awareness in Lithuanian university studies differ/compare with those of Iranian university studies?

Two null hypotheses were established for the purely quantitative research method used for analyzing the students' data: (i) There are no differences in the overall score of the metacognitive awareness or any eight sub-components (Declarative, Procedural, Conditional, Planning, Comprehension monitoring, Information management, Evaluation, and Debugging) between Lithuanian and Iranian university students. (ii) There is no relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition of Lithuanian and Iranian university students.

The object of thesis. Lecturers' and students' attitudes towards the metacognitive awareness in both Lithuanian and Iranian university studies, and the dependency between those attitudes and learning processes.

The aim and objectives of the research. The aim of the research is to compare both students' and lecturers' attitudes towards the metacognitive awareness in university studies on the basis of Lithuanian and Iranian cases, and describe the dependency between those attitudes and learning processes.

To achieve this aim the following objectives were set:

1. To compare students' attitudes toward their own level of metacognitive awareness, applied subcomponents and Metacognitive Awareness Inventory items in Lithuanian and Iranian university studies.
2. To identify the relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition.
3. To analyse lecturers' attitudes toward their students' metacognitive awareness level and applied subcomponents, the metacognitive awareness concept and their related pedagogical knowledge in both Lithuanian and Iranian university studies.
4. To set the discourse pertaining to metacognitive awareness to disclose the trend, diversity of approaches and the complexity of the concept in Lithuanian and Iranian university studies.

Research methodology. Within the framework of pragmatic paradigm focusing on what works in practice to best answer the research questions, mixed methods research which is a methodology for conducting research that involves collecting, analysing and integrating quantitative and qualitative research (Creswell, 2014) were applied in this thesis. Believing that the methodological combination was the only and most valuable way to respond to increasingly complex problems related to metacognitive awareness concept

and it is more natural and practical. It is natural because individuals tend to solve problems using numbers and words simultaneously as a humanistic requirement and combining deductive and inductive thinking. It is practical because the researcher is free to use all possible methods and techniques to respond to an investigative problem (Creswell & Plano Clark, 2011). Mixed methods research was appropriate for this study with considering the complexity that existed in the sociocultural environment of the participants which the participants' beliefs, sets of values and attitudes are embedded. Most importantly, it is significant for investigating metacognitive awareness due to the challenges in analysing it (Akturk & Sahin, 2011; Schraw, 2009). In fact, mixed methods make this multifaceted complex entity understandable.

The quantitative method aimed at the analysing of both Lithuanian and Iranian students' and lecturers' attitudes towards students' level of metacognitive awareness and the qualitative method aimed at understanding the lecturers' reported practice in this regard in university studies. With these goals in mind, the present study relied on random total sampling of 755 students and 20 lecturers. At the first stage, the data was collected from both Lithuanian and Iranian students (LG= 296, IG=459) with Schraw & Dennison questionnaire (1994) and the quantitative data analysis was conducted. The second stage of data collection from Lithuanian and Iranian lecturers (LG=10, IG=10) used a researcher-created questionnaire. At this stage, qualitative method was embedded in the quantitative one, however; the weight was on quantitative analysis rather than on qualitative data analysis. In fact, the qualitative approach allowed the researcher to "explore the behavior, perspectives and experiences in depth" (Vilelas, 2009, p. 105) of the lecturers. According to the typology of Creswell et el. (2003), the present research design can be classified as a mixed method, with a concurrent triangular research design adopting a pragmatic position.

The obtained data through the questionnaires was submitted for statistical analysis both descriptive and inferential. On the other hand, the data collected through open-ended questions of the researcher-created questionnaire were submitted to inductive or deductive qualitative content analysis developed by Krippendof (2013) which is a recursive process in which the data was reviewed to determine the major themes by the researcher and three raters. The final phase of the study consisted of the discussion of the data obtained through the two separate quantitative and qualitative methods which complement each other (Creswell & Plano Clark, 2011) and the integration of the results and their interpretation.

Limitations of the research. The main limitation for this study is the use of self-report questionnaires for both lecturers and students. Multiple methods can be used to analyse metacognitive awareness, such as think aloud and interview which enable the researcher to maintain eye contact with the interviewee and take a note of comments which are of particular interest which in turn leads to more comprehensive data. A further limitation is that the study did not address the actual student and lecturer employment of metacognitive strategies during teaching and learning. In fact, prolonged and in-depth class observation and triangulation of data from various sources which is gathered through different types of tools of measurement is needed. The researcher would like to address this gap in future studies by exploring how to accurately measure what students do in the classroom. One

of the limitations of this study is that the sample size for both groups of Lithuanian and Iranian was selected randomly from two capitals, Vilnius and Tehran, so it is a little bit difficult to overgeneralize the outcomes to other cities. Another limitation is that the number of lecturers was limited which can influence the generalizability of findings. Finally, the study was restricted to the undergraduate students in both groups.

Structure of the dissertation. The thesis consists of an introduction, four chapters, conclusions, references as well as appendices.

The introductory chapter highlights topicality, the novelty, originality and significance of the research, the scientific problem while demonstrating the aim, the object, the objectives and research questions framing this study.

The first chapter in addition to providing the necessary definitions and components related to metacognitive awareness and attitudes is intended to give an overview of research relevance and discuss the importance of dealing with them. Also, the previous studies regarding metacognitive awareness in Lithuanian and Iranian university studies are reviewed, compared and contrasted. The second chapter presents the methodology and design of the research to delve into the usefulness and understanding of the planning and implementation of the research. It also justifies the procedures and methods followed for the collection and analysis of the data. Chapter three explores the findings obtained from the data analysis, the questionnaires filled by the students and lecturers. Their attitudes towards how they learn and teach are analysed and presented. Chapter four discusses the most significant findings and results arising from the study in relation to international, Lithuanian and Iranian literature. Additionally, suggested recommendations are made as well as some possible practical implication for future studies.

The dissertation finalizes with a Conclusion, Bibliography and Appendices.

CHAPTER 1.
A DISCOURSE ON METACOGNITIVE AWARENESS IN UNIVERSITY STUDIES

1.1. Metacognitive awareness in university studies: The conceptual aspects

There is no doubt that the quality of education has increased with the development of sciences. In the recent decade or so, we have encountered a change of class structure and instruction style from a teaching-centered to a learning-centered one. As a result, teaching methodology has been improved from the domain of teaching to that of learning which encompasses active and innovative involvement of students in teaching and their thinking about all aspects of learning. Metacognitive awareness has been identified as the key factor contributing to this shift and the success in learning. In other words, the metacognitive awareness view of learning which considers learning as a dynamic process including active control over the cognitive process and helping the student to take charge of his brainpower and a student as a self-directed person who knows how, when, where and why to use each metacognitive strategy effectively for promoting lifelong learning and reaching higher academic achievement has had a great influence on this shift (Conyers & Wilson, 2016; Fleming, 2014). In addition, metacognitive awareness is associated with numerous fields of study, psychology, philosophy of mind, etc. Consequently, it is considered as a multidimensional and mysterious study subject including metacognitive awareness, metacognitive skills, metacognitive attitudes, meta-memory, self-regulation, self-management, executive control, etc. Thus, the importance of metacognitive awareness in university studies for academic achievement on one hand and the multifaceted nature of metacognition, on the other hand, have encouraged the researcher to provide a reliable theoretical overview that helps understanding not only of what metacognitive awareness and its distinct components are but also how they link together.

In this chapter, a comprehensive literature review, which serves as a vantage points that locates mainly the object of this research in the existing conceptual framework, is conducted. It encompasses three sections. The first section covers the complexity and scopes of metacognitive awareness in university studies. We begin our analysis with the metacognitive awareness origin and essence from the point of view of its historical development origin. Then, the components of metacognitive awareness are considered. Next, the metacognitive awareness level with related international previous studies is discussed. Finally, the consolidation of the insights on metacognitive awareness is summarized. The second section focuses on the concept of attitudes related to both lecturers and students and the relation of this concept to metacognitive awareness knowledge and practice in university studies are described. This section is essential due to the fact that in analysing metacognitive awareness in university studies, the researcher identifies both lecturers' attitudes towards students' metacognitive awareness and students' attitudes towards their own metacognitive awareness. Furthermore, the lecturers' attitudes towards their pedagogical knowledge and related practices are investigated. Finally, owing to the comparison of two different settings,

Lithuanian and Iranian, in university studies, the previous studies regarding metacognitive awareness in university studies are reviewed, compared and contrasted.

1.1.1. Metacognitive awareness and its components

Metacognition was stipulated by John Flavell in 1975 for the first time. He defined this term which has the rudimentary role in the supervision and management of cognitive learning as following:

> "One's knowledge concerning one's own cognitive processes and products or anything related to them (...) [and] refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes (...), usually in the service of some concrete goal or objective." (Flavell, 1976, p. 232).

After Flavell, Ann Brown (1987) was the most prominent scientist in this field and introduced various types of monitoring and regulation including checking, planning, selecting, inferring and making judgments about what a learner knows or does not know about how to perform an activity (Brown, 1987). She emphasized that:

> "Metacognition refers to understanding of knowledge, an understanding that can be reflected in either effective use or overt description of the knowledge in question" (Brown, 1987, p. 65).

As she mentioned above, metacognition has got two parts, awareness of knowledge and understanding of knowledge. However, we can say understanding has got numerous levels. Moreover, it is possible that a student applies knowledge effectively while he cannot describe how he used it.

Determining a single and comprehensive meaning for metacognitive term is not an easy task since metacognition is not only connected to various study fields, psychology, philosophy of mind,…etc but also multifaceted topics including metacognitive awareness, metacognitive skills, metacognitive attitudes, meta-memory, self-regulation, self-management, executive control, etc. That is why Flavell (1979) called this higher-order cognition "fuzzy" and Brown (1987, p. 65) described it as "mysterious". Though there have been a great number of attempts to conceptualize the construct of metacognitive awareness as a pivotal factor in learning, its definition is still not consensual. As Hacker et al. (2009) explains "going meta" is another term used to refer to metacognition which means you as the student are considered as another person who observes the learning process. Metacognition includes awareness of the learning process, learning evaluation, creating metacognitive strategies and implementing these strategies (Hacker et al., 2009). According to Flavell metacognition has got two different but interrelated parts, metacognitive knowledge which is awareness of one's thinking and metacognitive regulation which is the ability to manage one's own thinking process. Flavell (1979) categorizes three sorts of metacognitive knowledge: 1) Awareness of knowledge which is when it involves understanding what one knows, what one does not know, and what one wants to know. This category may also include an awareness of other's knowledge. 2) Awareness of thinking which is understanding cognitive activities 3) Awareness of metacognitive strategies and how to use and describe them. Metacognitive awareness may be defined as conscious thinking of one's own learning and

the activity of monitoring and controlling one's cognition (Young & Fry, 2008), or knowledge of "self-instructions" to control and organize one's performance in tasks (Veenmanet, 2012). It has also been pointed out as a crucial factor in learning and student autonomy (Balcikanli, 2011). Livingston (2006) called it "second-order cognition" while Gok (2010) defined it as the student's knowledge about his or her process of cognition.

Many researchers have found this umbrella term, with an ambiguous and slippery meaning, as a teachable and learnable construct in various areas of study. Systematic metacognitive awareness instruction with an indispensable approach to education is highly flexible, feasible and desirable. Lecturers with such instruction can train their students to go beyond what lecturers and programs provide for them as audiences and witnesses of their own achievement. It is hard to teach, though. As Sternberg (2009) said, metacognitive awareness develops with practice but how it can be conceptualized, evaluated, and raised is not an easy task. Since measuring metacognitive awareness contributes to a better understanding of this concept, its components which were considered in this research were presented in the next parts.

According to Schraw and Dennison's theory of metacognition (1994), it is defined as thinking well, understanding and controlling one's learning. It includes two sections "knowledge of cognition" and "regulation of cognition". Knowledge about cognition includes three sub-categories of declarative knowledge (knowledge about self and about strategies), procedural knowledge (knowledge about how to use strategies), and conditional knowledge (knowledge about when and why to use strategies). Regulation of cognition encompasses five sub-categories of planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation. Another theory of metacognitive regulation which is widely cited in the research literature is Nelson and Narens' (1990) Model of Metacognition includes two levels of the object level and the meta level. The object level is where cognitive processes or "one's thinking" happens. At the object level, cognitive strategies (e.g., decoding) are used to help the student to achieve the particular goal (understanding the meaning of the text). The meta (higher-order) level is where your "thinking about thinking" takes place and metacognitive strategies are recruited as the student is thinking about how well he understood the text (monitoring). If he did not get well, he may reread or use a dictionary (controlling).

Two main words related to metacognition are self-regulation (self-regulated learning) which is explaining self-regulation in academic context, and executive functioning, which is necessary cognitive processes for reaching the objectives. The behavioral output for these executive functions is called metacognition (Jansiewicz, 2008). Self-regulation and metacognition are sometimes used interchangeably. However, Whitebread and Pino Pasternak (2010) state that "metacognition refers specifically to the monitoring and control of cognition, while self-regulation refers to the monitoring and control of all aspects of human functioning, including emotional, social, and motivational aspects" (p. 693). Lysaker et al. (2020) and Moritz and Lysaker (2018) focused on the practical goals of metacognitive knowledge and the self-regulatory parts of metacognition as Flavell (1979) did. As Moritz and Lysaker (2018) mentioned metacognition involves recursive processes in which individuals' specific experiences are interpreted on the basis of an awareness of the larger context in which those specific

experiences happen. Furthermore, Lysaker et al. (2020) conceptualized metacognition as a spectrum of activities which need the recognition and potential integration of thoughts, feelings and embodied experience. This definition suggests that metacognitive activities require the abilities to both notice basic and distinct emotional, cognitive, and embodied experiences and to understand the relationships they have to one another.

Caliskan (2010) states that a student who applies the appropriate metacognitive strategies, can foster metacognitive awareness by thinking regarding the subject of what he is going to learn and planning time that he is going to allot for learning. Furthermore, it seems that metacognitive awareness is the most crucial parameter in motivation creation. Any positive and negative changing in metacognitive awareness has the same changing direction in student's motivation too. There are different names for the word "motivation" which is determined by its function. According to Schunk (2009) motivation is when a student attempts to be the best or when he spends a lot of time to obtain his goals. Motivation has got great influence on the student's learning process, strategies, cognitive process and metacognitive awareness and helps him to reach his pre-determined objectives.

Based on Oner (2008), we have got two types of learning: deep and surface. The characteristics of deep learning consist of a tendency to understand the topic, having better presentation about that topic, expressing new perspectives based on past experience and being able to have justification. Moreover, he emphasizes that surface learning can be recognized by a willingness to fulfill the fixed forced topics, memorize their information, fail to distinguish between main and sub-topics, concentrate on independent points, be unable to make a link between the sub-topics, not be able to reflect on learning, and apply the correct metacognitive strategies to achieve the goals.

Tacit, aware, strategic and reflective are various kinds of students (Harvey & Goudvis, 2007). "Tacit" which is student's unawareness regarding metacognitive strategies. "Aware" which is when a student thinks about what he plans and does in learning deliberately. "Strategic" which is student's organization about his thinking and "reflective" which is students are not only strategic about their thinking but also reflect upon their learning whilst it happens, with considering the effective metacognitive strategies and revising the unsuitable one to the most appropriate one.

The following part presents the theoretical and conceptual framework of this study and owes a lot to Schraw and Dennison's theory (1994). The two main components of metacognitive awareness that have been established by most of the experts are knowledge of cognition and regulation of cognition (Harris, Santangelo & Graham, 2010; Ma & Baranovich, 2015; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Young & Fry, 2008). Knowledge of cognition refers to what individuals know about their own cognition. Knowledge of cognition has a significant role in monitoring the productivity of metacognition, approaching the questions 'what', 'how', 'when', and 'why' (Ma & Baranovich, 2015), assessing the cognition, reflecting on what is happening in the brain is deeply molded by formal education. This component has three subcomponents: declarative, procedural, and conditional knowledge (Schraw et al., 2006, 2012). Age is an effective factor on the development of the knowledge of cognition. Adults generally have higher levels of knowledge of cognition than children and adolescents (Schraw et al., 2006).

An individual's cognitive knowledge (Schraw & Moshman, 1995), which includes his/her attitudes towards his/her capabilities (Tarricone, 2011), is regarded as declarative knowledge. This type of knowledge has an influence on an individual's performance, motivation, learning and self-efficacy. Recognizing the limitations of our own mental system is a case in declarative knowledge. There is no common agreement about if individual attitudes are part of one's metacognitive awareness. The current paper takes sides with Flavell perspective in this regard and considers one's attitude as forming one's metacognitive mechanism. Therefore, we can say that attitude is a subcategory of declarative knowledge. Declarative knowledge as the simplest part of cognition is the knowledge of what one knows, and the knowledge of how to learn and what aspects affect the learning process. In fact, it is the insights of a person about one's learning processing ability and the factors that affect one's performance (Backer, Keer, & Valcke, 2011). This knowledge can be felt when an individual detects a gap between his understanding and the demands of the text or when knowing one's own weaknesses that require the application of procedural knowledge to overcome them. A student with declarative knowledge about a particular strategy is more critical in using that strategy again.

Low efficacy and self-motivation may be due to a lack of procedural knowledge (Ma & Baranovich, 2015), are parts of the procedural knowledge, which is mutually supportive with declarative knowledge. Procedural knowledge is as a method applied to get a learning goal with providing the student a sense of security in tackling a learning problem. Procedural knowledge is the knowledge of the strategies that can be used to improve performance, which can be considered as an admission mechanism for abstract concepts assists the students to get access to the new scientific knowledge (Zoupidis, Pnevmatikos, Spyrtou, & Kariotoglou, 2016). Procedural knowledge refers to the individual's awareness considering how to employ strategies to solve problems (Harris et al., 2010; Schraw et al., 2006). Taking notes, slowing down to achieve main ideas, skimming unnecessary information, using mnemonics, summarizing vital information and testing oneself periodically (Schraw et al., 2012) are good examples of this knowledge. The higher level of procedural knowledge leads to spontaneous and prompt employment of appropriate strategies for the regulation of cognition (Schraw & Moshman, 1995).

Conditional knowledge means that an individual knows when and why to apply declarative and procedural knowledge (Herscovitz, Kaberman, Saar & Dori, 2012; Young & Fry, 2008) or is "to determine the appropriate conditions in which to apply procedural and declarative knowledge" (Harris et al., 2010, p. 228). Individuals with a high level of conditional knowledge can choose the most suitable strategies for each situation (Schraw et al., 2012). Both skillful and unskillful learners can be aware of strategies; however, they cannot be able to explain why they have applied those strategies, so it can be concluded that there exists a gap between students' declarative, procedural and conditional knowledge. Conditional knowledge, the culmination of cognition, exploits special strategies in appropriate conditions. It is an inductive reasoning for making a decision based on facts (Kiesewetter et al., 2016). This knowledge has a great impact on the implementation of the cognition regulation, which moves the individual's conditional knowledge to the higher pose than his/her declarative and procedural knowledge. It is regarded as the knowledge which develops

faster than other knowledge with a great impact on the level of the individual's metacognitive awareness. Conditional knowledge is as a key for declarative knowledge to become functional in order to derive benefit from the procedures (Cikrikci & Odaci, 2016). A new learning demands the application of the suitable strategies that stimulates the development of conditional knowledge. A wide variety of the new situations requires the development of the creativity and divergent thinking which are regarded as parts of conditional knowledge (van de Kamp, Admiraal, & Rijlaarsdam, 2016).

Activities that assist students in regulating their learning, which consists of five subcomponents of planning, monitoring, evaluation, debugging and information management, are considered regulation of cognition (Schraw & Dennison, 1994). Suitable strategies and cognitive skill selections for a good outcome are called planning which encompasses target setting, applying related background knowledge, allocating resources and time management (Schraw et al., 2006). The subcategory of organizing is information management (Pucheu, 2008). The active process of organizing, elaborating, summarizing, and selectively concentrating on fundamental information for mental restructuring is known as information management (Pucheu, 2008). During information management, the student applies a chain of strategies to process information properly (Schraw et al., 2012). Schraw and Moshman (1995) explained monitoring as finding out the errors, analysing strategy effectiveness and being aware of making mistakes. For instance, instructor monitoring includes students' evaluation of their thinking through verbal and non-verbal feedback. Evaluation is a student's own learning evaluation, reevaluating his/her objectives, changing the estimations and ascertaining mental gains (Schraw et al., 2012). The evaluation subcategory is the post hoc analysis of performance and strategy effectiveness (Pucheu, 2008). Debugging means applying strategies for error correction and asking for help from peers when you are faced with a problem during the learning process (Schraw et al., 2012).

1.1.2. Other scopes of metacognitive awareness

The metacognition awareness construct is not completed without SRL, which assists to control one's own behavior and connects cognition and metacognition (Hacker, Dunlosky & Graesser, 2009; Schraw et al., 2006; Zimmerman & Schunk, 2011). Some researchers have considered metacognitive awareness and self-regulated learning as the same concept. Others have asserted that SLR is a more comprehensive construct than metacognitive awareness. SRL (Sperling et al., 2004) involves an underlying sense of self-efficacy, motivational and emotional constructs and is the means to alter self-belief to effect. Therefore, it is essential for lecturers to discover students' learning processes and their students' level of metacognitive awareness to improve metacognitive and self-directed instruction (Tanner, 2012).

Metacognitive strategies can make the students more independent, self-directed and active. In other words, metacognitive strategies include thinking about mental activities and monitoring during learning and evaluating after learning. SRL strategies encompass both cognitive and metacognitive strategies which assist students to control, supervise and improve their own learnings and also help SRL (Zimmerman & Schunk, 2011).

Self-evaluation, organizing and transforming, goal-setting and planning, seeking information, environmental structuring (arranging the setting for easier learning), self-rewarding and self-punishment for success or failure in learning, seeking social assistance (getting support from classmates and instructors) and reviewing are all various types of self-regulated strategies applied by a self-regulated student. Cognition, metacognition, motivation and content (different behaviors in different conditions) are four sorts engaged in SRL (Schraw, Crippent & Hartley, 2006).

According to Zimmerman and Schunk (2011) self-regulation is the degree that a student is metacognitively, motivationally and behaviorally active in his learning process. It is believed that the major cause of less successful students in learning is lack of enough degree of self-regulation. Students who apply more metacognitive strategies are more autonomous and self-motivated. They are involved in more volunteer activities and recruit more planning, organizing, monitoring,…etc. Self-regulated students have some characteristics. They are good thinkers, self-starters and autonomous. They know many metacognitive strategies, aware how, when and where to apply those strategies, have motivation to discuss about metacognitive strategies, believe in trying and not fearing of loss, have a wide range of information about various topics and have confidence (Zimmerman & Schunk, 2011). We can simply conclude that the students who know how to recruit motivational, cognitive, metacognitive components are good self-regulated learners.

An individual's goal, motivation, emotion, belief, self-efficacy, attitude and interest are part of the factors that have an impact on metacognitive awareness, while at the same time being affected by metacognitive awareness. Knowing these factors helps us to better understand the nature of metacognitive awareness.

As Zimmerman and Moylan (2009) claim SRL consists of planning, which leads to self-efficacy, and performance, which is the result of self-observation and reflection. Reflection, the core of metacognition, checks if the set objectives for learning through applying metacognitive strategies are the same as the final academic achievement. Coutinho (2008) believes that metacognition and self-efficacy are the main factors for expanding SRL. He states that the relationship between metacognition and the achievement are mediated by self-efficacy. Consequently, we can say metacognition is related to motivation and self-regulated students are more metacognitively aware and motivated than others. Motivation is a rudimentary element for self-regulated students since it gives enough confidence to them to believe that their minds are capable of successfully performing metacognitive processes before regulating learning. Zimmerman and Moylan (2009) find that with recognizing the level of self-efficacy, we can determine the amount of applying the students' SRL strategies. Successful learning is dependent on the level of meta-cognitive awareness of the student and the amount of his self-belief. Having feedback including questioning and replying which is leading to better performance is more in students with high level of self-efficacy than those with low level of self-efficacy. This means that lecturers should use activities which contribute to feedback in the class to have self-regulation and self-efficacy. This definitely will lead to having more internal feedback in the students which make them more self-regulated, confident and motivated. (Clark, 2014).

Veenman (2012) elaborated on the supervisory role of metacognition over cognition

when he mentioned that without students' motivation and metacognitive knowledge, judging and monitoring comprehension fail to happen. Students' metacognitive awareness can be affected by their characteristics including self-belief and attitude (Veenman, 2012). If a student believes that he/she is not good at a study subject, he/she will underestimate his/her competence which reduces motivation. In other words, if he/she is sensitive to explore more information, he/she will be encouraged to extend his/her knowledge.

Papaleontiou-Louca (2008) and Flavell (1976) have considered metacognitive awareness more psychological and affective than cognitive. Therefore, we can add to the previous definition of "thoughts about thoughts" individual knowledge about his/her own knowledge processes, cognitive and affective states, and his/her ability to consciously and deliberately monitor and regulate them, as Papaleontiou-Louca (2008) defined it. Learning interests and attitudes (Ganal & Guiab, 2014) are considered the emotional factors associated with confidence and level of success in learning (Bedel, 2012; Guner, 2012).

While self-efficacy, whose higher level indicates a higher level of metacognitive awareness, is an emotional-motivational construct in students' metacognition, individuals with high level of self-efficacy and abilities due to various limitations and lack of encouragement cannot always perform based on their attitudes and capacities. In this case, efficacy could not predict performance which is called metacognitive miscalibration, i.e., students' misevaluation of their competency level due to being over self-confident or under self-confident (Moores et al., 2006). Thus, self-efficacy should be checked and reevaluated regularly (Doğan, 2016).

By considering the relationships between goal (mastery or performance goal), metacognition, and performance we can have a more suitable metacognitive awareness instruction, given that these are good indicators of levels of success of the students in the future from early entrance to the university. Students with mastery goals are those who apply more metacognitive strategies and have deep learning and higher metacognition levels and achievement compared to students with performance goal, those who consider merely the grades (Coutinho, 2007). In fact, metacognition can be considered as a mediator between mastery goal and learning.

1.1.3. Metacognitive awareness level in university studies

With the emergence of communicative methodologies and in a world with an abundance of resources to get access to, the metacognitively aware student who can take control of his learning and knows how to learn with the support of his lecturer has become the core of attention (Schraw et al., 2012). A high level of metacognitive awareness in a student is broadly acknowledged as the most valuable qualification for successful learning. It is becoming as a tool for students to adopt not only to educational demands but also to general concerns of life which cannot be developed in traditional teaching which limits the context of learning (Schraw & Dennison, 1994; Schraw et al., 2012). Moreover, the poor level of metacognitive awareness is not enabling students to participate in the modern multilingual society. In fact, sociological perspectives emphasized on the effect of context, including globalization and global economy, not isolation of this process (Richard, 2007). Students with metacognitive awareness have special behaviors such as setting realistic and reachable

goals, selecting effective methods and techniques as well as being active and curious in various stages of learning from planning to assessment and being good at problem-solving. A metacognitivly aware student is an individual who is socialized. In reality, teaching to be a metacognitivly aware person is not individualized training with absolute student independence. It is a social process in which all people in the class are taken into consideration and lecturers share the responsibilities for learning with the students without any fear of losing their authority. The influence of contextual meaning is highlighted by this sociological perspective. Hence, a good level of metacognitive understanding in a globalized and interconnected world enables students to participate in the new multilingual society. Moreover, metacognitive intelligence is not natural and should be formally/systematically taught. The metacognitive knowledge of student and lecturer is interdependent, lecturers who wish to promote metacognitive awareness in the classroom should continue with themselves and reflect on their own attitudes, practices, and perspectives in this regard (Masouleh & Jooneghani, 2012). As Willis (2011) emphasized, exposure to the views of lecturers about the degree of metacognitive knowledge of their students and their associated activities in the classroom is imperative.

Here we discuss the most prominent international scholars' previous studies about metacognitive awareness level. Costabile et al. (2013) analysed Italian university students' level of metacognitive awareness and found that they had an impression of higher competence in the areas of organization and self-evaluation, and lower competence in the areas of processing depth. They discovered that the development of sense of self-identity in adults is one of the reasons for improving metacognitive awareness during this period. Yet, the metacognitive awareness levels of American freshmen were found to be low in the study carried out by Sperling et al. (2004).

In Turkish university settings, Yesilyurt (2013) determined that the levels of using metacognitive strategies by students were at the intermediate level, while Adıgüzel and Orhan (2017) identified the metacognitive awareness levels of students to be high, which means they are aware of their own strengths and have the potential of developing new learning strategies. This enables them to focus more efficiently on what they still need to learn (Metcalfe & Finn, 2008). They conclude that students with high metacognitive levels need to be instructed so that they can use these characteristics to facilitate learning.

Alkan and Erdem (2014) in Turkey, Kállay (2012) in Romania and Young and Fry (2008) in the US (Texas) analysed the metacognitive awareness levels of students in university contexts and found them to be high. They discovered that the levels of declarative knowledge and conditional knowledge were higher than procedural knowledge. Their justification for the students' weaknesses was that they usually do not allocate enough space to challenging activities that need employing various metacognitive strategies. Among the subcomponents of regulation of cognition, debugging was the highest one and the lowest score was obtained in evaluation. They also stipulated that skillful students attempt to apply numerous metacognitive strategies when a strategy does not work, while novice students stick to one strategy even if the strategy does not yield the necessary outcome.

In Jordanian university contexts, while Aljaberi and Gheith (2015) showed that there was a moderate level of metacognitive awareness among the students, Al-Hamouri and

Abu Mokh (2011), Aljarah and Obeidat (2011) and Yunus, Suraya and Wan Ali (2009) discovered relatively high levels of metacognitive awareness. The sequence of metacognitive awareness levels of subcomponents from the strongest to the weakest were: debugging, information management, conditional, procedural, monitoring, planning and declarative respectively. They claimed that the inconsistency among the obtained results can be due to the self-reporting nature of the instrument, which does not reflect the real level of metacognitive thinking. Indeed, students can be analysed about the acquired metacognitive skills, yet not about how the way they practically employ them in a real learning situation.

1.1.4. Consolidation of the insights on metacognitive awareness use in university studies

Activities related to metacognitive awareness that encourage self-regulating learning and applying metacognitive strategies should be included in class activities and instructions, especially in university studies.

It has been highly notified that metacognitive awareness and self-efficacy are rudimentary factors through learning process. Accordingly, any positive or negative change that occurs in the level of students' motivation and metacognitive awareness has got a direct influence on the learning outcome and achievement. Furnishing students with SRL that leads them toward being a self-directed and autonomous student is one of the main objectives of modern education. (Bandura, 1997). Students should entail the fostering of the metacognitive awareness to apply new and appropriate metacognitive strategies. In our educational system, planning, controlling and evaluating learning process, self-assessment and self-regulating by students are not present highly in the class activities. This reason is another point once more to call for a learning environment in which students have more self-confidence and receive more positive feedback from their classmates and lecturers (Clark, 2014).

Since we cannot draw a boundary line between self-regulation, SRL and metacognition, distinguishing a line between cognition skills and their related strategies and metacognitive skills and their related strategies is a sophisticated task now and then. Metacognitive strategies are regarded as the most important factor for putting self-regulation into effect. In fact, there is no doubt on influence of metacognitive self-regulation on fruitful and effective learning.

Based on Zimmerman and Moylan (2009), for having ultimate learning, concentrating on cognitive dimension of self-regulation is not sufficient and focusing on a student's affection and motivational process and his self-belief is required as well. He believes that self-regulation is more than metacognitive skills. Therefore, he emphasizes on noticing the motivational, social and behavioral parts of self-efficacy while fostering metacognitive awareness and recruiting metacognitive strategies more than before. As a result, metacognitive strategy awareness guides the student to choose the most appropriate metacognitive strategies while the student's motivational attitude is a determining factor in how to deploy the metacognitive strategy. In other words, there is a close relation between motivational attitudes and metacognitive strategy recruitment. Furthermore, as studies of Zimmerman and Schunk (2011) demonstrate, a

close link exists between students' academic self-efficacy and their self-regulation strategy application. Those students who believe in their own learning and have better academic performance and cognitive engagement are more likely to deploy more SRL strategies and attempt to be involved in more challenging academic activities in order to attain the pre-determined objectives. A self-regulated student is the same as a self-efficacious learner who insists on his attitude though there is a lot of anxiety and nervousness and has got great motivation to reach his educational aims. It can be concluded that efficient self-regulation supports the student's self-efficacy to self-regulate his learning.

In the university setting, we can make best use of metacognitive awareness by prioritizing it with both explicit cognitive and metacognitive instructions, supporting metacognitive practices, promoting metacognitive talks via monitoring, evaluating performance and using metacognitive strategies effectively, making learning goals explicit and helping students to plan and monitor toward achieving these goals, encouraging cooperative group work among the students to evaluate their own work and the group work, using self-assessment, focusing students' metacognitive knowledge regarding recruiting metacognitive strategies through free discussion in the class including when, how and why the strategies work and supporting the students' autonomy.

Finally, there are numerous specific activities for the lecturers which are fruitful for fostering students' metacognitive awareness. They can model metacognitive strategies by thinking aloud, managing peer interactions and having more related internalized processes, working with other lecturers to exchange recent and old experience in metacognition training, updating their own knowledge through on line specific related sources for trainers and workshops and using designed material to support students in the process toward metacognition awareness.

1.2. Students' and lecturers' attitudes

It is very hard to define the concept of attitude despite its importance as the most precious psychological concept to lecturers' education. The complexity for discovering lecturers' attitudes is because of various perspectives in defining and conceiving the structure of this concept and its poor conceptualization. It encompasses different examples, instances and entities which can be distinguished by different criteria, of which all of them do not share the same fundamental criteria. Its thematic features overlap merely partially. Attitudes as a confusing and messy concept affect making sense of the world, perceiving, accepting and rejecting new information and how knowledge is employed (Borg, 2009, 2015; Mansour, 2013; Pajares, 1992). Attitudes have significant effects on driving one's actions and utilizing metacognitive awareness strategies (Bullock, 2010). Understanding one's attitudes needs inference being made about the underlying mind state of that person such as one's saying, intention and behavior consciously or unconsciously which is not an easy task since that person may be unable or unwilling to express one's attitudes (Borg, 2009; Bullock, 2010; Mansour, 2013) that causes inconsistency between attitudes and practices (Mansour, 2013). Students' attitudes in the field of learning indicate an overall picture of their expectation from the learning process (Bernat, 2008). Attitudes can be shaped according to

the students' personal practices, evidences, rules originated from any method or approach and personality and brought to the class. Identifying the students' attitudes can assist lecturers not only to reflect on their teaching and modify it in a creative way based on their students' requirements and expectations but also to guide the students to get rid of their detrimental notions in learning (Bernat, 2008; Eliss, 2008).

Lecturers as representatives for change in a world are considered as the most fundamental component in students' success in any pedagogical system. Lecturers' attitudes are more crucial factor than their knowledge on having effective teaching (Xu, 2012). In fact, lecturers' attitudes have an effect on their consciousness, teaching behavior and methods, coping with teaching issues, formation of a learning environment and students' learning and motivation. As Xu (2012) emphasized lecturers' attitudes are associated with their values, world view, social history, culture, personal education and students. If there is a systematic metacognitive awareness program imposed by the university for teaching, it will be finally the lecturers who intentionally or unintentionally bring or reject it based on their attitudes. Lecturers' attitudes are considered as their educational or pedagogic attitudes on their teaching (Borg, 2009, 2018; Pajars, 1992). Successful experience in teaching makes a positive effect on the sense of efficacy and engage the lecturer to repeat the same behavior in teaching (Bullock, 2010). Attitudes are associated to the lecturer's social systems, economic and political situations, class observation and experience, selections of objectives in the class, what language he thinks, acts and believes and the level of consciousness (Bullock, 2010). Lecturers' actions habitually or spontaneously are driven by their attitudes more than determined methodology and course book that they have to follow. Lecturers' attitudes and their expectations from students are closely connected to each other and many students perform in the manner that their lecturers even unintentionally and non-verbally expect them to perform. (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Base on Rosenthal's (1997) affect-effect theory, the lecturers' level of expectations of their students' performance have a direct influence on both the students and ones' own effort for teaching quality. In fact, any class can enjoy merits of not only climate which is the lecturer's effect but also those of input, which is training qualification (Rosenthal, 1997; Woodrock & Vialle, 2011).

Despite the interlocked complex and dynamic learning and teaching process, there has been a clear connection between the attitudes of lecturers and students. The values of lecturers and their perceptions of their students are closely linked and many students perform in the manner their lecturer wants them to act, even involuntarily and non-verbally (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Attitudes are also associated with learning and teaching expectation (Bernat, 2008) and class practices (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013).

1.3. Previous research on metacognitive awareness in Lithuanian and Iranian university studies

This part is compiled from a selection of articles and thesis about metacognitive awareness done separately in Lithuania and Iran in the last two decades. The short summary of each study has been presented, grouped under various themes. The research range is wide

involving different aspects associated with metacognitive awareness. The aim of this part is to characterize briefly the problems, solutions, significant points and the trends in the sphere of metacognitive awareness both in Lithuanian and Iranian university studies to compare and contrast these two different contexts afterwards.

1.3.1. Previous research on metacognitive awareness in Lithuanian university studies

Metacognitive awareness and reading and writing skills. This section includes investigations done by researchers from Lithuania on the prominence of employing metacognitive strategies in reading and writing skills. They mainly heed to the fact that reading is strongly integrated with thinking processes and metacognitive skills. Students are expected to connect their reading skills with their metacognitive spheres effectively.

Melienė (2008) in her doctoral dissertation evaluates the usefulness of teaching and learning metacognitive reading techniques, escalating reading motivation and increasing text comprehension capabilities. The researcher monitors the lecturer's class activities and reveals that they seldom deal with any activities associated with the students' familiarity and environment, modification of errors, encouragement of engaging in the process of evaluation and problem solving. To put differently, the teacher-oriented teaching comes to play with a focus on students' independent work. Surveying questionnaires displays that external reading motivation and reading for evaluation not for curiosity or interest are the most noticeable areas. Moreover, students hardly ever read for social purposes but principally read in the classroom and for assignments. The findings of modelling teaching/learning metacognitive techniques unveils that great encouraging transformations in underprivileged and average students' text comprehension capabilities have taken place. No considerable impact has been associated with the capability to understand text and reading motivation of students enjoying acceptable text comprehension capabilities and strong reading motivation. Melienė (2008, p. 27) asserts that the context factors including the disposition of the lecturer and his internal motivation to teach are also important for the learning of metacognitive strategies.

Kavaliauskienė and Suchanova (2010) in their article "Read-to write-tasks in English for special purposes classes" take into account students' perspectives to online reading and writing and checking students' self-evaluation of these skills at Mykolas Romeris University (MRU). One of their suggestions towards promoting students' efficiency in "read-to-write-tasks" is "to train learners in using metacognitive reading strategies with the view of teaching to distinguish important information from non-essential details and selecting the right register" (p. 64).

Vaičiūnienė and Užpalienė (2013) aimed at surveying 89 MRU students' metacognitive online reading strategies in a foreign language. Online Survey of Reading Strategies (SORS) was the name of the instrument prepared according to Mokhtari and Sheorey's (2002) categorization of reading metacognitive strategies, was used in this study. They emphasize on the role of lecturer for developing the students' metacognitive reading strategies by focusing their attention on the metacognitive reading techniques of the used instrument,

discovering students' preferences for online reading strategies and recognizing their obstacles and the most typical online reading paradigms, escalating students' awareness of strategies which is the foundation of motivation and enhanced learning environment to help them to pick up suitable techniques as well as considering the training constituent of metacognitive online reading strategies in students' online reading. The obtained result of this study is that the students enjoyed intermediate level of metacognitive reading strategy users which means they are able to read the text closely on line to resolve the reading obstacles. The mean score of the Problem-Solving strategies reveals the highest use in comparison to the utilization of Global and Support strategies.

Kriaučiūnienė and Mažuolienė (2017) in her study named "Developing reading skills of the new generation students" find out that Vilnius University (VU) students' reading skills requires to be expanded more in the teaching/learning procedure. To escalate reading understanding in foreign languages, the reader needs not only linguistic but also cognitive and metacognitive reading skills.

Mačiulienė (2019) in her master thesis "Learning strategies' impact on reading skills of informative text" highlights enhancing reading skill of students by employing learning strategies encompassing metacognitive strategies.

Metacognitive competence in the shift from the traditional into life-long learning paradigm. During the 20th century the Lithuanian education system has been pursuing the classical model which has not met individual and society's needs any more for self-improvement and self-expression. With the emergence of contemporary teaching/learning models, metacognitive competence has discovered its prominent contribution.

As metacognitive processes are interrelated with reflection and critical thinking (Jovaiša, 1998), the following article also is considered in our study. Baranauskienė (2002) in her investigation at Šiauliai University unveils a number of facets of the transition from the conventional teaching into lifelong learning model (i.e. interactive-reflective). She considers this model as a flexible module which is open to modification and aids to replenish the space between theory and practice and enables students to employ both empirical knowledge and demonstrate feedback. The number of the participants was twenty-two students from Šiauliai University making an attempt to designate the subjects revolving around English as a second language (ESL) teaching. They came up with their own experience as language students, examine lessons in multifarious schools, returned to the university and took part in team-based negotiations on what they have explored, compared their experience with others to face a unanimity. The lecturers were not allowed to let his/her thoughts interfere with the students' supervision. Jucevičienė (1998) maintains that the transition from teaching into learning model in higher education culminates in presenting novel characteristics, expanding more flexible curricula and demonstrating great dynamics and flexibilities to the world and this causes a confrontation for the countries preserving conventional principles of education, and apprehending that in the universities where well-built subcultures come into play, the one who endeavors to present some unknown encounters will have to meet not only personal but also group opposition (as cited in Baranauskienė, 2002, p.45). The outcomes revealed that the straightforward shift of the reflective model is objectionable to a great number of participants of the experiment. In

order to provide transition in the model in the countries with conventional socio-cultural insight of education, it is essential to provide constructive preconditions for the materialization of the model.

Burkšaitienė (2006) conducted a study on a sample of students in the first year of their Bachelor degree studies at various universities in Lithuania, including MRU and Vilnius Gediminas Technical University (VGTU) to investigate the methods of learning a foreign language (English) as constructivist perspective is concerned. The theory of constructivism stresses that knowledge is neither absorbed nor obtained, but built and is very contingent upon the environment and the setting in which it occurs. Terhart (2003) averts that this construction process is invariably established on a pre-dwelled knowledge and experience. Therefore, the issue of monitoring learning through external elements has transformed its focus to the issue of learning as influenced by internal factors. (as cited in Burkšaitienė, 2006). Furthermore, teaching is bound to motivate learning in the manner that the student builds his/her personal world in a particular social setting and a socially imparted process. Educators in a constructivist setting focus on students' dynamic interaction to construct their autonomous knowledge and teaching strategies including self-directed learning and collaborative learning which play a significant role in reflection about one's individual learning. Thus, the strategies of self-directed and collaborative learning ignite metacognition. (Terhart, 2003 as cited in Burkšaitienė, 2006, pp. 20-21). Burkšaitienė's (2006) outcomes display that the students are generally informed of conventional methods and their metacognitive skills, contemplation and critical thinking are immature when they take part in the university. She recommends triggering "cooperative learning based on participation in peer or teamwork on the one hand and contribute to students' self-directed learning providing them with metacognitive skills of in-depth analysis" (p. 25). Burkšaitienė (2006) also highlights "the importance of the assessment environment with the central emphasis being on the fairness and comprehensiveness of assessment, the teacher students' relations, and the student motivation to learn created by the teacher" (p. 25).

Linkaitytė, Lapėnienė and Jakubauskaitė (2008) refer to the upshots of three projects in transforming the education of Lithuanian students with picking up novel attitudes of learning to acquire proficiency as a principle element for this transformation. Reflection was considered as a precondition for the enhancement of the learning to obtain proficiency. The findings of the study motivated the teaching panel to select novel attitude about didactic practice and attempted to streamline the instruction of metacognitive competences. In these projects innovations were applied systematically and encompassed an amalgamation of active learning / teaching methods, reflection and monitoring of learning.

Metacognitive awareness and critical thinking. The prominent association between metacognition and critical thinking has been screened out in Lithuanian university investigations as one of the objectives of education. When involving in critical thinking, students are required to meet particular metacognitive skills like monitoring their reflection process, taking into account whether development is being made toward a suitable aim and making decisions about the employment of time and cognitive attempt. This indicates that critical thinking is an invention of metacognition.

Tolutienė (2010) pays special heed to andragogy specialty Klaipeda University students'

thoughts about critical thinking through reflection on their experience. Her investigation uncovers that what they generally apply in the process of their critical thinking is independent, metacognitive, collaborative, experimental, problem-oriented and reflective learning consecutively. As it can be spotted, one of the most prominent elements in critical thinking is metacognitive knowledge since the foundation of problem-based learning is problem solution and it is established on metacognitive learning. Through investigating 169 first to fourth year students, some situations are discovered to be compulsory for critical thinking such as expressing their thoughts unreservedly, accepting other ideas, collaborative setting, dynamic learning and encouraging critical thinking. Besides, students believe that team work, negotiations, project work, discussions, sharing experiences, reflection and brainstorming are multifarious methods of developing their critical thinking at the university respectively. Eventually, it can be deduced that the students' acceptable situation for self-development of critical thinking is assured. In her investigation she highlights Ubartaitė-Vingienė's (2007) constructivism theory elements such as a person's pre-dwelled knowledge and experience, agreement of emotional (i.e. sentiment) and cognitive (i.e. mental) constructions, joint and collaborative tasks in learning process and bringing up and resolving learning obstacles which are established on metacognitive learning about adults' critical thinking capabilities and strategies. Tolutienė (2010), moreover, maintains that the learning settings which are established on individuals' requirements and appropriate for numerous students enjoy higher instructive importance and encourage the student's constructive and consequential attitude (i.e. inspiration) and self-assurance towards learning.

Lifelong English language acquisition and metacognitive strategies. The constructive effect of metacognitive strategies on language learning has been stressed by many Lithuanian investigators in their articles and theses.

Beresnevičienė and Mačianskienė (2000) examined the influence of psychological well-being, self-esteem and learning strategies upon well-organized English as a foreign language (EFL) acquisition among 200 first year students of Vytautas Magnus University. They employed classifications constructed by Oxford (1990) for six groups of strategies. The students were divided into two groups of successful and underprivileged students of English. Some questionnaires for calibrating the students' psychological well-being, self-esteem and learning strategies were recruited. Having compared the obtained data, the statistical findings of the two groups disclosed the following: (i) utilization of metacognitive strategies of the two groups is not statistically diverse. Nevertheless, successful students more frequently organize their learning by establishing purposes and aims and assessing their improvement; (ii) Sharper students more frequently employed affective strategies such as taking risks, motivating themselves and making affirmative statements; (iii) underprivileged students mainly applied social strategies to request the speaker to reiterate, reword, slow down and provide examples; (iv) successful students enjoyed higher self-esteem and applied memory, cognitive, and social strategies a little more frequently than underprivileged ones and (v) generally, it can be deduced that students were not used to employing learning strategies.

Dobrovolsktė (2008) in her master thesis through content analysis recognizes the language learning strategies employed in speaking and reading tasks while utilizing the

European Language Portfolio (ELP). The prominence of the European Language Portfolio is due to its purposes which are development of self-directed learning, self-assessment multilingualism and cross-cultural interaction, independent learning and lifelong learning. Dobrovolsktė (2008) employs the categorization of the learning strategies classified by Oxford (1990). Oxford (1990) maintains that learning strategies are divided into two including the direct, which directly encompass the learning and need cognitive processing, and indirect strategies. Memory techniques (i.e. mnemonics) encompass strategies as categorizing or utilizing imagery that assist students accumulate and regain novel data. Cognitive strategies, such as recapitulating or reasoning deductively, empower students to comprehend and create novel language by numerous diverse means. Compensation strategies such as guessing or applying synonyms enable students to employ the language in spite of their often-large gaps in knowledge. Indirect strategies are divided into metacognitive, affective and social ones. Metacognitive strategies enable students to monitor their own cognition and to coordinate the learning process by utilizing functions such as centering, organizing, planning, and assessing. Affective strategies assist to control emotions, encouragements, and attitudes. Social strategies aid students to learn through communication with others (as cited in Dobrovolsktė, 2008). The following conclusions can be drawn where metacognitive strategies are taken into account as basic at various language learning levels. Metacognitive and social strategies constitute the major tasks at level A2 in the speaking tasks. In addition, at level B1, there exist cases in which metacognitive, compensation, cognitive and social strategies are applied in the similar task. In the reading tasks, a number of strategies are used at the similar level: compensation, memory, cognitive and metacognitive.

Šlekytė (2018) in her master thesis named "Learning strategy development in the classes of EFL" investigated how learning strategies including cognitive and metacognitive ones are created applying multifarious data gleaned through the textbooks, monitoring of classes, interviews with the lecturers, and students' survey.

Metacognitive awareness and forms of register in autonomous learning. There are many forms of registers in autonomous learning. One of them is writing in a learning contract which encourages metacognition and critical thinking and acts as an assessment tool. The participants' awareness of the process of learning and use of metacognitive strategies are also increased by the portfolio training and applying reflection pages in portfolio-based learning.

Šliogerienė (2006a) highlights the setback of control in self-directed language learning and the requirement for registers of students' progress to frame learning process and the self-directed learning in which each person undergoes crucial responsibility for organizing, implementing and assessing learning and believes that in Lithuania "the lack of teacher's control and too much students' independence lead students to dissatisfaction with their own studies and unstructured learning" (p.110). The aim of her investigation is to explore the obstacle of framing learners' control in self-directed language learning. There are numerous modules of registers in independent language learning and she applies learning contracts in this research. Šliogerienė (2006a, pp. 111-112) explains that a learning contract is as a tool for reflection to relate learning to what is already known and forms of feedback.

It is a type of writing with more than one purpose and a register you can plan and personalize any learning experience. Furthermore, learning contracts which consist of numerous forms can assist learners to concentrate on constant issues over time to gain insight from either the process or from the outcomes. They enable learners to combine experience with authentic learning as well. Writing in a learning contract evokes metacognition and critical thinking and acts as an evaluation instrument. Besides, learning contracts are likely to empower students to turn to autonomous learners, supervise the process at their own speed, and offer a central point as well as an opportunity to collect opinions and information, deal with stocks of information or material, consider their pitfalls, evaluate the improvement and plan their future tasks. These points originate from this study: (i) students need teachers' assistance in their learning process; (ii) there are associations between the level of enthusiasm and self-directedness and taking responsibility in learning; (iii) two-third of students maintain that the group contributes to the success or malfunction of the project work; (iv) 40% of respondents get involved in problem solving activities which trigger critical thinking; (v) students' improvement should be registered in some forms to create commitment for their studies and (vi) utilization of novel learning methods can expand the interaction between a teacher and a student.

In another related investigation conducted in two universities of Lithuania, MRU and VGTU, Šliogerienė (2006b) employed learning journals for allowing more monitoring in self-directed language learning. The outcomes showed that: (i) statistically significant association between learners' capability and wish to self-monitor and to self-control their learning process were proved; (ii) statistical significance between self-monitoring and self-projecting in self-directed investigations were traced; (iii) nonetheless, no statistically significant result was discovered between monitoring and self-evaluation; (iv) though, a negative but statistically significant upshot was found concurrently between responsibility and motivating tasks which denotes that responsibility was not impacted by more or less motivating types of learning and (v) statistically significant outcome was explored between students' self-correction in learning journals and responsibility for the project outcomes.

Burkšaitienė (2009) puts forward the influence of portfolio method on students' utilization of metacognitive learning strategies in courses targeted English for specific purposes (ESP). The findings revealed an encouraging impact of the learning portfolio on the employment of the metacognitive strategies of organizing, evaluating, monitoring and planning metacognitive strategies.

Šliogerienė (2013) examined the relationship between two phases of self-regulation, namely self-monitoring and self-reflection, in the course of Modern English at MRU. To put differently, she uncovered the obstacle of transforming from self-monitoring phase to self-reflection phase. She took into account the recommendations made by Zimmerman and Campillo (2003) on in what way metacognitive experiences left a huge impact on studying process while transforming from the self-monitoring to self-reflection phase. The phase of self-monitoring denotes students' awareness of their outcome and motivational behavior according to the preliminary phase of self-regulation, which is preliminary self-projecting. Motivational agents leave impact on the capability to self-monitor one's learning process (as cited in Šliogerienė, 2013, pp. 165-166). Students make up their mind on their

learning speed and monitor the learning process themselves. The instruments employed in this study were a questionnaire for SWOT analysis and students' motivational agents and the reflection pages in portfolio-based learning. The following findings were obtained: (i) SWOT analysis exposed that the students' difficulty was typically associated with the development of vocabulary; (ii) self-monitoring with absolute responsibility to do at their own pace was demanding for the students and (iii) the reflection pages were useful for students to reflect on the learning outcome, self-assess their learning improvement and recognize their strengths, weaknesses and requirements. Transforming from self-monitoring phase to self-reflection phase, students are asked to do a lot of self-evaluation. This phase of self-reflection is encouraged by endowing self-determination to students to pick up the type of assignment and the time for fulfilling any activity means of free writing, looping, cubing and brainstorming.

Burkšaitienė and Šliogerienė (2017) take into account seventy adults' perspectives of the portfolio training provided to them by a university prior to the validation of their informal learning. It indicates that the training is influential and helpful, CV writing skills enhanced, the participants' awareness of the process of validation of informal learning and development of their portfolio improved. The findings of the participants' responses display that the utilization of metacognitive strategies is among five principle classifications of effectiveness. The application of metacognitive strategies donates 12% of them the capability to reflect and self-evaluate one's own learning. 6% of participants maintain that applying metacognitive strategies during the training is the most helpful.

Lecturers and metacognitive awareness. Improvement of both lecturers' and students' metacognitive competences is found to be a special issue. Due to the fact that the improvement of this competence is a lifelong activity, the study in this sphere and its advancement are of great importance and this topic is used in the studies of many Lithuanian researchers.

Kriaučiūnienė (2010) in her study at Vilnius Pedagogical University and VU indicates that foreign language teaching/learning process does not create pleasant circumstances for the advancement of future foreign language lecturers' ethical attitudes. She averts that the most prevailing stimuli of future foreign language lecturers for their purpose of studies are "cognitive and those of linguistic competence and the least moral/social and pedagogical professional" (p. 28). The assessment of teaching content from their point of view is not very constructive as only half of the respondents provide a positive assessment of it. The respondents maintain that "mostly fostered values in foreign language teaching/learning process are social, psychological-cognitive and moral and least attention is paid to aesthetic values. She asserts that the most commonly utilized teaching methods are "passive, less frequently used communicative (discussions, debates, group and pair work) and the least is problem solving method" (p. 28).

Čepaitė and Prakapas (2012) in their article note the facets of the selection of metacognitive learning strategies and its trend. A half-structured interview was employed to glean data from twelve lecturers. The improvement of metacognitive competence is most often connected to the lecturers' previous hypothetical preparation: including discussions concerning the learning/teaching process, working with other lecturers, considering the students' enthusiasm and applying strategies. Moreover, the major obstruction for

constructive metacognitive learning is still the actions of a lecturer according to the rules of the classical pattern.

Valiukienė (2014) in her study at VU highlights key components of vocabulary teaching in content and language integrated learning (CLIL) as a way of teaching a subject in a foreign language to observe the concerns of lecturers in their classes and training program. She finds out that the lecturers believe that most regularly utilized academic words and metacognitive skills are as essential and crucial sections of their project. Since students anticipate the similar learning upshot as when the subject is taught in the first language with critical thinking skill, lecturers feel less secure and convinced. Over the experimental period, while the CLIL lecturer trainees were dealing with how to scaffold language, they stressed the instantaneous requirement of definite metacognitive skills. The training agenda highlights the lecturers' utilization of text analysis activities, engaging in materials development tasks and participating in peer feedback sessions to form their theoretical comprehension about providing support in CLIL.

Metacognitive strategies as a component of intercultural competence. Obtaining intercultural competence needs great metacognitive capabilities. For cross-cultural education we should pick up metacognitive approaches, involving self-evaluation, self-explanation and self-regulation. In fact, intercultural progress based on the perspective of how cultural discrepancies and nation-view outlooks are construed by a student requires metacognitive maturity.

Mažeikienė and Virgailaitė-Mečkauskaitė (2007) taking into account globalization, internationalization of higher education, progress of collaboration and amalgamation of diverse universities in different countries, the economic competitiveness of countries, pay particular heed to the construction of intercultural competence and its evaluation in their investigations as an influential way for thriving learning process. Intercultural competence can trigger the circumstance that fulfils both national and global requirements of the society in the establishing of the cultural communication and cultural diversity. They explore that for assessing intercultural competence, it is very prominent to illuminate its five common constituents (knowledge, cultural skills, perspectives, cultural understanding and metacognitive skills). Besides, in another investigation Gerulaitiė and Mažeikienė (2012) highlight the prominence of metacognitive understanding in creation of this competence by asserting that if we intend to improve and evaluate cultural understanding level, we should accentuate "the importance of the learner's metacognitive strategies in the process of her/his competence formation and development" (p. 67). Mažeikienė and Virgailaitė-Mečkauskaitė (2007) avert that holistic evaluation of intercultural competence with its constituents is a complex activity. It is not constant as it is the outcome of the learning and individual improvement under particular instructional circumstances. It can come with numerous assessment modules such as self-evaluation, peer-evaluation, tutor evaluation, peer-evaluation, and portfolio-evaluation. To conduct a contemporary evaluation orientated into the students and their competences, we should take into account the enthusiasms of all the members of instructional process (i.e. student, teacher, organization). Gerulaitiė and Mažeikienė (2012) indicate that high level of responsibility, independence, accessibility of essential resources, tolerance for non-success and value feedback, escalating students'

belief in their capabilities and encouraging students' motivation are the properties of pleasant educational setting. According to these properties they endeavor to compare the master students' experiences of improving the intercultural competence in Lithuanian and foreign education organizations. They recapitulate that expanding the intercultural competence has to be established on the constructivist model, employing experimental learning, problem-based learning, teamwork learning, reflective learning and cognitive learning strategies. They state that it is evident that experimental learning mainly integrates with real cross-cultural circumstances and obstacles which a person can employ his knowledge and display feeling in the real setting. Experimental learning in another culture empowers the person to experience discrepancies between cultures, evaluate and consider in what way his culture, values and stereotypes leave an impact on his manners and associations with others. Research participants in Lithuania unveiled that pedagogical setting is not still contingent upon the learning model and expanding intercultural competences. They note a little interactive method (team work, problem-based learning, autonomous investigations etc.) and psychological circumstances such as positive atmosphere and lecturer-student relations in the class. According to the perspectives gathered from the participants of the study at foreign organizations, the modern learning model and psychological, educational and competence circumstances in their educational setting can be discovered. They highlight the previous individual experience prominent for the pedagogical process, novel instruction and learning methods, critical thinking, lecturers' and students' cooperation, etc.

Metacognitive awareness and motivation. There is a great interaction between metacognition and motivation. Actually, they are connected through emotions. Metacognitive self-evaluations stir up powerful emotions that directly affect students' motivation as they discover their personal strengths and weaknesses. Also, struggling to find suitable metacognitive strategies increases motivation. Experiencing success after using metacognitive skills is another factor for increasing student's motivation for more success. These are the main reasons for researchers to promote metacognition in the classroom to help students become motivated and academically successful.

With respect to the tendency towards lifelong studies, instructing students how to study to become self-directed and self-aware are prominent. Rinkevičienė and Zdanytė (2002) determine and develop students' awareness of the learning process at the Centre of Foreign Languages, Kaunas University of Technology. The students were examined to discover: (i) self-directed language learning should be an essential section of the curriculum; (ii) students' awareness of their abilities and responsibilities and their self-study should be motivated; (iii) students' enthusiasms and requirements as motivation for learning should be taken into account. Moreover, motivation is one of the most frequent reasons of achievement according to the students' outlook. Rinkevičienė and Zdanytė (2002) assert that "to improve the students' learning capacity, proper attention should be given to developing both cognitive and metacognitive aspects, which are (i) personal awareness: self-concept, self-esteem and self-direction; (ii) awareness of the learning process: process management and (iii) task awareness: knowledge of language and communication" (p. 99).

Kučienė (2010) displays the encouraging effects of metacognitive instruction in students' learning motivation and responsibilities. Students' interview exposed that 75% of

them were responsible for their actions; 62,5% organized their learning activities; 50% claimed self-assessment aids to study and they furthermore welcomed dynamic learning methods (learning in pairs, in groups, presentations, negotiations, talks).

Models for enhancing metacognitive awareness. Zuzevičiūtė (2005) in her doctoral thesis looks at the model of learning at the university and the significance of metacognitive strategies for lifelong learning.

Suchanova (2008) in her investigation highlights the thorough descriptions of metacognition component sections. One of the deductions is that education of metacognitive constituents directs the students towards independent foreign language learning with more enthusiasm.

Suchanova (2011) in her article suggests Synthetic Cognitive Apprenticeship Model as a likely way to assist students to enhance their metacognitive skills and become more independent learner.

Metacognitive awareness and technology. Technology is more and more integrated into every field of our life including education and learning. Social networking tools such as Facebook and a means of communication, creating and sharing information and participating in a collaborative form of knowledge across the globe. Technology-rich virtual learning environments such as Moodle can be used as metacognitive tools for learning as well. This part includes research that looks at learning learning process and fostering metacognitive awareness through technology in Lithuanian university studies.

Šliogerienė, Masoodi and Gulbinskienė (2016) evaluate the effectiveness of Facebook for the development of English language skills, fostering metacognitive awareness and promoting student autonomy from 63 Lithuanian intermediate EFL university students' perspectives. A questionnaire with fifteen statements with two possible answers of agree or disagree was applied. The majority of the students believe that Facebook can be an online learning environment to foster metacognitive awareness, promote sense of autonomy, give choices in decisions, give the chance to evaluate learning with help of lecturers, facilitate English language learning and communication including writing and reading, increase motivation, confidence and positive attitudes towards learning. There are numerous other advantages of using the Facebook platform. Students can freely select the desirable activities, interact with lecturers informally, discover new ideas, study without any pressure and engage in meaningful language-based activities. Also, this social networking makes learning easier and more interesting and gives a lot of freedom to the students to develop their own style. Based on the authors' justification, the students' positive perspectives can be due to authentic interaction that they have not had experienced before. Moreover, it can be because of applying various activities including quizzes and online games. Furthermore, a sense of belonging while they can have their own privacy and safety are other advantages. Šliogerienė, Masoodi and Gulbinskienė (2016) highlight the important role of students by saying that "it cannot totally replace the class attendance and real lecturing of the teachers. We must not get our teachers to stop lecturing and start just allowing students to learn by themselves. Perhaps, with Facebook, the students will explore and become managers of their learning of English with the help of their teachers. (p. 40)"

Gulbinskienė and Šliogerienė (2017) focus on effectiveness of Moodle for developing

English language and promoting students' metacognitive awareness and autonomy from the data gathered through a questionnaire from students studying at MRU and Lithuanian University of Educational Sciences (LEU). The findings reflect that Moodle learning environment improves language learning and develops metacognitive awareness and student autonomy. Gulbinskienė, Masoodi and Šliogerienė (2017) in their research point out to the merits of Moodle which are very similar to Facebook platform. They add that "Students have to acquire the basics of autonomous studies which are relevant to their needs and develop learning strategy and tactics of any language, along with their own autodidactics in picking up metacognitive skills in the learning process" (p. 178). They further find out that "learners' belief in the role of teachers' co-operation, instruction and interaction which plays an important role in promoting learner autonomy" (p. 179).

Klanauskaitė (2018) in her master's thesis about "Application of technology enhanced learning environment to monitor learning results" shows that with the help of support, interaction and metacognitive means, technology enhanced learning environment assists the student to get access to higher learning results at Lithuanian higher education institutions.

As it can be depicted in Table 1, for each Lithuanian research a theme which is related to metacognitive awareness is selected and the frequency and percentage of each theme studied in this thesis are counted. All of the research is categorized under 10 themes.

Table 1. *Percentage of each theme for all Lithuanian research studied in this thesis*

No	Author/Year	Skills	Forms of register	Shifting to lifelong paradigm	Language learning strategies	Lecturers' attitudes, knowledge & practices	Technology	Intercultural	Motivation	Components &Model	Critical thinking
1	Melienė (2008)	+									
2	Kavaliauskienė & Suchanova (2010)	+									
3	Vaičiūnienė & Užpalienė (2013)	+									
4	Kriaučiūnienė & Mažuolienė (2017)	+									
5	Mačiulienė (2019)	+									
6	Baranauskienė (2002)			+							
7	Burkšaitienė (2006)			+							
8	Linkaitytė, Lapėnienė & Jakubauskaitė (2008)			+							
9	Tolutienė (2010)										+
10	Beresnevičienė & Mačianskienė (2000)				+						
11	Dobrovolsktė (2008)				+						
12	Šlekytė (2018)				+						
13	Šliogerienė (2006a)		+								
14	Šliogerienė (2006b)		+								
15	Burkšaitienė (2006)		+								

No	Author/Year	Skills	Forms of register	Shifting to lifelong paradigm	Language learning strategies	Lecturers' attitudes, knowledge & practices	Technology	Intercultural	Motivation	Components &Model	Critical thinking
16	Šliogerienė (2013)		+								
17	Burkšaitienė & Šliogerienė (2017)		+								
18	Kriaučiūnienė (2010)					+					
19	Čepaitė & Prakapas (2012)					+					
20	Valiukienė (2014)					+					
21	Mažeikienė & Virgailaitė-Mečkauskaitė (2007)							+			
22	Gerulaitiė & Mažeikienė (2012)							+			
23	Rinkevičienė & Zdanytė (2002)								+		
24	Kučienė (2010)								+		
25	Zuzevičiūtė (2005)									+	
26	Suchanova (2008)									+	
27	Suchanova (2011)									+	
28	Šliogerienė, Masoodi & Gulbinskienė (2016)						+				
29	Gulbinskienė, Masoodi & Šliogerienė (2017)						+				
30	Klanauskaitė (2018)						+				
	Total	5	5	3	3	3	3	2	2	2	1
	Percentage %	17.2 %	17.2 %	10.3 %	10.3 %	10.3 %	10.3 %	7 %	7 %	7 %	3.5 %

As it can be seen in Table 1, the percentages of the themes of studies in Lithuanian university studies related to metacognitive awareness are skills (17.2%), forms of register (17.2%), shifting to lifelong paradigm (10.3%), language learning strategies (10.3%), lecturers' attitudes, knowledge and practices (10.3%), technology (10.3%), intercultural competence (7%), motivation (7%), components & model (7%), critical thinking (3.5%) sequentially.

1.3.2. Previous research on metacognitive awareness in Iranian university studies

Metacognitive awareness and reading, writing and listening. Further to English language reading and writing as fundamental skills in education with diverse benefits for the students, listening skill as the most intangible applied ability in the class environment and main tool for learning has taken the attention of a few Iranian researchers to discover the students' thinking process in each one.

Khonamri and Kojidi (2011) test the relationship between metacognitive awareness of reading strategies and comprehension monitoring of EFL learners at the Industrial

University of Noushirvani in Iran. Thinking-aloud, reflecting on reading, error-detection, finding a trick in the reading text and retrospective questions were used to examine the comprehension monitoring of the readers. Similarly, Mokhtari and Reichard's (2002) Meta-cognitive Awareness of Reading Strategies Inventory (MARSI) was applied for measuring the degree of reading metacognitive awareness. In this study, the combination of assessing how well a student is doing on a task and correcting any problems is called *monitoring cognition*. As Khonamri and Kojidi (2011) use metacognitive journal in their research as "one of the tools that can provide useful information about the comprehension monitoring of the subjects. Students analyse their own thought processes following a reading" (p. 103). The results show that the more a student is metacognitively aware of reading strategies, the more comprehension monitoring he does and the more errors he can detect. One reason for this difference in comprehension monitoring of students with higher level of meta-cognitive awareness with lower ones could be that they read more holistically and link the meaning of sentences to get a better understanding of the context. This means "knowing that" (declarative knowledge) is different from "knowing how" (procedural knowledge). They mention through practice and explanation of techniques "teachers can play a key role in enhancing learners' metacognitive awareness of reading strategies in order to facilitate their comprehension monitoring and thus improve their reading comprehension ability" (p. 110).

Maasum and Maarof (2012) in another study disclose a moderate to high level of forty-one undergraduate EFL learners' awareness and use of learning strategies in reading skill through the MARSI.

Maftoon, Birjandi and Farahian, (2014) submit a model of writing metacognitive aware-ness through content analysis of gathered data while interviewing fifty-nine EFL university students divided into two skillful and unskillful groups. The framework for the model of metacognitive awareness writing is classified under two categories by Maftoon et al. (2014): (i) four categories of knowledge of cognition in writing including declarative, procedural and conditional knowledge. There are two categories for declarative knowledge (person and task). Part of declarative knowledge is the person's attitudes towards himself. Self-effi-cacy affects student's learning, motivation and ability to undertake a task (Bandura, 1997). Many students consider writing as a difficult task with inborn talent which implies their negative self-concepts toward their own skill. Most of the scholars especially those that be-lieve in constructivism (Flavell, 1976) assume the attitudes as part of students' declarative knowledge that have great impact on their thinking and learning. Another type of declara-tive knowledge is related to task knowledge which is the students' awareness about the na-ture of the task and the demand for doing it and consists of organizing, text type, linguistic resources (mostly vocabulary) and topic familiarity and (ii) five categories of regulation of cognition in writing includes planning and drafting, monitoring, general online strategies, evaluation and revision.

Seifoori (2015) compares reading skill and overall metacognitive awareness of reading strategies of one hundred postgraduate students majoring in English Language Teaching (ELT) and English Literature (EL) from Tabriz Azad University. A reading comprehension test and Mokhtari and Reichard's MARSI (2002) were the instruments used to gather data.

Students have a similar reading skill and medium level of metacognitive awareness in both groups.

Sahragrard, Kushki, Miri and Mahmooudi (2015) tend to investigate the effect of responding to and reflecting on the Metacognitive Awareness Listening Questionnaire (MALQ) at different times on forty university students' level of metacognitive awareness, majoring in ELT and EL at Lorestan University, Iran. The experimental group filled in the questionnaire seven times through a semester while the control group merely filled in a pre and post survey. Results of the study show that the questionnaire benefits the experimental group in a statistically positive way while less-skilled participants benefit from the treatment more in comparison to their more-skilled counterparts.

Ghorbani Nejad and Farvardin (2018) assess 120 EFL student's metacognitive awareness in listening comprehension. The data was collected through MALQ with five types of metacognitive strategies of problem-solving, planning and evaluation, mental translation, person knowledge and directed attention to measure the participants' metacognitive awareness: (i) problem-solving strategies, used for the prediction of what one cannot understand in the listening process and inferences; (ii) planning and evaluation strategies, applied in preparation for listening and evaluation of the outcomes; (iii) mental translation strategies, employed when the listeners are not proficient; (iv) person knowledge strategies, showed self-efficacy, beliefs, and attitudes of listeners to listening and (v) directed attention strategies, used for concentration and staying on a listening task. The results reveal that there is no significant relationship between listening comprehension and any components of metacognitive awareness. Aural vocabulary knowledge, language proficiency and person knowledge affect listening comprehension (12.5%, 10.2% and 3.2% respectively).

Metacognitive awareness and students' language learning strategies. Nosratinia, Saveiy and Zaker (2014) show the relationship among 143 EFL students' self-efficacy, metacognitive awareness and language learning strategy use. The students majoring in ELT and EL at Karaj and Sari Azad Universities in Iran were requested to complete the three questionnaires on General Self-Efficacy Scale (GSES), MAI and Oxford's Strategy Inventory for Language Learning (SILL). The findings reveal that there is a significant relationship among EFL students' self-efficacy, metacognitive awareness and language learning strategies. Metacognitive awareness is considered to be the best predictor of language learning strategies. Nosratinia et al. (2014) mention the strength of self-efficacy on language learning.

Kamalizad (2015) compares a total of 157 EFL (live in Tehran) and ESL (live in Kuala Lumpur) Iranian University students' strategy levels. He gets data via the Oxford's SILL and semi-structured interviews to discover related issues. He states that: (i) all Iranian students consider themselves as medium strategy users. Their most favorite strategies are metacognitive (M = 3.79, SD =.70) and social (M = 3.82, SD = .70) ones while memory (M = 2.90, SD =.66) and affective strategies (M = 2.76, SD = .61) are their least desired ones. EFL students' high use of metacognitive strategies may be due to the lack of natural English use in settings and teaching with explicit rules even in communicative approaches. It can be because of autonomy as well which helps to control their learning even without suitable teaching programs such as grammar-based approaches of teaching. Therefore, they heavily

rely on their conscious and metacognitive strategies for learning; (ii) students' lower use of affective strategies could be due to their difficulty in managing their emotions and anxiety during their presentation, a simple talk in front of other students in the class or being afraid of making mistake. This fear might be due to the fact that they have merely the experience of speaking in the classroom which does not let them build up second language identity for self-expression while ESL student need to communicate with their lecturers, peers and people outside the academic setting; (iii) Iranian ESL students significantly perform better than Iranian EFL students on the six categories of the SILL which can be due to the environmental differences that gives them the availability of the English-speaking opportunities; (iv) a sociocultural view can be that any type of activity is not possible in isolation. The ESL participants' strategic behaviors change after moving to an ESL context due to being faced with different sociocultural mediators and (v) nationality is regarded as an important element in the application of strategies.

Metacognitive awareness and problem-solving. Ghahari and Basanjideh (2015) have a long study on the effect of applying reading metacognitive strategies on achievement and problem-solving abilities. One hundred and forty-five undergraduates studying ELT and LT at Shahid Bahonar University of Kerman have been selected for this study divided in two groups. The control group has received normal instruction while experimental group has gone under a strategy-based instruction. Three tools have been applied: a problem-solving Inventory (PSI), Mokhtari and Sheorey's SORS (2002) and a Reading Comprehension Test. The analysis of data reveals that while metacognitive strategies have a more positive impact on problem solving than cognitive ones, cognitive strategies contribute more to reading skills. Ghahari and Basanjideh (2015) finalize their findings by stating that "an awareness and use of reading strategies can increase students' confidence and expectation of success; when they are confident, they anticipate the quality of their work and are more self-reliant on their ability to solve problems they encounter in language learning, which can further lead to an improvement in such life qualities as self-efficacy, autonomy, and problem-solving competencies" (p. 248).

Metacognitive awareness and lecturers' attitudes, knowledge and practice. The relationship among lecturers' metacognitive awareness attitudes, pedagogical knowledge and instructional practices cause the Iranian researchers to focus on these concepts in their studies.

Shafiee Nahrkhalaji (2014) considers the effect of EFL lecturers' metacognitive knowledge in their pedagogical success and to what extent reflective or metacognitive teaching is influenced by EFL lecturers' years of teaching experience and academic education. Fifty EFL lecturers completed MAI that assessed six components of metacognition (comprehension monitoring and evaluation are merged in this research). Moreover, their students fill in "the Language Teacher Characteristics Questionnaire" to evaluate their lecturers' pedagogical performance. As Shafiee Nahrkhalaji (2014) states effective teaching is not restricted to procedural methods since in an authentic classroom there are always some unpredictable situations requiring quick decisions rather than pre-determined procedures which need metacognitive thinking. She reaches these results that "[...] despite the relatively high correlation between teachers' metacognitive awareness and their pedagogical

success, only four of the six components of metacognitive awareness, namely declarative knowledge, planning, evaluating, and management strategies sequentially correlate strongly with pedagogical success. (ii) [...] teachers' metacognitive awareness tends to increase with additional years of teaching experience (iii) [...] teachers with more years of academic education are metacognitively more aware" (p.1668). It is concluded that teachers who are more aware of cognitive knowledge can help students better. Shafiee Nahrkhalaji (2014, pp. 1668-1669) further suggests that making the discussion of metacognitive knowledge as part of the everyday activity gives this opportunity to the students to talk, share, compare, judge and make learning more explicit and less mysterious. Also, the lecturers' reflection can be the modeling of strategies through explaining and giving reasons for applying any strategy for any specific problem which can involve students in the conditional knowledge. It is possible that a lecturer has all sorts of metacognitive knowledge, though students do not have the means to reach this.

Azari, Moeini and Shafiee (2014) look at the awareness, attitudes, and instructional practices of fifty-five Iranian EFL lecturers about vocabulary learning/teaching strategies. The related questionnaire, including memory, cognitive, metacognitive and determination strategies, was employed to determine the degree of usefulness and the frequency of application of strategies in the classroom by the lecturers. The results show that there is a positive correlation between the lecturers' attitudes and their instructional practices. Minor differences can be due to various contextual factors. The usefulness degree and the frequency of application of metacognitive strategies in classroom practices show an average score. After memory strategies, metacognitive strategies are the most popular selection of lecturers. Azari et al. (2014) finalize that "the more useful a vocabulary learning strategy was evaluated by the teachers from a pedagogical perspective, the more frequently it was implemented in the language classroom" (p. 267).

Ansarin, Farrokhi and Rahmani (2015) discover the levels at which Iranian lecturers reflect on their practice. Also, they disclose the roles of gender, qualification, and years of experience in this process. John Deway (1933) called "reflection", the way lecturers think about their own practice, as one feature of a multi-faceted career of teaching. He states that this type of teaching gives a chance to lecturers to act consciously, purposefully and deliberatively rather than in a routine and automatic way. Reflective thinking leads lecturers to actively analyze their attitudes and practices, increase metacognitive level, and monitor their decisions about making what and how to teach. In fact, the level of lecturers' reflection has a direct influence on their performance (cited in Ansarin, Farrokhi & Rahmani, 2015, pp. 140-141). Larrivee's questionnaire (2008) was applied to assess four levels at which 100 lecturers reflect on their practice. The four reflection levels are: (i) pre-reflective teachers respond in automatic ways and do not ask questions and modify their teaching style based on students' feedback; (ii) surface lecturers focus on methods and strategies used to achieve planned goals; (iii) pedagogical lecturers consider the theories underlying teaching methods, the instructional goals and the relationship between theory and practice. They attempt to connect between their attitudes and their actual practice and (iv) critical lecturers examine ethical and social matters (cited in Ansarin, Farrokhi & Rahmani, 2015, p. 143). They reach the following results: (i) Iranian lecturers mostly apply pedagogical reflection in their

teaching. Critical, surface, and pre-reflection levels are considered after it respectively; (ii) lecturers with more teaching experience and higher academic qualifications have higher levels of critical and pedagogical reflection and (iii) Iranian lecturers require to improve their critical thinking skills, raise their social and political awareness regarding educational context and go beyond theory and action and consider the impact of a broader context on their practice.

Garmabi and Zareian (2016) argue that the lecturers attitudes towards the effectiveness of their students' reading metacognitive strategies. Ninety-one lecturers with various years of experience of teaching English were asked to complete MARSI with three types of pre-reading, reading and post-reading metacognitive strategies. The results show that though lecturers holding different academic degrees have the same attitudes towards pre-reading metacognitive strategies, they have significantly different attitudes towards reading and post-reading metacognitive strategies. What is more, lecturers who have a higher academic degree and more experience have more metacognitive strategies awareness, consequently, they have a more positive attitude towards using these strategies in their classes in comparison to their colleagues with a lower academic degree and experience.

Nazari (2018) tests the lecturers' pre- and post-course attitudes towards and practices of metacognitive listening teaching. The data was collected through interviews and videotaping of the lecturers' practices before and after the course. The lecturers' pre-course listening attitudes and practices echo a product/text-oriented perspective. However, post-course analyses prove that the lecturers reflect on their previous ideas and criticize their own practices. They acquire more advanced pedagogical knowledge about metacognitive listening training. They consider students with a more active role, help the students to manage their listening process and request the learners to speak about their understanding of the listening by raising the students' awareness of the strategies. There are congruities between the lecturers' stated attitudes and their practices in both pre- and post-course instruction.

Atai, Babaii and Taherkhani's (2017) paper is an attempt to find out the similarities and differences between language lecturers' and content lecturers' pedagogical content knowledge (PCK), their teaching practices and their students' attitudes towards their methodology. Questionnaires, observations, semi-structured interviews and taking notes were applied to gather data from 318 lecturers and 1537 students from five Medical Sciences Universities in Iran. One of the components of PCK in their study is the importance of the lecturers' knowledge of students' needs. Majority of lecturers mention both in their questionnaires and interviews that they know about their students' needs. Despite the positive responses of content lecturers to this question, through their interviews, they show no idea of their needs. Another component of PCK is categorized under "teaching practices" with consciousness-raising strategies. In response to the question: "How much do you use consciousness-raising strategies?", the majority of lecturers select "much" in their questionnaires. However, in their interviews, the majority of language lecturers do not apply these strategies due to lack of time while the content lecturers have no idea about these strategies. Considering the students' attitudes, the majority of them have positive views about teaching of their lecturers (language lecturers, 83.7% and content lecturers, 47%). The students with language lecturers are consent with their methodology because of applying various

practices, considering all skills and all students, creating a friendly atmosphere and having thorough knowledge of both language and content. Based on Atai et al.'s (2017) findings the methodological dissatisfaction of students with content lecturers is mostly due to "focusing on translation, not motivating students, not involving students in any activities, teaching only in L1, and not being able to manage the class well" (p. 23).

Metacognitive awareness and self-efficacy. In a meta-analysis of self-efficacy, many Iranian researchers have discovered a positive relationship between or among self-efficacy as one of the motivational constructs, metacognitive awareness, lecturers' pedagogical success and students' achievements.

Ghonsooly, Khajavy and Mohaghegh Mahjoobi (2014) aim to disclose to what degree the Iranian English lecturers' sense of self-efficacy and metacognitive awareness predict their academic performance. To this end, 107 Iranian EFL lecturers at Farhangian University completed the Teachers' Sense of Self-Efficacy Scale and Teacher's MAI. The findings reveal that both metacognition and self-efficacy affect the academic performance. However, metacognition has a stronger effect. This implies that lecturers with a higher level of metacognitive awareness have better performance and a higher level of self-efficacy compared to those with a lower level of it.

Tavakoli and Koosha (2016) in their paper attempt to investigate the influence of explicit metacognitive strategy instruction on reading skill and self-efficacy among 100 undergraduate EFL university students in Iran. The quantitative data were collected by SORS, Motivated Strategies for Learning Questionnaire (MSLQ), a reading comprehension test and semi-structured interviews to permit a triangulation of data to complete pre-test and post-test. The outcomes show that the group with the explicit metacognitive strategy training outperforms their counterparts not only on the reading skill but also on the level of students' self-efficacy which increases from low to medium level after training. Tavakoli and Koosha (2016) also add that "teachers should provide students with multiple and repeated opportunities to practice the new strategies on a variety of learning tasks and activities so that eventually the strategy itself becomes part of students' procedural knowledge" (p. 129).

Metacognitive awareness and authenticity of university lecturers. The concept of authenticity, which is how lecturers can find their own voice in selecting their classroom materials, curriculum and activities among the dominant voice of native scholars and provide their own meaning is one of the topics for discussion among Iranian scholars. Lecturers' authenticity not only gives them a feeling of completeness, self-understanding and identity in teaching but also assists them to reflect on their teaching and engage in developmental activities. This concept is greatly related to metacognitive awareness.

Ramezanzadeh (2017) explores the concept of authenticity in English language lecturers in their practices. The data was collected from thirty Iranian lecturers who teach at Iranian state universities through in-depth interviews and memos. Three main themes of three-way pedagogical relationship, reflectivity, and context-appropriate adjustments were discovered via content analysis. According to Ramezanzadeh's (2017) three-way pedagogical relationship which is lecturers, students, subject matters, students' interests and experiences all are effective factors on lecturers' pedagogical decisions. The lecturers emphasize on bringing one's own self in the classroom which is the awareness and recognitions of

one's own values, expectations, and experiences. In reflectivity as the second theme, lecturers can re-examine their teaching and its impact on the learning and students through the students' feedback as a good source for discovering their expectations and values. Through reflections, they can make decisions and pinpoint the problems and related solutions. In the third theme, context-appropriate adjustments, authentic lecturers attempt to get familiar with native speakers' methods and theories of teaching but they find the most appropriate ones based on their own contexts, lecturers' needs and culture. In another words, "authenticity as finding one's own voice in the midst of the dominant native voices, while reflecting on one's own pedagogical practices and respecting one's own context and culture" (p. 296). She further concludes that the lecturers would like to be ruled by their own expectations rather than by the native ones and reflected on their teaching practices and beliefs to achieve a new meaning of their experiences in teaching.

Metacognitive awareness and personality traits. Any student has a unique personality pattern of traits and chooses the strategies according to them. Lecturers should discover the attitudes and individual differences of his students to adopt his teaching style based on their preferred metacognitive strategies. We begin this part by reviewing the previous research on the relationship between personality trait and metacognitive strategies.

Fazeli (2012) investigates the relationship between metacognitive awareness and personality traits. Two hundred and thirteen Iranian university students of English language completed Oxford's SILL (1990) and NEO-Five Factors Inventory which measures the five domains of personality. "a) Neuroticism is related to poor emotional adjustment, anxious, and pessimistic; b) Extraversion is when a person is sociable and assertive, cheerful, active, and optimistic; c) Openness to experiences represents the tendency to be imaginative, intellectually curious and artistically sensitive; d) Agreeableness is the tendency to be trusting, compliant, caring, gentle, compassionate, empathic, and cooperative; e) Conscientiousness is to be responsible, organized, hard-working, dependable, achievement oriented, purposeful, strong-willed, and determined" (Fazeli, 2012, p. 533). The final results are as follows: (i) the metacognitive strategies are highly employed (Mean=3.7, SD =.64); (ii) the mean of the conscientiousness trait (Mean=34.7, SD=6.3) is the highest while the mean of the neuroticism trait (Mean=23.0, SD=8.3) is the least one and (iii) 17.7% of changes in the students' overall metacognitive strategy use is for the conscientiousness trait and the openness to experiences traits.

Metacognitive awareness and cross-cultural comparison studies. Cross-cultural comparison studies of metacognitive awareness and their related strategies push the Iranian researchers to take note of them because this type of research has enormously impacted our understanding of not only different areas of the human learning process but it has also affected the monocultural bias in our cultural mix classroom and society.

Kasimi (2012) focuses on cognitive and metacognitive reading strategies of two groups of first grade students at ELT departments of four universities in Turkey and three universities in Iran. The data was collected through MARSI and Cognitive Strategies Questionnaire. The mean scores for the use of cognitive and metacognitive reading strategies are strongly and positively correlated to each other and have, overall, a medium level of usage in both groups. Comparing Iranian and Turkish students, there could be some differences

in frequency and choices of the strategies which can arise due to some underlying reasons such as cultural, social-cultural values, education system, curriculum, personal expectations, beliefs and their previous teaching methodology. Another reason can be due to logographic skills concerning the similarities and the differences between the alphabets of mother tongue and English. Turkish and English alphabets are similar while Farsi has Arabic alphabets which cause the Iranian students to read slower while spending more time in English.

Keshavarz and Ghamoushi (2014) report on the differences between monolingual and bilingual students in their use of English metacognitive reading strategies. To this end, two groups of ELT Persian monolinguals and Turkish-Persian bilingual second-year university students completed the MARSI. The findings indicate that the overall mean scores and mean scores in each metacognitive strategy in both groups are considered medium level and only global strategy of bilingual group is regarded as high level due to language proficiency level and students' attitudes towards reading skill. Moreover, Keshavarz and Ghamoushi (2014) conclude that bilingualism increases students' overall awareness and use of metacognitive reading strategies due to applying the learnt metacognitive strategies from one language to another one.

Metacognitive awareness and technology. Mobini Dehcord and Alavi (2019) in their research entitled "Structural analysis of Iranian educational technologies" find out the fundamental driving forces through the structural analysis method, determined mostly by professors, that can change the educational paradigm and help to develop and equip universities according to the future needs. They mention that metacognitive awareness, process-oriented and independent learning have a great impact on the basic concepts of education in this regard. The future of educational technologies is influenced by these driving forces' sequentially: (i) redesigning pioneer educational environment, for increasing the facilities for using different devices that have educational consequences for them; (ii) massive open online courses/virtual learning/open education; (iii) interactive learning, (iv) simulator technologies; (v) learning measurement; (vi) digital education; (vii) social networks and (viii) customization/personalization, technology can provide personal and smart tools and services to give final users more control on their data.

Table 2. *Percentage of each theme for all Iranian research studies in this thesis*

No	Author/Year	Skills	Lecturers'attitudes, knowledge & practices	Efficacy	Language strategy learning	Cross-cultural comparative	Components& Model	Technology	Problem solving	Personality traits	Authenticity
1	Khonamri & Kojidi (2011)	+									
2	Maasum & Maarof (2012)	+									
3	Maftoon, Birjandi & Farahian, (2014)	+					+				

No	Author/Year	Skills	Lecturers'attitudes, knowledge & practices	Efficacy	Language strategy learning	Cross-cultural comparative	Components& Model	Technology	Problem solving	Personality traits	Authenticity
4	Seifoori (2015)	+									
5	Sahragrard, Kushki, Miri & Mahmooudi (2015)	+									
6	Ghorbani Nejad & Farvardin (2018)	+									
7	Nosratinia, Saveiy & Zaker (2014)				+						
8	Kamalizad (2015)			+	+						
9	Ghahari & Basanjideh (2015)								+		
10	Shafiee Nahrkhalaji (2014)		+								
11	Azari, Moeini & Shafiee (2014)		+								
12	Ansarin, Farrokhi & Rahmani (2015)		+								
13	Garmabi & Zareian (2016)		+								
14	Nazari (2018)		+								
15	Atai, Babaii & Taherkhani's (2017)		+								
16	Ghonsooly, Khajavy & Mohaghegh Mahjoobi (2014)			+							
17	Tavakoli & Koosha (2016)			+							
18	Ramezanzadeh (2017)										+
19	Fazeli (2012)									+	
20	Kasimi (2012)					+					
21	Keshavarz & Ghamoushi (2014)					+					
22	Mobini Dehcord & Alavi (2019)							+			
	Total	6	6	3	2	2	1	1	1	1	1
	Percentage%	25%	25%	12.4%	8.3%	8.3%	4.2%	4.2%	4.2%	4.2%	4.2%

It can be concluded from Table 2 that the most frequent to least frequent themes which are associated with metacognitive awareness in Iranian university studies are skills (25%), lecturers' attitudes, knowledge and practices (25%), efficacy (12.4%), language learning strategies (8.3%), cross-cultural comparative (8.3%), components & model (4.2%), technology (4.2%), problem-solving (4.2%), personality traits (4.2%) and authenticity (4.2%) respectively.

1.3.3. Analyzing, comparing and contrasting the discourse pertaining to metacognitive awareness in Lithuanian and Iranian university studies

Systematic literature review. As there were varieties of designs and methodologies in the selected papers, these were analyzed in a systematic and holistic manner. A systematic literature review was performed to include the published papers between 2000 to August 2019 searched on Scopus and ERIC databases. The Lithuanian papers were also found in the Lituanistika and Lietuvos akademinė elecktroninė biblioteka (eLABa) databases. The same key words - "metacognitive awareness", "metacognitive strategies" and "metacognition" – were used to conduct an online search in all databases. There were three steps used in selecting articles: by considering the title, by reading the abstract and by reading the whole article. Initially, 118 papers in the Lithuanian context and 110 articles in the Iranian context were found. Then, after carefully reading the abstract, fifty-five papers in Lithuanian studies and fifty papers in Iranian university setting were selected for a full text analysis. Finally, a total of 55 papers were considered in our study of which thirty were associated with Lithuanian and twenty-two to Iranian university studies. It should be noted that the researcher managed to take into the account all publications in the above mentioned databases, though not all in this field of study, even though these studies are regarded as a very good representation of the study subject.

General findings in both contexts. The significance of metacognitive awareness for successful learning was emphasized in both contexts. In the past two decades, the number of studies on metacognitive awareness has been vividly growing. These studies started by first studying the concept; however, they are steadily addressing the main goals of learning.

A myriad of studies are empirical and only four are based on the conceptual synopsis of the topic in a Lithuanian setting. In most of the studies, metacognitive awareness or metacognitive strategies play a central role, since they are included in the definition of the aim and the research questions of the study. In all papers, English as a foreign language is considered as the field of study while only one of the Iranian papers takes into account English as a second language in the Iranian context. A few Lithuanians papers conduct research in Lithuanian language. We can categorize three roles for metacognitive awareness in these papers: metacognitive instruction role in which it acts as training, practice or activities to increase learning, measured quantitatively (questionnaire) and measured qualitatively (observation, interview, others). In the last two roles metacognitive awareness is assessed without teaching any specific instruction or practice.

In addition, in a few Lithuanian and Iranian papers that have studied metacognitive instruction with a pre-test and a post-test methodology, the metacognitive instruction is interweaved with other types of instruction, meaning that the improvement of learning cannot be purely assigned to metacognitive instruction. In fact, on the one hand, generalization of results is not justifiable and, on the other hand, there are difficulties in the assessment of metacognitive awareness alone.

The focus of most of the studies is on assessing and/or fostering students' metacognitive awareness while those of lecturers are insufficiently considered. As a matter of fact, many studies investigated the role of students' reflection, attitudes, preferred metacognitive

strategies and their self-assessments. Also, our analysis indicates that the context of study is learning English as a foreign language. It is noteworthy to consider other study field contexts such as history, sciences, etc.

Furthermore, in a large body of the research, metacognitive awareness is considered as a separate construct related to another construct. It is sometimes regarded as a construct overlapping with another one. Therefore, it is not considered in isolation in any of the studies.

Main themes associated with metacognitive awareness. The most frequent to least frequent themes which are associated with metacognitive awareness in both contexts are skills (LG=17.2%, IG=25%), forms of register (LG=17.2%), shifting to lifelong paradigm (LG 10.3%), language learning strategies (LG=10.3%, IG=8.3), lecturers' attitudes, knowledge and practices (LG=10.3%, IG=25%), intercultural competence (LG=7%), cross-cultural comparative (IG=8.3%), motivation (LG=7%), efficacy (IG=12.4%), components & model (LG=7%, IG=4.2%), technology (LG=10.3%, IG=4.2%), critical thinking (LG=3.5%), problem solving (IG=4.2%), personality traits (IG=4.2%) and authenticity (IG=4.2%). The comparison of the percentages of themes of studies in Lithuanian and Iranian university studies is demonstrated in Figure 1.
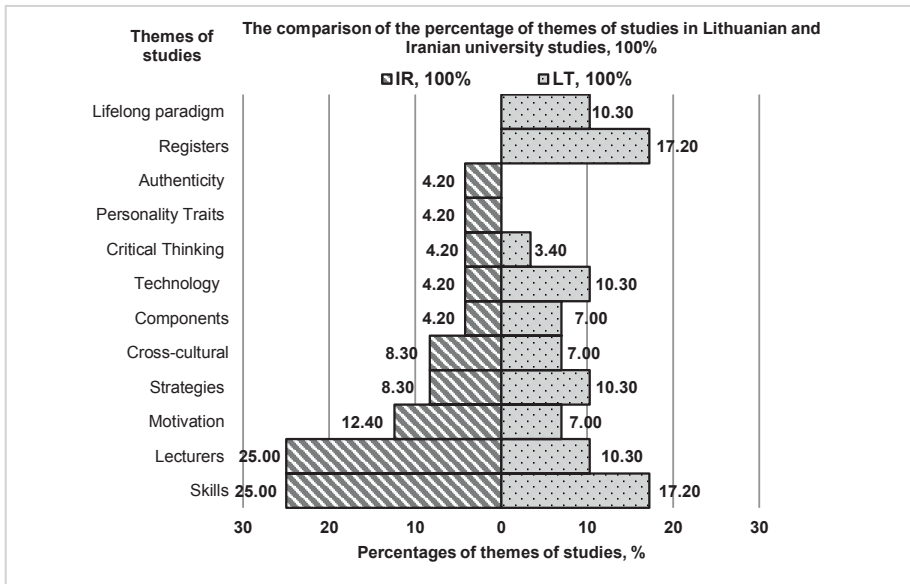
Figure 1. *The comparison of the percentages of themes of studies in Lithuanian and Iranian university studies*

As we can see, quite similar themes with similar percentages can be detected in both university studies. If some themes such as forms of register, shifting to lifelong paradigm absent from Iranian papers, they are discussed in some of the papers under study but they are not regarded as main themes. Similarly, personality traits and authenticity themes which can be found in the Iranian context can be detected in the content of some Lithuanian

papers. Some themes are closely connected to each other such as problem solving and critical thinking, intercultural competence and cross-cultural comparison and motivation and self-efficacy, though categorized under different themes.

In these studies, there is a wide range of subject matters linked to metacognitive awareness that are similarly discussed along the main themes in both contexts. Stress and negative emotions influential role on metacognitive awareness (Kamalizad, 2015), self-confidence (Beresnevįčienė & Mačianskienė, 2000; Ghahari & Basanjideh, 2015; Tolutienė, 2010), academic achievement (Ghonsooly, Khajavy & Mohaghegh, 2014), motivation and self-efficacy (Burkšaitienė, 2006; Čepaitė & Prakapas, 2012; Gerulaitiė & Mažeikienė, 2012; Ghahari & Basanjideh, 2015; Maftoon, Birjandi & Farahian, 2014; Melienė, 2008; Nosratinia, Saveiy & Zaker, 2014; Tolutienė, 2010; Šliogerienė, 2006a; Suchanova, 2008; Vaičiūnienė & Užpalienė, 2013), autonomy (Gerulaitiė & Mažeikienė, 2012; Ghahari & Basanjideh, 2015; Suchanova, 2011), performance (Ansarin, Farrokhi & Rahmani, 2015) need analysis (Atai, Babaii & Taherkhani, 2017; Ramezanzadeh, 2017; Rinkevičienė & Zdanytė, 2002; Tolutienė, 2010; Šliogerienė, 2013), cognitive strategies (Kasimi, 2012; Mažuolienė, 2017; Rinkevičienė & Zdanytė, 2002; Šlekytė, 2018), cooperative learning (Burkšaitienė, 2006; Gerulaitiė & Mažeikienė, 2012; Tolutienė, 2010) are the most popular sub-themes in both contexts. The significant role of lecturers in enhancing students' reading metacognitive awareness can be seen only in a few studies (Khonamri & Kojidi, 2011; Šliogerienė, 2006a; Vaičiūnienė & Užpalienė, 2013).

The most popular field of research that becomes apparent in both contexts of study is finding the significant role of metacognitive awareness in reading skill. This implies the particular noteworthiness of this skill for getting access to scientific and informative text-based sources including online news and reports. Different research methods and designs were used in these studies. In Lithuanian university studies, the scholars mostly considered reading and then writing as the learning skills associated with metacognitive awareness, while in the Iranian context apart from these, listening was also the focal point of the study. No title included speaking, fluency or pronunciation; therefore, these skill and sub-skills were ignored in both contexts.

Whenever a new approach to learning/teaching comes to existence, it can partially contradict some culturally rooted belief system or educational practice in any society. A society may not accept new lecturers' and students' roles and duties, preferred learning strategies and different classroom etiquettes wholly due to different sociocultural values. The trend of this potential resistance to a new paradigm, in our case reflective and constructive ones, can be found in Iranian studies (Maftoon, Birjandi & Farahian, 2014; Nosratinia, Saveiy & Zaker, 2014; Shafiee Nahrkhalaji, 2014), yet it is much stronger in Lithuanian research. As Baranauskienė (2002) and Jucevičiene (1998) state, this shift is a challenge to the countries holding traditional values of education and exposes them to resistance. Direct transfer of the new paradigm can be rejected and requires appropriate conditions to be adapted to the model.

Roles of metacognitive awareness. By considering the three most to least frequent and three roles of metacognitive awareness in the below table and their percentages, we can find the same trend in both contexts. The most frequent role is metacognitive awareness

measured quantitatively (LG=47.6%, IG=62.5%) then metacognitive awareness measured qualitatively (LG=35%, IG=20.8%) and finally metacognitive instruction (LG=17.4%, IG=16.7%). Related frequencies and percentages are presented in Table 3.

Table 3. *The comparison between the frequencies and percentages of the role of metacognitive awareness in Lithuanian and Iranian students' studies*

Role of metacognitive awareness in students' studies		Ir f/%	Sum/Ir f/%	Lt f/#	Sum/Lt f/%
Metacognitive instruction	Metacognitive instruction alone	1 / 4.17%	4 / 16.7%	-	4 / 17.4%
	Pretest-instruction-post test	3 / 12.53%		4 / 17.4%	
Measured quantitatively	Questionnaire	15 / 62.5%	15 / 62.5%	11 / 47.6%	11 / 47.6%
Measured qualitatively	Observation	1 / 4.16%	5 / 20.8%	1 / 4.38%	8 / 35%
	Interview	3 / 12.48%		7 / 30.62%	
	Others	1 / 4.16%		-	

The need for metacognitive instruction is very striking in both contexts. It seems that quantitative measurement of metacognitive awareness should be accompanied by qualitative measurement not only to triangulate data but also indicate how students apply related strategies in an authentic learning situation. The comparison between the persetages of the roles of metacognitive awarness in students' studies of two contexts is presented in Figure 2.
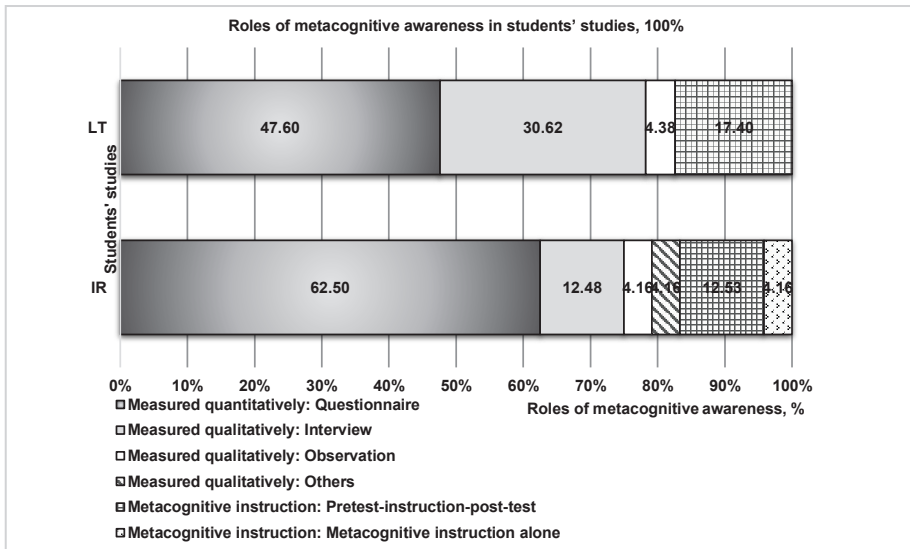
Figure 2. *The comparison between the percetages of the roles of metacognitive awareness in Lithuanian and Iranian students' studies*

Table 4. *The comparison between the frequencies and percentages of the role of metacognitive awareness in Lithuanian and Iranian lecturers' studies*

Role of metacognitive awareness in lecturers' study		Ir f/%	Sum/Ir f/%	Lt f/%	Sum/Lt f/%
Measured quantitatively	Pre-test-instruction-post test	1 / 9%	1 / 9%	-	-
	Questionnaire	5 / 45.5%	5 / 45.5%	-	-
Measured qualitatively	Observation	-		3 / 50%	
	Interview	3 / 27.3%	5 / 45.5%	2 / 33.33%	6 / 100%
	Others	2 / 18.2%		1 / 16.67%	

As it is clear, the number of the lecturers' studies in both contexts is much less than the students', especially in the Lithuanian context, which reveals the need for more profound studies to be done in this area. Lecturers' metacognitive instruction is absent in the Lithuanian context and only in one case can it be seen in Iranian studies. The comparison between the percetages of the roles of metacognitive awareness in lecturers' studies of two contexts is shown in Figure 3.
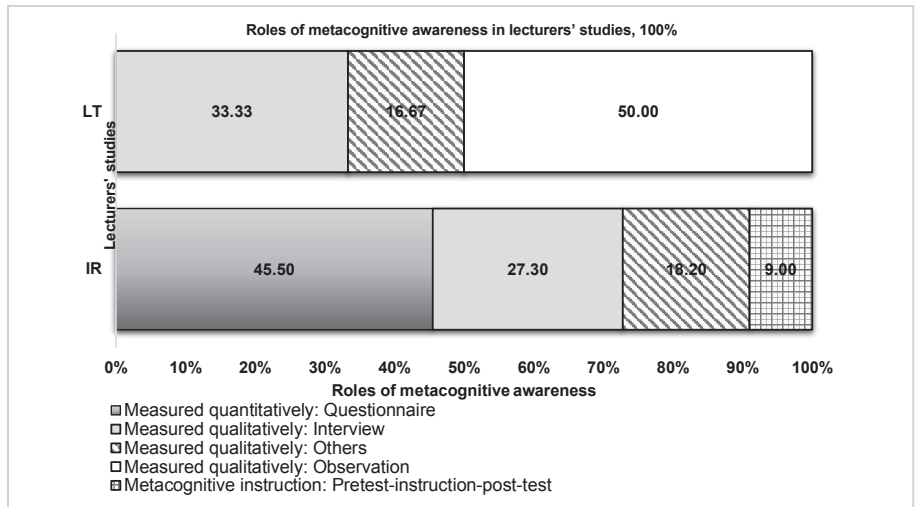
Figure 3. *The comparison between the percetages of the roles of metacognitive awareness in Lithuanian and Iranian lecturers' studies*

Metacognitive awareness instructional practices. The metacognitive practices which were applied by Lithuanian and Iranian students in the classroom are presented in Table 5.

Table 5. *The comparison between the frequencies and percentages of metacognitive awareness instructional practices in Lithuanian and Iranian students' studies*

Metacognitive awareness instructional practices		Ir f/%	Sum/Ir f/%	Lt f/%	Sum/Lt f/%
Reflective writing	Learning contracts	-		1 / 5%	
	Learning journals	1 / 4.33%		1 / 5%	
	Learning portfolio	1 / 4.33%	3 / 13%	3 / 15%	6 / 30%
	Learning log	1 / 4.33%		1 / 5 %	
Modeling		1	1 / 4.3%	1	1 / 5%
Interactive-reflective activities	Discussion	1 / 4.35%		8 / 40%	
	Observation	-		1 / 5%	
	Brainstorming	-	2 / 8.7%	1 / 5%	12 / 60%
	Reflection	1 / 4.35%		2 / 10%	
Prompts	Prompts	10 / 43.4%		-	
	Questions	3 / 13%		1 / 5%	
	Analyzing thinking after reading	1 / 4.4%		-	
	Thinking aloud	1 / 4.4%	17 / 74%	-	1 / 5%
	Error detection	1 / 4.4%		-	
	Verbal report	1 / 4.4%		-	

The most popular practice in Iranian students' university studies is associated to the use of prompts which covers 74% of the total practices, while that of Lithuanian is interactive-reflective activities with 60% of the whole practices. The second most frequent practice in both contexts is employing reflective writing (LG=30%, IG=13%). In Iranian university studies, the third most common practice is interactive-reflective activities (IG=8.7%). This practice consists of discussion of the learning processes (i.e. peer to peer, teacher to students, group discussion and so on.), presentation and collaborative learning. The least frequent practice in Iranian studies is modeling with 4.3% of total practices, whereas the least popular practices in Lithuanian university studies are employing prompts (5%) and modeling (5%). In only one of the studies, the explicit metacognitive instruction regarding metacognitive strategies including explaining, providing examples, talking about its importance is investigated. In one of the Iranian studies, prolonged and repeated exposure to the metacognitive questionnaire is considered as metacognitive awareness instruction. In most of the studies with metacognitive instruction, practices for raising metacognitive strategies can be seen. The comparison between the percetages of the metacognitive awareness instructional practices in students' studies of two contexts can be depicted in Figure 4.
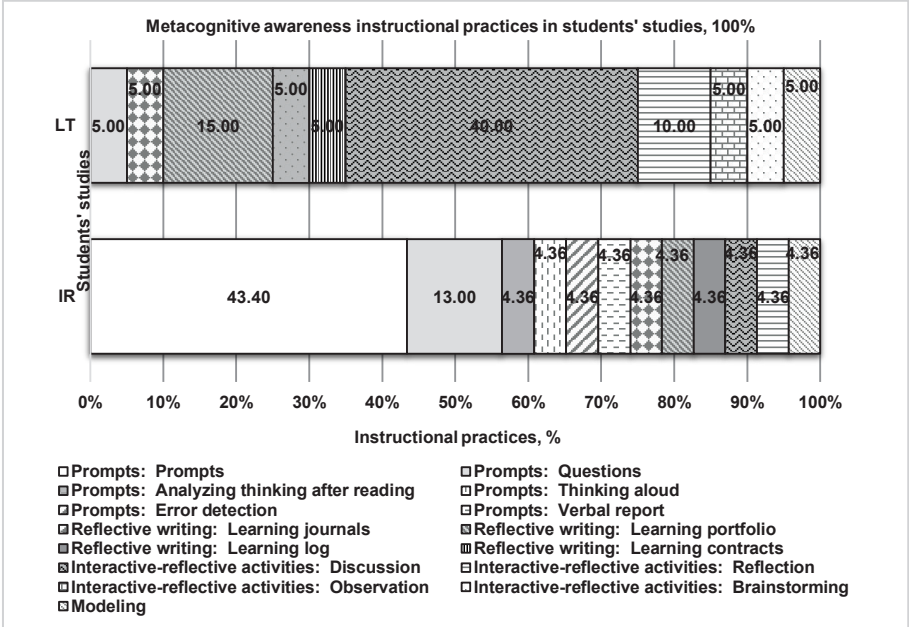
Figure 4. *The comparison between the percetages of the metacognitive awareness instructional practices in Lithuanian and Iranian students' studies*

Metacognitive practices for lecturers can be seen only in one of the studies in each setting. In the Lithuanian lecturer's study, text analyses to scaffold the learning process as a prompt and metacognitive discussion with peer-feedback session were used. While in the Iranian context, the lecturer's metacognitive training encompasses modeling with explicit explanation, invoking reflection, dialogue interaction and discussion.

By examining the previous papers, it is clear that most of the studies are on regulation of cognition subcomponents, especially to monitoring and evaluation. This imbalance may be due to different underlying reasons. Metacognitive strategies are known as the most fertile factors in improving the students' learning process (Veenman, 2012). The second potential reason can be the general applicability of metacognitive strategies compared to metacognitive knowledge (Schraw et al., 1995; Veenman, 2012). It means that teaching metacognitive strategies is the same across different contexts and science topics whereas special instruction should be designed for metacognitive knowledge in different contexts and topics. Not only are metacognitive knowledge and metacognitive strategies - interlocked components of metacognitive awareness - but their activation and development depend on the existence of metacognitive knowledge (Efklides, 2009; Schraw, 1998; Schraw & Moshman, 1995; Veenman, 2012) not to mention that both metacognitive knowledge and strategies can be attributed to the development of cognitive strategies (Flavell, 1976; Schraw & Moshman, 1995).

There are some missing points of metacognitive teaching in both contexts which may open a new line of inquiries. What is mostly missed is explicit metacognitive instruction.

As Veenman (2012) emphasizes any successful metacognitive teaching makes a link between metacognitive knowledge and metacognitive strategies. Secondly, explicit instruction is very informative for students. Knowing about merits and usefulness of metacognitive awareness persuades them to engage in related activities. Thirdly, it should be prolonged enough with sufficient and varied activities to provide opportunities for students to apply them gradually.

What is more, lecturers should have enough metacognitive knowledge and pedagogical knowledge to be able to give fruitful students' metacognitive instructions. These two factors are related to their actual practices in the classrooms. Also, no study was conducted on the type of program or workshop for improving lecturers metacognitive awareness. Lecturers' higher level of metacognitive awareness and being competent in its teaching are significant factors not only in authentic teaching and learning but also in reaching the pre-determined academic objectives.

CHAPTER 2.
METHODOLOGY

Etymologically, "to investigate" means "to seek" in a systematic and scientific way to find better knowledge of the world and/or human beings (Coutinho, 2011). However, there is an open path of multiple choices, paradigms and methods, therefore; there are an abundance of hesitations, deviations and uncertainties. Similar to a creative painter who looks at the world around and expresses himself on a screen with choosing particular techniques and materials, any researcher must also select his methodology in a creative way, which he will base on its paradigm. In this line of thought, the methodology underlying the development of any research resulted from the perspective that it can never be understood as a defined and closed cycle, but as something that can be built according to the lived experience and data collected. This section justifies the methodological decision made related to this study. The choice of the paradigm, mixed methods research and design are explained, followed by the rationale for selecting them.

2.1. Research paradigm

The basis of discussing paradigms prior to doing any research stems from the fact that the research methods we pick up depend on the epistemological position we take, and researchers with different epistemological views draw on different paradigms. Thus, it is imperative to talk about the paradigm I adopt first before discussing the methodology and design I settle on. It is common to place scientific studies within a theoretical framework which is called the "research paradigm" (Coutinho, 2011; Vilelas, 2009) which is simply "an approach to thinking about and doing research" (Johnson & Christensen, 2008, p. 33).

A paradigm is an interpretive framework which implies any study is driven by the investigator's feeling and attitudes towards his environment. Creswell (2014) believes it is synonymous with "worldview" and each raises specific questions and results in interpretations. For the researchers, there must be a connection to their ontological and epistemological positions with their selected paradigm since this affects the collection, analysis and presentation of the results of data. While some researchers (Creswell, 2009; Creswell & Plano Clark, 2011) believed that every paradigm takes its own way of thinking, the most common paradigm in the field of education are positivist/post-positivist, interpretivist/constructivist, transformative and pragmatic (Creswell, 2014).

While addressing the ontological perspective of a pragmatist in respond to the connected question of "what is the nature of reality?" we must mention that they settle for the multiple realities and refrain from claiming that any data is documented as true while they believe in numerous knowledge claims received from other ways if involving in the world (Creswell & Plano Clark, 2011). This does not imply that they do not look for sensible, legitimate and valid data to adress their issues. A pragmatist sees the reality as a normative construct that is related to what works to help folks solve their issues (Tashakkori & Teddlie, 2010). Epistemology is mostly thought of as attitudes towards what is familiar and the way can be known. Through Tashakkori and Teddlie (2010) pragmatism's view, we will

just acquire data through a mix of action and reflection and it is never about a world "out there" (p.112).

In the field of research, two seemingly antagonistic paradigms, the positivist or quantitative and the interpretative or qualitative have assumed a preponderant role. The first paradigm implies a way of seeing the objective world inspired by a "realistic ontology" (Coutinho, 2011, p.11). It focuses on the analysis of observable facts and phenomena and the evaluation of variables that can be measured, compared or related. An efficient instrument is used for collecting and analyzing data (Coutinho, 2011; Johnson & Christensen, 2008). Based on Coutinho (2011), we can point out five general characteristics for the quantitative paradigm: (i) emphasis on facts, comparisons, relationships, causes, outputs and results of the study; (ii) research based on theory, often consisting of testing, checking and proving theories and hypotheses; (iii) application of valid and standardized tests and measures of objective observation of behavior; (iv) use of statistical techniques for data analysis and (v) a study objective focused on the development of generalizations that contribute to increase knowledge and allow to predict, explain and control phenomena.

In contrast, qualitative researchers do not seek to explain the social reality by looking for the causal relationship between variables, but rather by understanding the events and adopting a constructivist perspective. In this sense, qualitative research seeks to investigate ideas and meanings in individual actions and social interactions without imposing previous expectations on the phenomenon. In this context, the theory emerges based on the observation of the subjects after the analysis of the data. Thus, the qualitative researcher preferably uses observation techniques. The five main characteristics of qualitative research according Coutinho (2011) are: (i) the direct source of data is the natural environment, constituting the main instrument; (ii) the methodology is descriptive in nature; (iii) the process is more important than the results or products; (iv) the data analysis is done in an inductive way and (v) the meaning is built from the perspectives of the participants.

Given these characteristics to the quantitative and qualitative paradigms, we could assume that these are completely incompatible since they are based on different ontological, epistemological and axiological conceptions about the nature of the investigation. However, several researchers have been rejecting and applying "incompatibility term" in this regard since 1990s (Johnson & Christensen, 2008, p. 33), They argued that the two paradigms have some similarities such as using observation to answer research questions, describe data, construct arguments, and speculate about the results, apply varied collection and analysis techniques to maximize meaning from the data, considering the validity of their results, taking into account the theory as the core of importance and trying to understand a social phenomena in a systematic and coherent way (Coutinho, 2011).

A pragmatic approach to research does not focus on an abstract philosophy, but rather on what works in practice. As Johnson and Christensen point out, "according to pragmatism, your research design should be planned and conducted based on what will best help you answer your research questions" (2008, p.33). Thus, the researcher should not be limited to the use of one or another method and should combine quantitative and qualitative

methods to better comprehend human beings and the world around them. A pragmatist perspective thinks of the world as having multiple realities. While that may be true for an individual or culture, it may not be so for others. Thus, it tends to be interpretive. This led Creswell and Plano Clark (2011) to state that a pragmatic researcher initially weighs previously related studies and determines what issues are required to be investigated and later collects data in a myriad of ways based on what could best answer the research questions posed.

Therefore, my question of reality aims at identifying students' attitudes towards their own level of metacognitive awareness and applied subcomponents as well as analyzing the lecturers' attitudes towards the concept of metacognitive awareness, their own pedagogical knowledge and rumored practices. The question will solely be inspected by the connected participants and the investigator's expertise among its specific social and cultural context, that is university studies in Lithuania and Iran which are entirely mirrored within the analysis queries of this paper.

I as a pragmatic investigator, believe that the obtained results as well as my analysis, must not be thought of as true globally and glued to any time and place because science is fallible ever-changing as it is supported by totally different social and cultural contexts. Moreover, I am a firm believer of the claim that we should always think about the previous studies and insights associated with the subject, as I did in the literature review chapter, that it is incredibly helpful to develop data regarding this subject. Finally, I chose to combine methods and techniques of both quantitative and qualitative type studies. In this sense, I have inserted our study within a mixed research paradigm (mixed methods research/ mixed methodology).

2.2. Pragmatism and methodology: Mixed methods

Mixed methods research is a methodology for conducting research that involves collecting, analysing and integrating quantitative and qualitative research. Believing that the methodological combination was the only way to respond to increasingly complex problems, pragmatic researchers have proposed a third research paradigm, the mixed paradigm which is more natural and more practical. It is natural because individuals tend to solve problems using numbers and words simultaneously and combining deductive and inductive thinking. It is practical because the researcher is free to use all possible methods and techniques to respond to an investigative problem (Creswell & Plano Clark, 2011).

Mixed strategies can be viewed as either a paradigm or a framework guiding the process of analysising and collecting data. As an investigator committed to both perspectives related to the pragmatic analaysis outlined by Creswell (2003), Creswell and Plano Clark (2011) and Tashakori and Teddlie (2010), I am of the view that mix of strategies provides a valuable basis for my analysis since it serves a humanistic want to use both figures and words to solve the research problem, it also helps to answer queries that will not be answered by quantitative or qualitative methods on their own (Creswell& Plano Clark, 2011) and it assists to eliminate the need of aligning myself with a selected set of methods and its distinction.

There are numerous key principals guiding my research. Firstly, identifying students' level of metacognitive awareness and applied subcomponents and analyzing lecturers' attitudes towards the concept of metacognitive awareness, their own pedagogical knowledge and reported practices will positively affect the ways in which students learn and lecturers teach in both Lithuanian and Iranian contexts. Secondly, insight into metacognitive awareness can be gained through use of previously validated instruments such as the one designed by Schraw and Denisson (1994). Thirdly, this instrument was primarily developed and trialled in an American context. As analysing metacognitive awareness is influenced by context, it is important to supplement this further with a culturally and locally appropriate data collection instrument such as our researcher-created questionnaire.

Mixed methods research was appropriate for this study when considering the complexity that existed in the sociocultural environment of the participants which the participants' beliefs, sets of values and attitudes are embedded. Most importantly, it is important for investigating metacognative awareness due to the challenges in measuring it (Akturk & Sahin, 2011; Schraw, 2009) and allows for a complete understanding of this multifaceted complex entity. Having presented the main characteristics of the mixed paradigm, in which I inserted my study, I then explained the research design and the methodological options I have taken and clarified how I combined the quantitative and qualitative methods and the reasons that led me take this decision.

2.3. A concurrent triangulation research design

While working within the pragmatic paradigm, I have drawn upon literature associated with the mixed methods paradigm to articulate the design of my study. Among a number of approaches for designing mixed methods research have been discussed in literature, the one developed by Creswell et al. (2003) is consistent with the research design employed in this study. They presented a design classification proposal of six types that takes into account four factors that affect the design of procedures for a mixed methods study: First, the timing of the qualitative and qualitative data collection, sequentially or concurrently; second, the weight or priority given to qualitative or quantitative research; third, the mixing place of the qualitative and quantitative data, on one end of the continuum or between these two extremes and fourth, existence of theorizing which guides the entire design.

Regarding the way data collection is implemented, the authors suggested that the designs can be sequential or simultaneous. In the sequential method, the researcher may use quantitative and qualitative data collection and analysis procedures prior to using qualitative and quantitative data collection and analysis procedures. In the case of the first option, the goal is to first explore a larger sample and then move on to a more in-depth and breadth exploration of some cases during the qualitative phase which is called sequential explanatory design. In the case of the second option named sequential exploratory strategy which mirrors the previous design, the aim is the preliminary exploration of the problem under analysis and then continue with the use of quantitative data collection procedures to

study a larger sample and generalize the results. Both of the above stipulated designs may or may not be implemented within an explicit theory. In the sequential explanatory design, weight is given to the qualitative data while in the other, it is placed on the qualitative data. The final sequential design is a sequential transformative one which is a two-phase to best serve the theoretical perspective. It is similar to previous designs, since it also presents two phases of data collection and analysis, using different approaches. However, researchers are free to initiate the collection and analysis with any of the approaches and give anyone the priority and integrate them in the interpretation phase of the study.

For concurrent triangulation design, the researchers use the quantitative and qualitative methods simultaneously during the same phase of the study in an attempt to determine convergence, differences or some combination between two databases. Ideally, the priority is the same for both methods; but in practice the priority can be given either to the qualitative method or to the quantitative one. The mixing of the qualitative and quantitative data is in the interpretation phase. This model has numerous advantages that encourage the researchers to apply it. It uses separate quantitative and qualitative methods where the strength of one adds to the strength of the other. A shorter data collection time period at one time at the research site is another merit of this design. Requiring great effort and expertise to study two methods and comparing the results of two analysis using data of different forms are among its limitations. A second type of concurrent design is concurrent embedded/nested, which is the same as the previous one and characterized by the simultaneous quantitative and qualitative approaches in data collection. However, unlike triangular design, the embedded design has a priority approach that guides the whole study, which can be quantitative or qualitative. This type of design can be used when the methods respond to different research questions or when the researcher wants to gain a broader view of the phenomena at a different level of analysis. The mixing of qualitative and qualitative data accomplishes more in the discussion section. As with the sequential transformative model, the concurrent transformative design is guided by the researcher's use of a specific theory as well as the concurrent collection of both qualitative and qualitative data, which are collected at the same time during one data collection phase and may have equal or unequal priority. This design may take the features of either a triangulation or an embedded approach.

Sequential Explanatory Design (a)

QUAN → qual

QUAN Data Collection → QUAN Data Analysis → qual Data Collection → qual Data Analysis → Interpretation of Entire Analysis

Sequential Exploratory Design (b)

QUAN → qual

QUAL Data Collection → QUAL Data Analysis → quan Data Collection → quan Data Analysis → Interpretation of Entire Analysis

Sequential Transformative Design (c)

QUAL → quan
Social science theory, qualitative theory, advocacy worldview

QUAN → qual
Social science theory, qualitative theory, advocacy worldview

Concurrent Triangulation Design (a)

QUAN + QUAL

↓ ↓

QUAN Data collection | QUAL Data collection

↓ ↓

QUAN Data Analysis ←→ Data Results Compare | QUAL Data Analysis

Concurrent Embedded Design (b)

qual / QUAN | quan / QUAL

↓ ↓

Analysis of Findings | Analysis of Findings

Concurrent Transformative Design (c)

QUAN + QUAL
Social science theory, qualitative Theory, advocacy worldview

qual / QUAN
Social science theory, qualitative Theory, advocacy worldview

Figure 5. *Sequential and concurrent designs*
Source: *Adapted from Creswell et al.(2003)*

The above-mentioned designs can be described using notation with shorthand labels and symbols that help the researchers easily communicate their procedures. Each design is briefly described and illustrated in Figure 5.

A plus sign (+) indicates the simultaneous collection of quantitative and qualitative data, an arrow (→) shows that the data collection is sequential, the capital letters (QUAN, QUAL) suggest a weight or priority on the quantitative or qualitative data, analysis and interpretation, a QUAN/qual indicates that the qualitative methods are embedded within a qualitative one, boxes highlight the quantitative and qualitative data collection and analysis. The research concurrent triangulation design was presented in Figure 6. The quantitative method aimed at identifying both Lithuanian and Iranian students' and lecturers' attitudes towards students' level of metacognitive awareness and related subcomponents and lecturers' attitudes towards their own pedagogical knowledge and the qualitative method aimed at analysing the lecturers' reported practice and their attitudes towards the concept of metacognitive awareness in university studies. With these goals in mind, the present study relied on random total sampling of 755 students and 20 lecturers. At the first stage, the data was collected from both Lithuanian and Iranian students (LG= 296, IG=459) at three universities in Vilnius and three universities in Tehran with Schraw and Dennison Questionnaire (1994) during Oct-Dec 2017 and the quantitative data analysis was conducted. The second stage of data collection took place in one university in Vilnius and one in Tehran within Nov 2018 using a researcher-created questionnaire. At this stage, a qualitative method was embedded in the quantitative one, however; the weight was on quantitative analysis rather than on qualitative data analysis. In fact, the qualitative approach allowed me to "explore the behavior, perspectives and experiences in depth" (Vilelas, 2009, p. 105) of the lecturers. According to the typology of Creswell et al. (2003), the present research design can be classified as simultaneous rather than sequential. It was possible to collect both quantitative and qualitative data at the same time and merged them together in order to provide a comprehensive analysis of the research problem. The smaller qualitative form of data was embedded within the larger quantitative data to analyse different types of questions. The obtained data through the questionnaires was submitted to a statistical analysis both descriptive and inferential. On the other hand, the data collected through open-ended questions of the researcher-created questionnaire were submitted to the content analysis developed by Krippendof (2013). The final phase of the study consisted of the discussion of the data obtained through the two separate quantitative and qualitative methods, which complement each other (Creswell & Plano Clark, 2011) and the integration of the results and their interpretation.

In short, we can classify our study as mixed methods, with a concurrent triangular research design adopting a pragmatic position, trying to respond as adequately as possible to the research questions and seeking a better understanding of the phenomena under analysis. In next part, I proceeded to a more detailed description of the study through the characterization of the participations, the specification of the data collection instruments, the applied procedures and data analysis.

Aim	to compare both students' and lecturers' attitudes towards the metacognitive awareness in university studies on the basis of Lithuanian and Iranian cases, and describe the dependency between those attitudes and learning processes.

↙ ↘

Research questions	How do the level, applied subcomponents and Metacognitive Awareness Inventory items of metacognitive awareness of Lithuanian university students differ/compare with those of Iranians'?	What are Lithuanian and Iranian lecturers' attitudes toward the students' level and applied subcomponents of metacognitive awareness, metacognition awareness concept and their own related pedagogical knowledge in university studies?

↓ ↓

to identify   to identify and analyse

QUAN   **QUAN + qual**

Data collection	Date (Oct-Dec 2017) Instrument: Schraw & Dennison Questionnaire (1994) Participants: 755 students (Lithuanian:296) (Iranian: 459)	Date (Nov 2018) Instrument: Researcher-created Questionnaire Participants: 20 lecturers (Lithuanian:10) (Iranian: 10)

↓ ↓

Data analysis	**QUAN**	**QUAN + qual**

↓ ↓

Discussion of results	statistical	statistical+content analysis

↘ + ↙

Interpretation

Figure 6. *Research design*

2.4. Research participants

Students, who participated in this study, were selected randomly, totaled 755 undergraduate students, 296 from 3 universities in Vilnius (Lithuania) and 459 from 3 universities in Tehran (Iran). Overall, 58% were female while 42% were male, with the majority aged between 18 to 25. Students from both countries were majoring in various fields of study including social sciences, management, art, psychology, philosophy, engineering and law. The researcher gathered the data while the students were attending ESP or any other English course.

The student sample size in the quantitative study is quite reliable since in general, it must be around 400 for a big population like Iran. Besides, it depends on the level of error. To this end, to provide evidence to determine whether the participants of this study, the Lithuanian sample size of 296 and Iranian sample size of 459, are enough in both countries to get the correct results or no, a Sample Size Calculator was used. This calculator is presented as a public service of Creative Research Systems survey software. First, the confidence interval (the margin of error) of each country was calculated by considering the three factors of sample size, population, and percentage. Lithuanian participants' confidence interval was 5.7 and Iranians' one was 4.57. Then, the results were entered into another table to calculate the sample size needed. The results showed that this study sample size to reflect the target population was precise enough.

The background part of questionnaire was used to determine how similar the two student groups were in gender, area of study, and age. As is evident in Table 6, since the probabilities associated with t- observed values (.309, .155, .206) were higher than the significant level of .05, it was safely concluded that the two groups of Lithuanian and Iranian university students did not differ significantly on any of the background characteristics. Furthermore, considering that the number of Lithuanian university students is lower than the number of Iranian students, given the overall size of the two countries, the differences in the number of participants in both countries (296 in Lithuania and 459 in Iran) were thought to be appropriate and representative. Figure 7 illustrates the descriptive statistics of Iranian and Lithuanian learners.

Table 6. *Similarities of Lithuanian and Iranian student groups in gender, study area and age*

Background characteristics	Groups	Number of students	Mean	Std. Deviation	T	Sig.
Gender	Lithuania	296	1.45	.493	1.01	.309
	Iran	459	1.41	.498		
Area of Study	Lithuania	296	4.58	.146	1.42	.155
	Iran	459	4.83	.108		
Age	Lithuania	296	2.24	.065	1.26	.206
	Iran	459	2.36	.057		
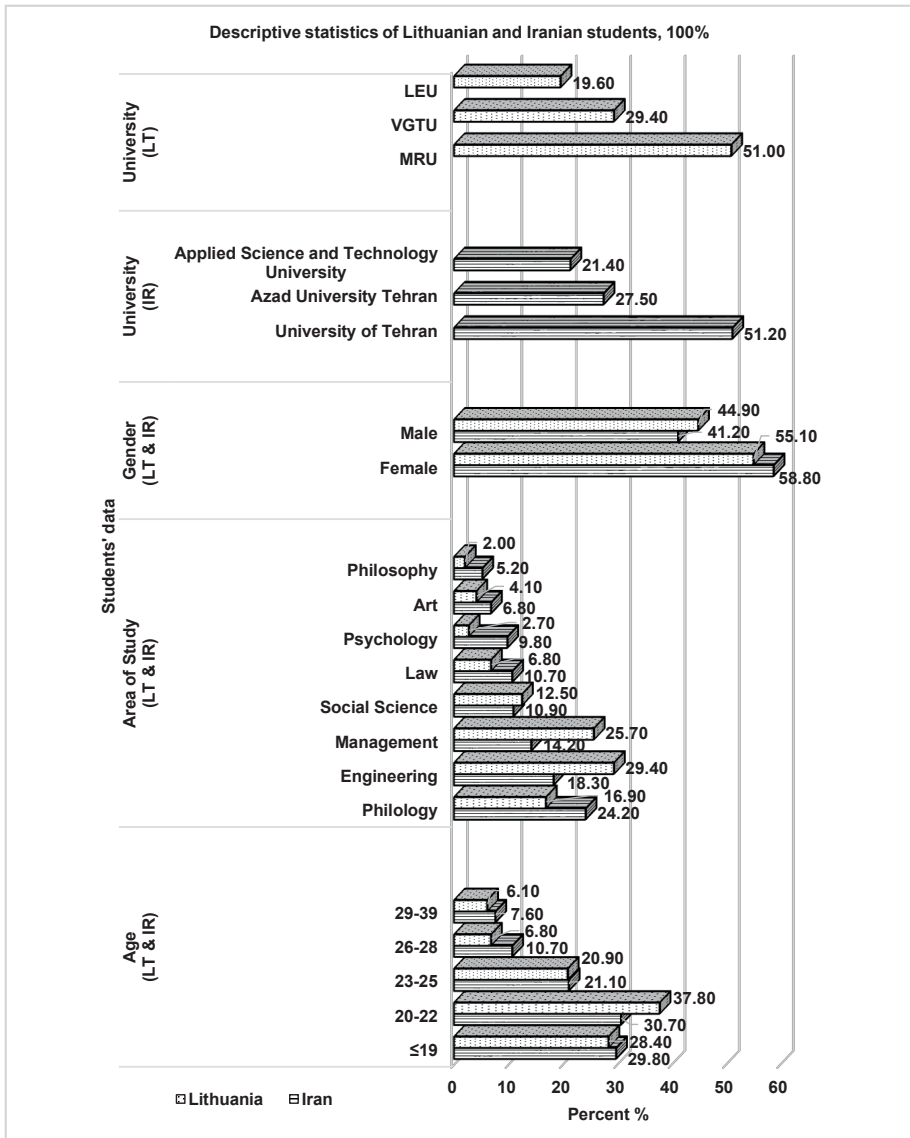
Figure 7. *Descriptive statistics of Lithuanian and Iranian students, 100%*

The 30 lecturers received an email explaining the aims of the study and requesting their participation. In order to have equal group sizes, 10 female lecturers from MRU in Vilnius and 10 female lecturers from Azad University in Tehran all majoring in education or philology in the English Department, were randomly selected to participate. Since both quantitative and qualitative data analyses were conducted on the data obtained

from lecturers and the question about sample size in qualitative research is unimportant, 20 lecturers helped to answer a giant part of the related research question sufficiently. As a matter of the fact, the weight was mostly on the qualitative part of the research which made the analysis of the data as a time-consuming task and the availability of the lecturers less than other studies. In fact, one of the limitations of this study was that the number of the lecturers in both groups was limited which can influence the generalizability of the findings. Also, they were randomly selected from two capitals, Vilnius and Tehran, and from one university in each context which made the overgeneralization of the outcomes a little bit difficult.

The demographic profile of the participants in the two groups were similar, given that the populations had the same background about gender, age, teaching experience, teaching courses and fields of study. The participants of both groups had a range of teaching experiences, with 20% of participants having taught between 5 to 10 years, 20% of participants having taught between 11 to 15 years, 10% of participants having taught between 16 to 20 years, 20% of them from 21 to 25 years, 20% of them from 25 to 30 years and 10% for more than 31 years. 20% had a post doctorate, 50% of the participants had a PhD's degree, and 30% had a master's degree. The courses that they usually taught were ESP, translation and editing, literature and linguistics. Figure 8, shows the demographic data profile of both Lithuanian and Iranian lecturers which is the same for both groups.
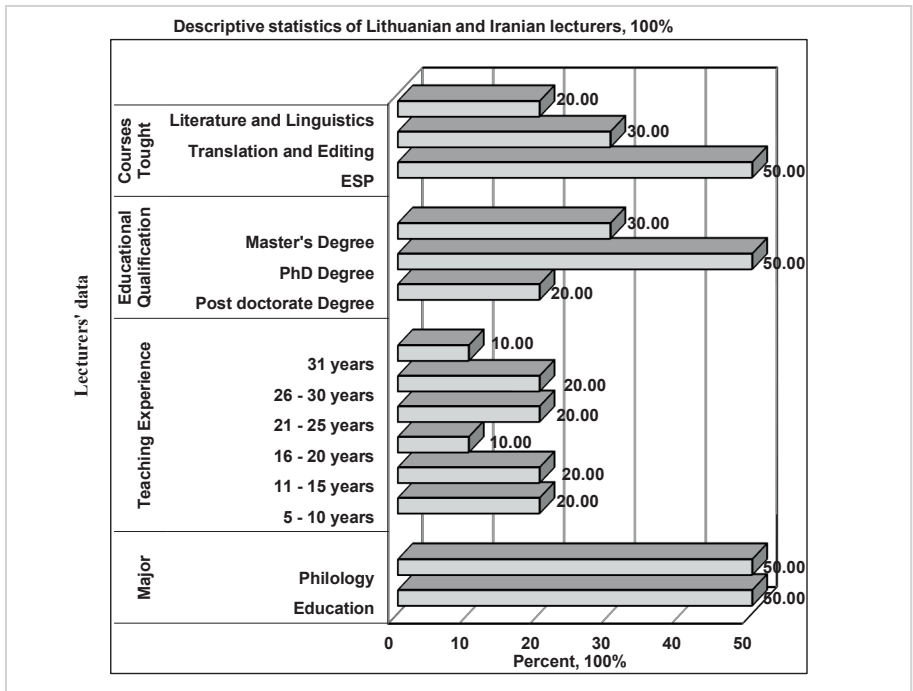
Figure 8. *Descriptive statistics of Lithuanian and Iranian lecturers, 100%*

2.5. Instrumentation

The students completed a questionnaire comprising two sections, a demographic part, which asked for their age, gender, study area and university name, and the MAI, a questionnaire developed by Schraw and Dennison (1994) to measure metacognitive awareness. The self-administered questionnaire consisted of 52 items classified into eight sub-components subsumed under two broader components: knowledge of cognition with 3 sub-components of procedural knowledge, declarative knowledge and conditional knowledge, and regulation of cognition with 5 sub-components of information management strategies, debugging strategies, planning, comprehension monitoring and evaluation. (Appendix 1). The MAI was chosen for the present study, because it was designed to measure metacognition in general, instead of a particular field of study, and its target population is university students. Since the original questionnaire was changed from True/False options to "strongly agree", "agree", "neutral", "disagree" and "strongly disagree", the most important calculation first was to prove that the questionnaire was still reliable in a university context.

Asking for permission before using the authors' questionnaire is not only ethical, legal and keeping the researcher on the safe side but it also helps the authors to give you advice on something valuable about administering or analysing the test. Thus, the authors were contacted in the past, however; no reply could be found from them. As far as the researcher investigation on the internet is concerned, no evidence was found regarding the fact that either the authors or the copyright holders had unauthorized use of instrument for educational purposes and scholarly research. Furthermore, since the questionnaire was created in 1994 and is openly and broadly available online as well as on several educational websites, it can be in the public domain, and permission is therefore not required.

The data for this study was also collected from the lecturers using the researcher-created instrument with strategies designed by Schraw and Dennison (1994) for analysing metacognitive awareness in their inventory. The survey included two parts. Section one contained demographic questions. Section two focused on the lecturers' attitudes towards metacognitive awareness (Appendix 2). The aims of this survey were:
1. To analyse lecturers' attitudes towards the concept of metacognitive awareness
2. To identify lecturers' attitudes towards their own pedagogical knowledge about metacognitive awareness (e.g. the metacognitive strategies they use in class)
3. To identify lecturers' attitudes towards the level of metacognitive awareness of their students

In order to analyse the participants' general understanding of the construct of metacognition, the participants were asked an open-ended question (Q.1), namely, "What is metacognitive awareness?" This question determined if the participant had enough familiarity with the concept to be able to define it. All participants answered perfectly; only one of them, in the MRU group, left it blank. Despite this fact, this participant was not excluded from this study.

The second question (Q.2) asked the participants "How frequently do you use the following metacognitive awareness strategies?" and aimed to access the participants' pedagogical knowledge regarding the metacognitive awareness strategies they applied in their

teaching. For this question, there were 8 statements each for measuring one metacognitive awareness subcomponent with 5 Likert-Scale options ranging from "always" to "never" and the option "I do not know".

Lecturers were also asked to add any other metacognitive awareness strategies that they might use in an open-ended question (Q.2.1). This question allowed the researcher to get access to some qualitative data regarding the participants' attitudes. Thus, this section addressed specific practices in which the participants thought their students were required to be metacognitive.

To identify lecturers' attitudes towards the level of metacognitive awareness of their students, parts 3 and 4 (Q.3 and Q.4) were designed. Q.3 asked lecturers to state their level of agreement with 16 statements measuring different metacognitive awareness subcomponents, with three options of "True", "False" and "I do not know". Q.4 asked lecturers "How do you evaluate the overall level of metacognitive awareness of your students?". There were 4 options of "low", "medium", "high" and "I do not know" to be selected. There was also a follow-up open-ended part (Q. 4.1) to justify their answer for the chosen metacognitive awareness level of their students.

In part 5, a yes/no question was included, namely "Do you think it is important to promote university students' metacognitive awareness" with the follow-up open-ended part of "Please justify yourself." (Q. 5.1). These questions aimed to understand the reasons for promoting students' metacognitive awareness from lecturers' perspective.

2.6. Piloting phase

2.6.1. Piloting phase for students

In the piloting phase of this study, the questionnaire was given to 833 students with the same characteristics of the real participants of this study to check the validity and reliability of the metacognitive awareness questionnaire. The results are described below.

2.6.1.1. Cronbach alpha reliability of the metacognitive awareness questionnaire

The Cronbach Alpha reliability index is calculated as an index of reliability for the metacognitive awareness questionnaire. The reliability value for the MAI scale as a whole for 52 items was .88, for the knowledge of cognition component was .85 and for the regulation of cognition component was .92 Therefore, it can be concluded that the questionnaire is reliable.

2.6.1.2. Factor analysis and construct validity of the metacognitive awareness questionnaire

Principal component analysis with varimax rotation was conducted to assess the underlying constructs of the 52 items of the metacognitive awareness questionnaire.

As it is depicted in the table 7, Kaiser-Meyer-Olkin degree of 0.87 is higher than .60,

hence the sample size (833) was sufficient for the purpose of the study. The probability associated with the Bartlett's Test is also significant (less than .05) and correlations between variables are all zero. So the use of factor analysis is allowed.

Table 7. *KMO and Bartlett's test for students' questionnaire*

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		.879
Bartlett's test of sphericity	Approx. Chi-Square	13042.968
	Df	1326
	Sig.	.000

A factor analysis through varimax rotation was run to probe the underlying constructs of the 52 items of the questionnaire. The SPSS extracted 8 subcomponents.

2.6.2. Piloting phase for lecturers

Eighty lecturers filled out the researcher-created questionnaire to check its validity and reliability. The results are shown below:

2.6.2.1. Cronbach alpha reliability of the metacognitive awareness question

The reliability of the question 2 with 8 items and question 3 with 16 items were calculated through the Cronbach-α formula. The reliability quotient of the question 2 turned out to be .64 and that of question 3 was .81, which were both desirable.

2.6.2.2. Factor analysis and construct validity of Q2 and Q3 of the lecturers' questionnaire

For assessing the underlying constructs of the items in questions 2 and 3, Principal axis factor analysis was conducted.

As it is depicted in the table 8, KMO degree of .65 is higher than .05 for both questions, hence the sample size was sufficient for the purpose of the study. The probabilities associated with the Bartlett's Test are also significant (less than .05) and correlations between variables are all zero. So the use of factor analyses is allowed.

Table 8. *KMO and Bartlett's test for Q2 and Q3 of lecturers' questionnaire*

KMO and Bartlett's test		Q2	Q3
Kaiser-Meyer-Olkin measure of sampling adequacy		.656	.659
Bartlett's test of sphericity	Approx. Chi-Square	95.772	399.7881
	Df	28	120
	Sig.	.000	.000

Probing the underlying constructs of the items in questions 2 and 3, two factor analyses were run.

A 3-factor solution for question 2 and a 5-factor one for question 3 were calculated. 43.08 percent for the 3-factor and 48.78 percent for the next one were shown.

The 8 items of question 2 of the questionnaire load on three factors indicating that these questions tap on 3 traits while the 16 items of question 3 of the questionnaire load on five factors indicating that these questions tap on 5 traits. The questions cluster into these 3 groups and 5 groups defined by high loadings (higher than .30).

2.7. Data collection procedures

This study observed the guidelines in both Code of Ethics and Conduct of the British Psychological Society and the APA Code of Ethics of the American Psychological Association, which respect and protect the rights of all participants. These were informed about the aims of the study and that all data gathered would be treated anonymously and confidentially. All students signed declarations of consent. Then, they were given 20 minutes to respond to the MAI questionnaire. The questionnaire was submitted to quantitative analysis using SPSS, which included both the use of descriptive and inferential statistics.

All lecturers were asked to complete the survey over a two-week period in November in the Fall Semester 2018. Data for lecturers' survey were collected through an anonymous online questionnaire created with Google Forms. The survey started by stipulating the aims of the study and included a declaration of consent. Participants were assured that their participation was voluntary and that all data gathered would be treated anonymously and confidentially. In an attempt to build rapport with the participant, the survey continued by asking demographic questions about the participant's age, gender, academic background and experience related to teaching. Additional questions were used to help the participant provide sufficient detail regarding aspects of their own metacognitive awareness and those of their students.

The quantitative data were collected and analysed using SPSS for questions 2 and 3 of the online survey. Demographic data and all open-ended questions (1, 2.1, 4.1 and 5.1) were submitted to content analysis (Krippendorf, 2013). To establish the main themes, the lecturers' statements for open-ended questions were read and analyzed carefully by three raters, who had detailed knowledge of metacognitive awareness and metacognitive strategies, as well as experience in teaching and qualitative research. The raters were not informed about any characteristics of the participant, including their assigned group. By using contextual themes, each statement was then categorized under appropriate themes (Creswell, 2007). The raters discussed and rationalized appropriately their themes, categorized the data and returned the information to the researcher. When the independently categorized data was received from the three raters, the researcher used the information to determine inter-rater reliability. The agreement of the raters' assigning the responses to each theme was calculated using a mean score to find the inter-rater reliability of .89, which was the average value of agreement from each pair of raters.

2.8. Data analysis

The quantitative data were collected from the Likert scale parts of the researcher-made questionnaire for the lecturers, namely parts 2 and 3 and whole parts of the questionnaire for the students. The data were coded and entered by the researcher into the Statistical Package for the Social Sciences V 20 (SPSS) for descriptive and inferential analysis.

Qualitative data analysis occurred in multiple phases. First, the written responses to the open-ended questions were analysed applying either inductive or deductive qualitative content analysis using an iterative approach. It was a recursive process in which the data were reviewed to determine the major themes in the written responses. The analysis involved discovering patterns, themes, and categories in the data (Krippendorf, 2013). Therefore, open coding of the participants' responses to the open-ended questions was the first step to identifying themes and patterns in the data. The researcher and three raters used systematic process of analyzing textual data by reading all textual data and (1) identifying topics; (2) clustering together similar topics; (3) abbreviating topics as codes; (4) developing categories; (5) looking for overlaps and interrelationship of topics; (6) assembling data in each category; (7) performing preliminary analysis of findings; and (8) confirming findings. Participants who did not answer the questions or provided incomplete responses were not excluded from the study. Only one participant from the Lithuanian group did not reply to all open-ended questions.

CHAPTER 3.
FINDINGS

This chapter, which contains two main parts, focuses on answering research questions while looking at the acquired quantitative and qualitative data through the use of two measures for data collection explained previously. In the first part of this chapter, the findings related to identifying the existing Lithuanian and Iranian university students' level of metacognitive awareness, related subcomponents and items as revealed by Schraw and Denisson's (1994) metacognitive awareness inventory (MAI) are compared and discussed. Furthermore, the relationship between two main components of metacognitive awareness in two groups are delineated. In the second part, the findings obtained from the researcher-created questionnaire for the lecturers are referred to in order to identify and compare both Lithuanian and Lithuanian lectures' attitudes towards the level of metacognitive awareness of their students, the concept of metacognitive awareness, their own pedagogical knowledge and practices in the class. Then, the lecturers and students' attitudes towards students' level of metacognitive awareness are compared and contrasted. Finally some recommendations for lecturer education and learning programs on metacognitive awareness based on the findings are listed.

3.1. Findings from the students' questionnaire

3.1.1. Group with higher level of metacognitive awareness

Data analysis of the first null hypothesis. The first null hypothesis tested in this study was: There are no differences in the overall score of the metacognitive awareness or any eight subcomponents (Declarative, Procedural, Conditional, Planning, Comprehension monitoring, Information management, Evaluation, and Debugging) between Lithuanian and Iranian university students. Eight t-tests were used to analyze the first null hypothesis. To test this null hypothesis, the academic context of the university students (Lithuanian and Iranian university students) was used as the independent variable. There were nine dependent variables for the first null hypothesis including the overall score of the metacognitive awareness and its eight subcomponents including Declarative, Procedural, Conditional, Planning, Comprehension monitoring, Information management, Evaluation, and Debugging. Table 9 specifies the mean, the standard deviation, and the standard error of the two student groups on the three subcomponents of knowledge of cognition.

Table 9. *Lithuanian and Iranian student group statistics on the knowledge of cognition subcomponents*

Knowledge of cognition subcomponents	Groups	Number of students	Mean	Std. Deviation	Std. error mean
Declarative	Iran	459	18.62	6.61	0.30
	Lithuania	296	22.18	3.24	0.18

Knowledge of cognition subcomponents	Groups	Number of students	Mean	Std. Deviation	Std. error mean
Procedural	Iran	459	11.12	3.88	0.18
	Lithuania	296	13.37	2.52	0.14
Conditional	Iran	459	9.09	3.34	0.15
	Lithuania	296	10.67	2.35	0.13

Table 10 specifies the mean, standard deviation and the standard error of the five sub-components of regulation of cognition of the two student groups.

Table 10. *Lithuanian and Iranian student group statistics on the regulation of cognition subcomponents*

Regulation of cognition subcomponents	Groups	Number of students	Mean	Std. deviation	Std. error mean
Evaluation	Iran	459	22.34	7.43	0.34
	Lithuania	296	26.4	4.02	0.23
Plan	Iran	459	15.72	5.32	0.24
	Lithuania	296	19.03	3.20	0.18
Comprehension	Iran	459	14.95	4.78	0.22
	Lithuania	296	18.73	3.32	0.19
Information	Iran	459	22.34	7.43	0.34
	Lithuania	296	26.4	4.02	0.23
Debugging	Iran	459	11	3.58	0.17
	Lithuania	296	13.16	2.86	0.16

Three and five independent t-tests were separately run to compare the mean scores of the two groups on the knowledge and regulation of cognition subcomponents. As is evident in Tables 11 and 12, although the probability associated with the F-observed value (.000) was lower than the significant level of .05, the two groups were not homogenous in terms of their variances; nevertheless, the probability associated with the t-observed value (.000) was lower than the significant level of .05 and it can be concluded that there was a significant difference between the mean scores of the two groups on the knowledge and regulation of cognition subcomponents.

Table 11. *Independent samples test for the mean scores of Lithuanian and Iranian student groups on the knowledge of cognition subcomponents*

	Levene'test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2 tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Conditional	60.55	.000	8.82	753	.000	.25	.25	1.74	2.74
Declarative	251.4	.000	8.62	753	.000	3.5627	.41	2.75	4.38
Procedural	54.77	.000	7.46	753	.000	1.66	.22	1.23	2.10

Table 12. *Independent samples test on mean scores of Lithuanian and Iranian student groups on regulation of cognition subcomponents*

	Levene'test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Df	Std. Error Df	Lower	Upper
Comprehension Monitoring	51.5	.000	11.86	753	.000	3.78	.31	3.15	4.4
Debugging	41.28	.000	8.29	753	.000	2.16	.26	1.65	2.67
Evaluation	109.93	.000	10.5	753	.000	3.4	.32	2.77	4.04
Information Management	268.06	.000	8.6	753	.000	4.05	.47	3.13	4.98
Planning	131.76	.000	9.63	753	.000	3.31	.34	2.63	3.98

By comparing the mean scores, it can be concluded that the Lithuanian students are stronger than Iranians in both the knowledge of cognition and regulation of cognition subcomponents.

3.1.2. Groups' level of metacognitive awareness with the sequence of the strongest to the weakest subcomponents

As all 52 applied metacognitive strategy items were on a five-point Likert scale, with the options ranging from "always" to "never", the options were given values from 5 to 1 accordingly. Then the sum of the values for each item which was divided by the total number of participants in each group (LG=296, IG=459), was calculated and mentioned in Tables 14 and 15 as a mean score. The criteria for judging students' and lecturers' metacognitive awareness levels are shown in Table 13 (see also Figure 9).

Table 13. *Grading criteria of metacognitive awareness level*

Metacognitive awareness level	Mean	Options
High	4.5-5.0	Strongly agree
	3.5-4.4	Agree
Medium	2.5-3.4	Neutral
Low	1.5-2.4	Disagree
	1.0-1.4	Strongly disagree
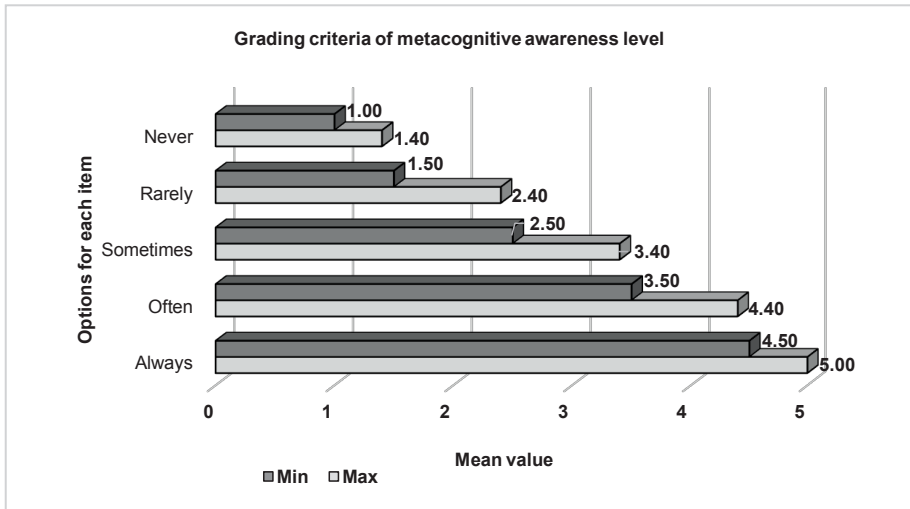
Figure 9. *Grading criteria of metacognitive awareness level*

Table 14. *Lithuanian and Iranian students' knowledge of cognition and its subcomponents descriptive statistics*

Knowledge of cognition subcomponents	No Iran/ Lithuania	Minimum	Maximum	Mean	Std. Deviation
Knowledge of cognition	456/296	1.12/1.59	3.76/4.00	2.27/2.71	.698/.348
Declarative	459/296	1.00/1.63	4.25/3.88	2.32/2.77	.827/.405
Procedural	459/296	1.00/1.00	4.75/4.50	2.25/2.66	.837/.588
Conditional	459/296	1.00/1.40	4.60/4.20	2.22/2.67	.777/.504

As seen in Table 14, Iranian students' metacognitive awareness levels were low (M=2.27, SD=.698) in comparison with that of Lithuanians (M=2.71, SD=.348) which was medium in terms of the knowledge of cognition component.

Upon examining the subcomponents under the knowledge of cognition component, the mean score obtained for the declarative knowledge (M=2.32, SD=.827) was found to be higher in the Iranian group. The same was true for declarative knowledge in the Lithuanian group (M=2.77, SD=.405).

Table 15. *Lithuanian and Iranian students' regulation of cognition component and its subcomponents descriptive statistics*

Regulation of cognition subcomponents	No Iran/ Lithuania	Minimum	Maximum	Mean	Std. Deviation
Regulation of cognition	459/296	1.20/1.71	3.49/3.40	2.20/2.68	.652/.260
Comprehension Monitoring	459/296	1.00/1.29	4.43/4.00	2.13/2.67	.683/.475
Debugging	459/296	1.00/1.20	4.40/4.20	2.20/2.63	.770/.572
Evaluation	459/296	1.00/1.50	4.33/4.33	2.19/2.76	.832/.515
Information Management	459/296	1.00/1.60	3.70/4.10	2.23/2.64	.743/.402
Planning	459/296	1.00/1.43	4.43/4.43	2.24/2.71	.761/.458

As seen in Table 15, Iranian students' metacognitive awareness levels were low (M=2.20, SD=.65) in comparison with that of Lithuanians (M=2.68, SD=.26), which was medium in terms of the regulation of cognition component. Considering this component, the highest mean score in the Iranian group was obtained in the planning subcomponent (M=2.24, SD=.76) and the lowest mean score was obtained in the comprehension monitoring subcomponent (M=2.13, SD=.68). In the Lithuanian group, the highest mean score was obtained in the evaluation subcomponent (M=2.76, SD=.515) and the lowest mean score was obtained in the debugging subcomponent (M=2.63, SD=.57).

By considering the mean scores of the subcomponents, the sequence of the strongest to the weakest subcomponents for both groups is as follows (see Figure 10):

Knowledge of cognition subcomponents of Lithuanian students: Declarative, Conditional and Procedural

Knowledge of cognition subcomponents of Iranian students: Declarative, Procedural and Conditional

Regulation of cognition subcomponents of Lithuanian students: Evaluation, Planning, Comprehension monitoring, Information management, Debugging

Regulation of cognition subcomponents of Iranian students: Planning, Information management, Debugging, Evaluation, Comprehension monitoring
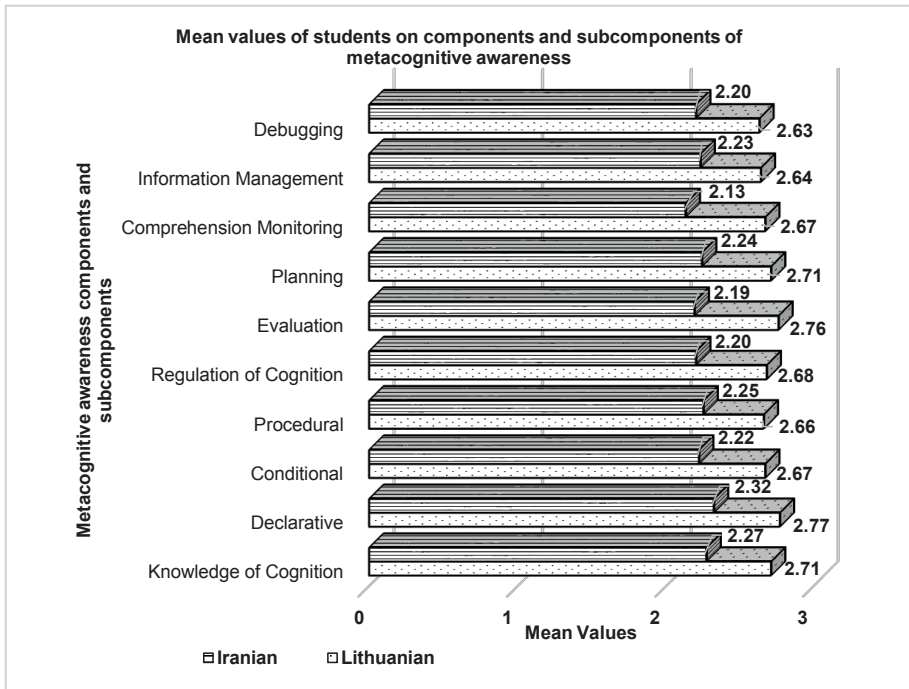
Figure 10. *The mean values of Lithuanian and Iranian university students on all components and subcomponents of metacognitive awareness*

3.1.3. The sequence of MAI items from the highest to the lowest score in each group

In order to determine the sequence of MAI items from the highest to the lowest score in each group, the total metacognitive awareness score of students was calculated on each item in each group. Given that all the metacognitive awareness items are on a five-point Likert scale, with the options ranging from "strongly agree" to "strongly disagree" the options were given values from 5 to 1 accordingly. Then the sum of the values for each item was calculated.

In order to categorize the items from the weakest to the strongest ones for both groups, the items were categorized based on the total score of all the participants in each item for both groups.

The first half of the items were chosen as the weak ones and the second half were chosen as the strong ones. For example, in the Lithuanian group item 51 (I stop and go back over new information that is not clear) with a score of 702 is the item that Lithuanians are least metacognitively aware of and item 42 (I read instructions carefully before I begin a task) with a score of 879 is the item that Lithuanians are mostly metacognitively aware of. Based

on the following data Lithuanians are very weak in items 51, 49 (I ask myself if I learned as much as I could have once I finish a task) and 4 (I pace myself while learning in order to have enough time).

Regarding the Iranian group, item 43 (I ask myself if what I am reading is related to what I already know) with the score of 912 is the item that Iranians are least metacognitively aware of and item 12 (I am good at organizing information) with a score of 1169 is the item that Iranians are most metacognitively aware of. Based on the following data Iranians are quite weak in items 43, 2 (I can consider several alternatives to a problem before I answer) and 11 (I ask myself if I have considered all options when solving a problem). The complete list of 52 items with the total group scores for each item from the weakest to the strongest has been presented in Appendix 3.

3.1.4. The correlation between knowledge of cognition and regulation of cognition in both groups

Data analysis of the second null hypothesis. The second null hypothesis was as follows: There is no relationship between the two main metacognitive awareness components of knowledge and regulation of cognition of Lithuanian and Iranian university students. Kendall's tau-b correlation was used to assess whether there was any relationship between two main metacognitive awareness components of knowledge of cognition and regulation of cognition of Lithuanian and Iranian university students. The Independent variable was the academic context of the university students (Lithuanian and Iranian university students) and the two main metacognitive awareness components of knowledge of cognition and regulation of cognition were dependent variables. Table 16 shows the descriptive analysis of these two main components.

Table 16. *Descriptive statistics of knowledge of cognition and regulation of cognition in Lithuanian and Iranian student groups*

Metacognitive awareness components	N Iran/Lithuania	Minimum	Maximum	Mean	Std. Deviation
Knowledge	459/296	1.12/1.59	3.76/4.00	2.27/2.71	.698/.348
Regulation	459/296	1.20/1.71	3.49/3.40	2.20/2.68	.625/.260

Kendall's tau-b correlation was run to probe the relationship between the two components of knowledge of cognition and regulation of cognition in the two groups. As Table 17 indicates, the R-observed value is .63 and the probability associated with R-observed value (.000) was lower than the significant level of .05.

Table 17. *Correlations between knowledge of cognition and regulation of cognition in Iranian student group*

Kendall's tau_b			Regulation	Knowledge
	Regulation	Correlation Coe.	1.000	.631**
		Sig.	.	.000
		N	459	459
	Knowledge	Correlation Coe.	.631**	1.000
		Sig.	.000	.
		N	459	459

*.Correlation is significant at the 0.01 level (2-tailed)

As Table 18 indicates, the R-observed value is .34 and the probability associated with R-observed value (.000) was lower than the significant level of .05.

Table 18. *Correlations between knowledge and regulation of cognition in Lithuanian student group*

Kendall's tau_b			Knowledge	Regulation
	Knowledge	Correlation Coe.	1.000	.345**
		Sig.	.	.000
		N	296	296
	Regulation	Correlation Coe.	.345**	1.000
		Sig.	.000	.
		N	296	296

*.Correlation is significant at the 0.01 level (2-tailed)

Based on the results it can be concluded that there is a significant positive relationship between the two main components of knowledge of cognition and regulation of cognition in both groups**.**

3.1.5. Summary of the main findings from the students

In this chapter, the findings for the quantitative method research were offered. The results of the students' questionnaire results were presented in four sections.

In section 3.1.1., statistical analyses, according to the first null hypothesis, were offered. Eight t-tests were used to see if any significant differences existed between the overall score of the metacognitive awareness or any eight sub-components (i.e. Declarative, Procedural, Conditional, Planning, Comprehension monitoring, Information management, Evaluation, and Debugging) of Lithuanian and Iranian university students. When the overall mean scores of metacognitive awareness and its eight subcomponents were compared in two groups, we found a statistically significant difference between the mean scores of

the two groups which were the base for rejecting the null hypothesis. Therefore, it can be concluded that the students of Lithuania were stronger than those of Iranians in both meta-cognitive awareness level and all the knowledge of cognition and regulation of cognition subcomponents. In section 3.1.2., the level of metacognitive awareness of the two groups was assessed with the sequence of the strongest to the weakest subcomponents. The Iranian students' metacognitive awareness levels were low in comparison with those of Lithuanians which was medium. Besides, the sequence of the strongest to the weakest subcomponents in the knowledge of cognition was "declarative, conditional and procedural" in the Lithuanian group while that of Iranians was "declarative, procedural and conditional". Regarding the subcomponents of regulation of cognition, the Lithuanian students considered themselves weaker in information management and debugging while the Iranian students determined debugging, evaluation, and monitoring subcomponents as their weaker ones. In section 3.1.3. the sequence of 52 MAI items from the highest to the lowest score in each group was reckoned. Moreover, in section 3.1.4, Kendall's tau-b correlation was utilized for the second null hypothesis, which attempted to determine any statistical difference between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition of Lithuanian and Iranian university students. Finding a statistically significant difference gave precise criteria for rejecting the null hypothesis within a confidence level.

3.2. Findings from the lecturers' questionnaire

3.2.1. Lecturers' attitudes towards the concept of metacognitive awareness

The answers to open-ended question 1, "What is metacognitive awareness? Please try to define it in your own words." were inductively analysed based on the lecturers' responses and were placed in a number of themes developed from their words related to common definitions of this term including "cognitive", "strategic" and "affective" themes. Words such as "know", "think", "reflect", "understand", "aware", "figure out" and "acquisition", which are all related to brain activities included under the main theme of "cognitive". Some words such as "monitor", "control", "regulate", "assess" and "goal" that are related to the use of strategies were categorized under the "strategic" theme. The "affective" theme included "emotion", "motivation" and "interest" words. In order to provide a frequency count of the participants; responses and identify patterns, each response was scored one point. The most to least frequent used key themes related to the meaning of metacognitive aware-ness from the lecturers' perspective were calculated, as well as the percentages of using the themes (Table 19).

Table 19. *Themes applied by lecturers for defining metacognitive awareness*

No	Lecturers' statements	Themes		
		Cognitive	Strategic	Affective
1	I can only say that it is reflection, it is thinking about thinking. T19L1	+		
2	I understand that there are ways to make my learning\teaching process better and I apply this in practice.T19L2		+	
3	It's my awareness of the acquisition of knowledge, process of learning, my learning skills and habits. T19L3	+	+	
4	The term meta means beyond. MA covers understanding of goals of learning process and figuring out the best strategies for learning and assessing whether the learning goals are being met. T19L4	+	+	
5	It means being aware how you learn. T19L5	+		
6	It is "thinking about thinking" or "knowing about knowing". T19L6	+		
7	Knowing about how you learn and get new knowledge. T19L7	+		
8	Being aware of how you learn. T19L8	+		
9	Reflective thinking-Critical thinking. T19L9	+		
Lithuanian frequency of chosen themes, 11		**8**	**3**	**0**
Percentage of chosen themes, 100%		**73%**	**27%**	**0%**
1	It is "thinking about thinking". T19I1	+		
2	I consider it more psychological and affective than cognitive factor. Simply, it is "thoughts about thoughts. T19I2	+		+
3	Conscious thinking of one's own learning. T19I3	+		
4	Thinking about the process of learning, higher order thinking. T19I4	+		
5	The activity of monitoring and controlling one's cognition. T19I5		+	
6	The learner's ability to consciously and deliberately monitor and regulate his learning. T19I6		+	
7	The individual knowledge about his own learning processes, cognitive and emotional states. T19I7	+		+
8	Knowledge to control and monitor one's performance in tasks. T19I8	+	+	
9	Higher level of thinking. T19I9	+		
10	The activity of monitoring and controlling one's cognition. T19I10		+	
Iranian frequency of chosen themes, 13		**7**	**4**	**2**
Percentage of chosen themes, 100%		**54%**	**31%**	**15%**

KEY: T, L and I stand for Table, Lithuanian lecturer statement and Iranian lecturer statement.

These themes revealed some additional insights regarding lecturers' attitudes towards metacognitive awareness and enriched the research data. Participants in both groups considered this concept mostly cognitive and then strategic. The Lithuanian research participants did not mention anything about the affective meaning of metacognitive awareness, while a few Iranian participants' responses were categorized under this theme (see Figure 11).
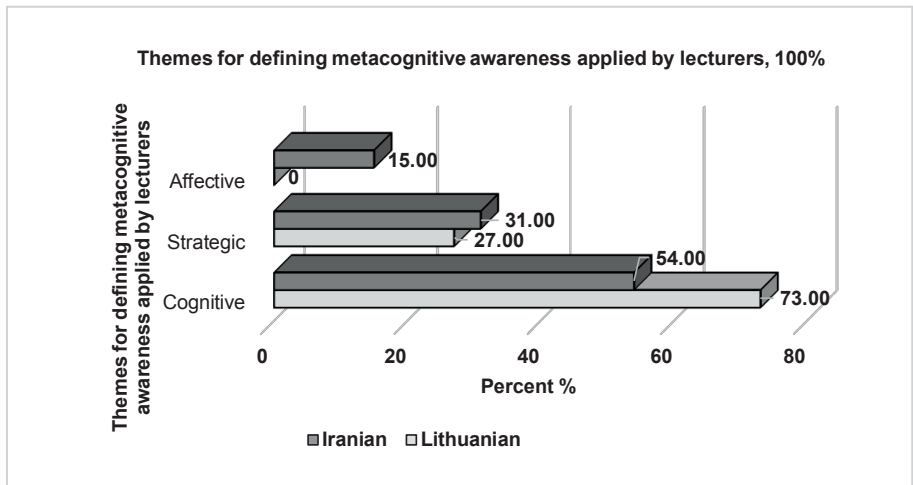
Figure 11. *Themes applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100%*

Furthermore, for the above question, deductive content analysis was also conducted in order to associate the lecturers' responses to the most common definitions for metacognitive awareness in the literature. If the lecturer's response had one theme of the definition one point was given to it under that definition and if it had two themes of the definition, two points would be given to it and so on and so forth. Below please find the selected prominent researchers' definitions with underlined main words and the specified theme for each one in the parentheses next to them.

1. The ability to reflect (cognitive) upon our own thought (cognitive) and behavior (Metcalfe, 1996)
2. Awareness (cognitive) and monitoring (strategy) of one's thoughts (cognitive) and task performance or simply thinking (cognitive) about thinking. (Flavell, 1979)
3. Our awareness (cognitive) of the learning process. (Flavell 1970)
4. It refers to higher-order mental (cognitive) processes involved in learning such as making plans (strategy) for learning, using appropriate strategies (strategy) to solve a problem, making estimates of performance and calibrating the extent of learning. (Dunslosky and Thiede, 1998)
5. It is not only "thoughts about thoughts" and cognitive (cognitive) states but also affective states, motives, intentions (affective), and all those states related to cognitive phenomena, as well as the ability to consciously and deliberately monitor and regulate (strategy) them (Papaleontiou-Louca, 2008).
6. The activity of monitoring and controlling (strategy) one's cognition (Ormrod, 2004; Young & Fry, 2008).

Table 20. *Themes related to researchers' definitions applied by Lithuanian and Iranian lecturers for defining metacognitive awareness*

No	Lecturers' statements	Metcalfe (1996) Cognitive	Flavell (1979) Cognitive	Flavell (1979) Strategic	Flavell (1970) Cognitive	Dunslosky& Thiede (1998) Cognitive	Dunslosky& Thiede (1998) Strategic	Papaleontiou-Louca (2008) Cognitive	Papaleontiou-Louca (2008) Strategic	Young & Fry (2008) Affective	Young & Fry (2008) Strategic
1	I can only say that it is reflection, it is thinking about thinking. T20L1		+								
2	I understand that there are ways to make my learning\teaching process better and I apply this in practice. T20L2						+				
3	It's my awareness of the acquisition of knowledge, process of learning, my learning skills and habits. T20L3				+		+				
4	The term meta means beyond. MA covers understanding of goals of learning process and figuring out the best strategies for learning and assessing whether the learning goals are being met. T20L4				+		+				
5	It means being aware how you learn. T20L5				+						
6	It is "thinking about thinking" or "knowing about knowing". T20L6		+								
7	Knowing about how you learn and get new knowledge. T20L7				+						
8	Being aware of how you learn. T20L8				+						
9	Reflective thinking-Critical thinking. T20L9	+									
	Lithuanian frequency of chosen themes, 11	**1**	**2**	**0**	**5**	**0**	**3**	**0**	**0**	**0**	**0**
	Percentage of chosen themes, 100%	**9 %**	**18.2 %**	**0%**	**45.5%**	**0%**	**27.3%**	**0%**	**0%**	**0%**	**0%**
1	It is "thinking about thinking". T20I1		+								
2	I consider it more psychological and affective than cognitive factor. Simply, it is "thoughts about thoughts. T20I2								+	+	

No	Lecturers' statements	Metcalfe (1996)	Flavell (1979)		Flavell (1970)	Dunslosky& Thiede (1998)		Papaleontiou-Louca (2008)			Young & Fry (2008)
		Cognitive	Cognitive	Strategic	Cognitive	Cognitive	Strategic	Cognitive	Strategic	Affective	Strategic
3	Conscious thinking of one's own learning. T20I3				+						
4	Thinking about the process of learning. T20I4				+						
5	The activity of monitoring and controlling one's cognition. T20I5										+
6	The learner's ability to consciously and deliberately monitor and regulate his learning. T20I6										+
7	The individual knowledge about his own learning processes, cognitive and emotional states. T20I7							+		+	
8	Knowledge to control and monitor one's performance in tasks. T20I8		+	+							
9	Higher level of thinking. T20I9					+					+
10	The activity of monitoring and controlling one's cognition. T20I10										
Iranian frequency of chosen themes, 13		**0**	**2**	**1**	**2**	**1**	**0**	**2**	**0**	**2**	**3**
Percentage of chosen themes, 100%		**0%**	**15.4 %**	**7.7 %**	**15.4 %**	**7.7 %**	**0%**	**15.4 %**	**0%**	**15.4 %**	**23%**

KEY: T, L and I stand for Table, Lithuanian lecturer statement and Iranian lecturer statement.

Table 20 represents the three main themes of "cognitive", "strategic" and "affective" related to the researchers' definitions for metacognitive awareness. Moreover, it contains the information about frequency and percentage of applying these themes in the lecturers' statements. As indicated, 45.5 % of Lithuanian participants chose Flavell's definition (1970) which has a purely cognitive dimension, while 31 % of Iranian lecturers selected cognitive and affective themes included in Papaleontiou-Louca's definition (2008). These selections reveal that Lithuanian lecturers identified metacognitive awareness mostly with the cognitive aspects, however; besides the cognitive aspect, Iranian lecturers included the affective dimension in their definitions as well (see also Figure 12).

Figure 12 chart content:
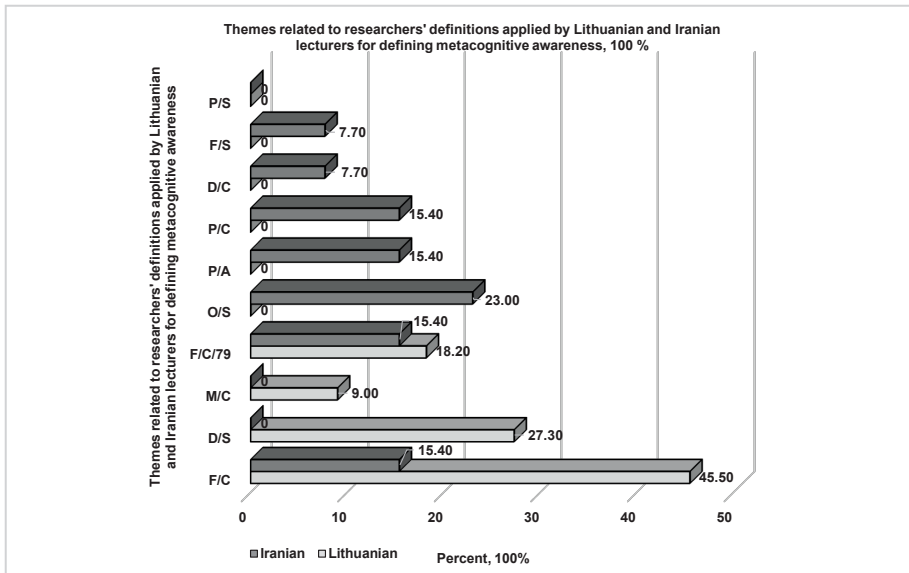
Themes related to researchers' definitions applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100 %

Theme	Iranian	Lithuanian
P/S	0	0
F/S	7.70	0
D/C	7.70	0
P/C	15.40	0
P/A	15.40	0
O/S	23.00	0
F/C/79	15.40	18.20
M/C		9.00
D/S		27.30
F/C	15.40	45.50

Percent, 100%

KEY: C, S and A stand for cognitive, strategic and affective respectively. While F, D, M, O and P, are the initials of the following researchers' names: Flavell, Dunslosky & Thiede, Metcalfe, Ormrod, and Young & Fry and Papaleontiou-Louca.

Figure 12. *Themes related to researchers' definitions applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100 %*

3.2.2. Lecturers' pedagogical knowledge about metacognitive awareness

To analyse lecturers' attitudes towards their own pedagogical knowledge about metacognitive awareness including the types of the metacognitive strategies they used in their classes, the total applied metacognitive strategy scores of the lecturers was calculated on each item in each group. As all the applied metacognitive strategy items were on a five-point Likert scale, with the options ranging from "always" to "never", the options were given values from 5 to 1 accordingly. The option of "I do not know" was calculated based on the percentage of the selected participants. Table 15 shows grading criteria for determining the levels of applied metacognitive strategies in the classes by the lecturers. Then the sum of the values for each item which was divided by the total number of participants in each group (N=10), was calculated and mentioned in Table 21 as a mean score.

Table 21. *Lithuanian and Iranian lecturers' levels of applied metacognitive strategy mean score of each component and subcomponent*

Metacognitive awareness components	No Iran/ Lithuania	Sum of scores (Iran/Lithuania)	(Sum of scores/no of participants)	Std. Deviation	option of "I do not know"(%)
Knowledge of Cognition	10/10	37/37	**3.7/3.7**	**1.6/1.6**	**4/6%**
Declarative	10/10	48/43	4.8/4.3	1.32/1.16	0/1%
Procedural	10/10	37/37	3.7/3.7	1.64/1.64	2/2%
Conditional	10/10	27/31	2.7/3.1	2.0/1.97	3/3%
Regulation of Cognition	10/10	38/35	**3.8/3.5**	**1.8/1.2**	**8/6%**
Planning	10/10	47/47	4.7/4.7	1.16/1.16	0/0%
Information management	10/10	43/32	4.3/3.2	1.64/2.25	0/2%
Evaluation	10/10	39/39	3.9/3.9	2.23/2.23	1/0%
Comprehension monitoring	10/10	32/35	3.2/3.5	2.25/2.54	3/2%
Debugging	10/10	28/21	2.8/2.1	1.99/1.52	4/2%

As seen in Table 21, lecturers' levels of applied metacognitive strategy in both groups were high and the same in terms of the knowledge of cognition component, which were (M=3.7, SD=1.6). Upon examining the subcomponents under the knowledge of cognition component, the mean score obtained for the declarative knowledge (M=4.8, SD=1.32) was found highest in the Iranian group. The same was true for declarative knowledge in the Lithuanian group (M=4.3, SD=1.16).

In addition, lecturers' levels of applied metacognitive strategies under the regulation of cognition component in both Lithuanian and Iranian groups were high (M=3.8, SD=1.8; M=3.5, SD=1.2 respectively). Considering this component, the highest mean score in Lithuanian and Iranian groups was obtained in the planning subcomponent (M=4.7, SD=1.16) and the lowest mean score was obtained in the debugging subcomponent (M=2.8, SD=1.91; M=2.1, SD=1.52 respectively).

By considering the mean scores of the subcomponents, the sequences of the strongest to the weakest subcomponents for both groups are as follows (see Figure 13):

Knowledge of cognition subcomponents of both Lithuanian and Iranian Lecturers: Declarative, Procedural and Conditional

Regulation of cognition subcomponents of Lithuanian lecturers: Planning, Evaluation, Comprehension monitoring, Information management, Debugging

Regulation of cognition subcomponents of Iranian lecturers: Planning, Information management, Evaluation, Comprehension monitoring, Debugging
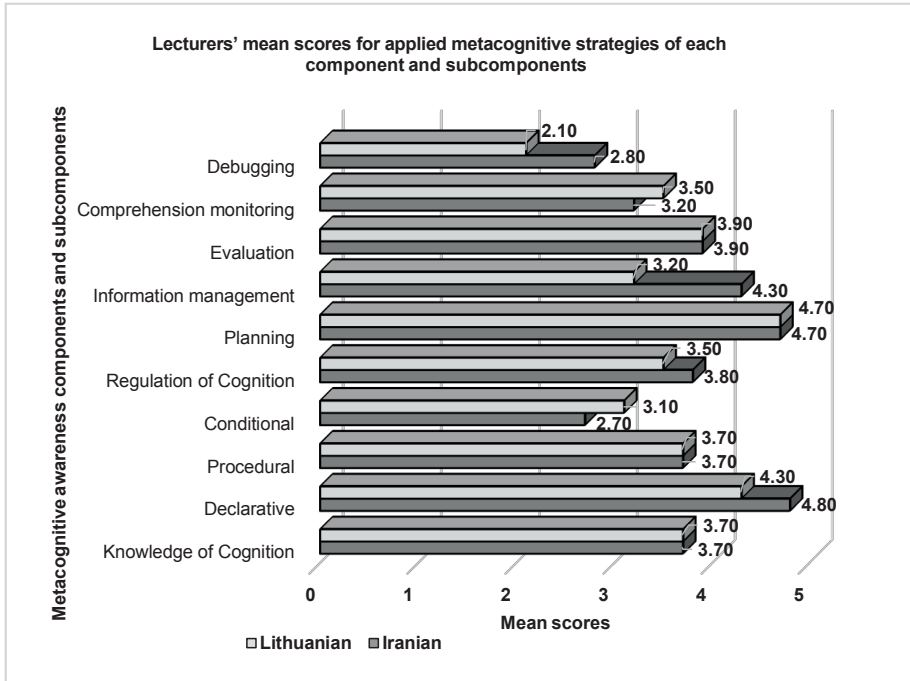
Figure 13. *Lithuanian and Iranian lecturers' mean scores for applied metacognitive strategies of each component and subcomponent*

When the lecturers were asked to "Please add any other metacognitive awareness strategies that you might use in class." deductive content analysis was conducted to categorize the given strategies under 8 metacognitive awareness subcomponents of Schraw and Dennison (1994).

Table 22. *Metacognitive awareness strategies used by Lithuanian and Iranian lecturers in their classes*

No.	Statements	Plan	Information Management	Monitoring	Evaluation
1	work in pairs, in groups, individually, comparison of pairs and groups results, self-reward, self-evaluation, various languages applying strategy while teaching the multicultural group; theory combination with practice strategy. T22L1	+			+

No.	Statements	Plan	Information Management	Monitoring	Evaluation
2	I encourage students to reflect on the ways, which are the best for them to acquire the necessary information. T22L2				
3	I ask them to think critically about information. T22L3				
4	work in pairs, groups and individually. T22L4	+			
5	I inform them about sticking to their time schedule and managing their information very well. T22L5	+	+		
6	I ask them to evaluate their learning and if face with any problem first try to solve it through all possibilities themselves, through different channels. T22L6			+	+
7	When they finish their task, I ask them to think if they are satisfied with their performance, in extensive reading I ask them mostly to focus on overall meaning. T22L7		+		+
8	I walk in the class and control if the students are doing individual work or in a team. T22L8			+	
9	If different students with various abilities ask the same question from the work of a student I ask that student to go back, review his work and cover the missed/wrong part. T22L9			+	
Lithuanian frequency of using metacognitive strategies, 11		**3**	**2**	**3**	**3**
Percentage of using metacognitive strategies, 100%		**27.3%**	**18.1%**	**27.3%**	**27.3%**
1	I start the class with some interesting questions to motivate them to guess what the topic is and what we are going to do that day. T22I1		+		
2	I ask them to look at their experience in the past. Bearing in mind what was successful and what was not in order to formulate their learning accordingly. T22I2	+			
3	I introduce them to additional resources for their learning. T22I3	+			
4	They are trained to go back to their activities and find out what did not work and what needs to be changed. T22I4				+
5	I ask them to think about what they did during the day and figure out if they had worked properly. T22I5				+
6	I teach them how to break a complicated activity into smaller ones. T22I6		+		
7	In reading tasks, I emphasize the need to notice organizational structures. T22I7		+		
8	I ask them to organize their time for learning. T22I8	+			

No.	Statements	Plan	Information Management	Monitoring	Evaluation
9	They should know their aims and objectives before starting any task. T22I9	+			
10	I teach them how to find and apply useful metacognitive strategies. T22I10				
	Iranian frequency of using metacognitive strategies, 9	**4**	**3**	**0**	**2**
	Percentage of using metacognitive strategies, 100%	**44.4%**	**33.3%**	**0%**	**22.2%**

KEY: T, L and I stand for Table, Lithuanian lecturer statement and Iranian lecturer statement.

Since the metacognitive strategies exclusively fall under the regulation of cognition component, only the lecturers' statements that specified any type of metacognitive strategy were considered and one point was assigned under its appropriate subcomponent type. Both groups exhibited quite the highest percentage usage of planning (23.1% from Lithuanian group and 40% from Iranian group). As a matter of fact, the raters found that the participants described planning, goal setting, and allocation of resources most frequently. Each group had a slightly different sequence of subcomponents from highest to lowest percentage usage. (LG=Planning 23.1%, monitoring 23.1%, evaluation 23.1%, and information management 15.4%; IG=Planning 40%, information management 30%, and evaluation 20%). Similarly, the raters in both cases recorded 0% for the participants' responses in the debugging subcomponent and they found no monitoring subcomponent in the Iranian group as well. Among the written statements, the participants from both groups focused on the strategy of planning the most. Listed above in Table 22 are statements of the participants which dealing with various subcomponents of metacognitive awareness strategies in their classes (see also Figure 14).
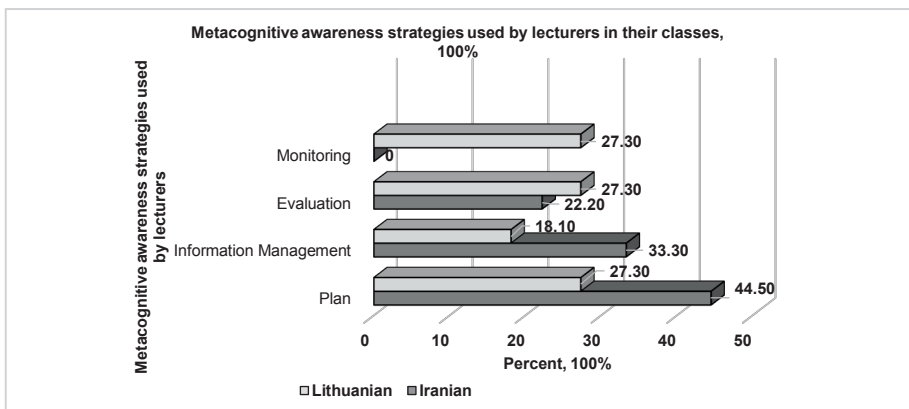

Figure 14. *Metacognitive awareness strategies used by Lithuanian and Iranian lecturers in their classes, 100%*

3.2.3. Lecturers' attitudes towards the level of metacognitive awareness of their students

To identify lecturers' attitudes towards the level of metacognitive awareness of their students, parts 3 and 4 were designed. There were 16 statements, 2 for each metacognitive awareness subcomponent, with five options of ranging from "always" to "never" and "I do not know" for Q.3, which was "Please state your level of agreement with the following statements. Therefore, we sum their scores up together for each subcomponent. For five options, values from 5 to 1 were attributed respectively. The option of "I do not know if my students use them or not" was calculated based on the percentage of selected participants. The grading criteria of metacognitive awareness level was presented in table 13. Then, the sum of the scores and a mean value for each item were calculated and mentioned in Table 23.

Table 23. *Mean value for students' levels of subcomponents based on Lithuanian and Iranian lecturers' attitudes*

Metacognitive awareness components	Number of lecturers Iran/ Lithuania	Sum of scores (Iran/Lithuania)	Mean (Sum of scores/no of participants)	Std. Deviation	option of "I do not know"(%)
Knowledge of Cognition	10/10	32.5/33	**3.25/3.3**	1.39/1.97	7/9 %
Declarative	10/10	42.5/40	4.25/4	1.27/1.63	1/1 %
Procedural	10/10	30/32.5	3/3.25	2.25/1.39	2/4 %
Conditional	10/10	25/27.5	2.5/2.75	0.97/1.98	4/4 %
Regulation of Cognition	10/10	30.5/34	**3.05/3.4**	0.74/1.64	15/14 %
Planning	10/10	35/42.5	3.5/4.25	2.54/1.27	2/1 %
Evaluation	10/10	32.5/40	3.25/4	1.97/2.2	3/2 %
Information Management	10/10	32.5/32.5	3.25/3.25	1.97/2.25	4/3 %
Comprehension monitoring	10/10	27.5/30	2.75/3	1.18/2.22	2/4 %
Debugging	10/10	25/25	2.5/2.5	2.22/1.52	4/4 %

As indicated in the above table, both student groups' metacognitive awareness levels based on lecturers' attitudes were medium in all components and subcomponents within the range of 2.5-3.4. The percentage of lecturers that marked "I don't know" was quite low. Thus, we can conclude that the lecturers seem to be aware of their students' qualification level. According to the obtained mean scores, the sequence of the subcomponents of metacognitive awareness from the strongest to the weakest for the students based on lecturers' attitudes was the following (see Figure 15):

Knowledge of cognition subcomponents of Lithuanian students: Declarative, Procedural and Conditional

Knowledge of cognition subcomponents of Iranian students: Declarative, Procedural and Conditional

Regulation of cognition subcomponents of Lithuanian students: Planning, Evaluation, Information management, Comprehension monitoring, Debugging

Regulation of cognition subcomponents of Iranian students: Planning, Evaluation= Information management, Comprehension monitoring, Debugging
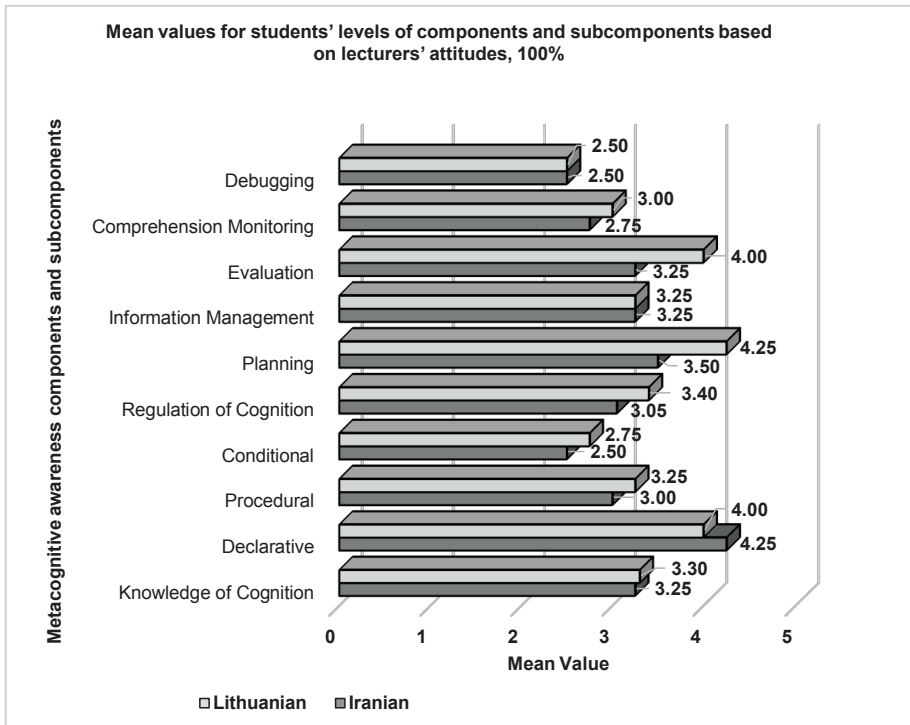
Figure 15. *Mean values for Lithuanian and Iranian students' levels of components and subcomponents based on their lecturers' attitudes, 100%*

There were 4 options of "low", "medium", "high" and "I do not know" to be selected for part 4 which was "How do you evaluate the overall level of metacognitive awareness of your students?" 80% of lecturers evaluated the students' level of metacognitive awareness medium and 20% of them considered it high in both groups.

3.2.4. Comparing and contrasting lecturers' and students' attitudes towards the level of students' metacognitive awareness

By comparing and contrasting the lecturers' and the students' attitudes towards the students' subcomponents levels of metacognitive awareness in the Table 24, we realized the following. Both Lithuanian and lecturers' and Iranian student's attitudes towards the sequence of knowledge of cognition subcomponents were the same (Declarative, Procedural and Conditional) while Lithuanian students believed that they had a higher level of declarative knowledge and a lower knowledge in procedural subcomponents (Declarative, Conditional and Procedural).

By comparing the Lithuanian lecturers' attitudes with Lithuanian students' attitudes towards regulation of cognition, we can realize that they had slightly different perspective, yet both of them considered that "information management, monitoring and debugging" were weaker than "planning and evaluation". The same comparison was done with the Iranian groups. The students' sequence was "planning, information management, debugging, evaluation and monitoring" while that of the lecturers' was "planning, evaluation=information management, monitoring and debugging". As it can be seen, both Iranian students and lecturers had the same view regarding "planning and information management" as the strongest subcomponents compared to the others (see Figure 16).

Both Lithuanian lecturers and Lithuanian students had the same attitudes towards the metacognitive awareness level of the students, which was medium, yet the attitudes of Iranian students and Iranian lecturers were different from each other. Iranian students considered their metacognitive awareness low while Iranian lecturers thought that the metacognitive awareness level of their students was medium. Only a few participants belonging to both lecturers' groups considered that their students had a high level of metacognitive awareness.

Table 24. *Knowledge of cognition and regulation of cognition descriptive statistics for Lithuanian and Iranian lecturers and students*

Metacognitive Awareness Components	Number of students Ir/Lt	Mean	Std. Deviation	Number of lecturers Ir/Lt	Sum of scores	Mean
Knowledge of cognition	456/296	2.27/2.71	.698/.348	10/10	195/200	3.25/3.3
Declarative	459/296	2.32/2.77	.827/.405	10/10	85/80	4.25/4
Procedural	459/296	2.25/2.66	.837/.588	10/10	60/65	3/3.25
Conditional	459/296	2.22/2.67	.777/.504	10/10	50/55	2.5/2.75
Regulation of cognition	459/296	2.20/2.68	.652/.260	10/10	305/340	3.05/3.4
Planning	459/296	2.24/2.71	.761/.458	10/10	70/85	3.5/4.25

Metacognitive Awareness Components	Number of students Ir/Lt	Mean	Std. Deviation	Number of lecturers Ir/Lt	Sum of scores	Mean
Information Management	459/296	2.23/2.64	.743/.402	10/10	65/65	3.25/3.25
Evaluation	459/296	2.19/2.76	.832/.515	10/10	65/80	3.25/4
Comprehension	459/296	2.13/2.67	.683/.475	10/10	55/60	2.75/3
Debugging	459/296	2.20/2.63	.770/.572	10/10	50/50	2.5/2.5

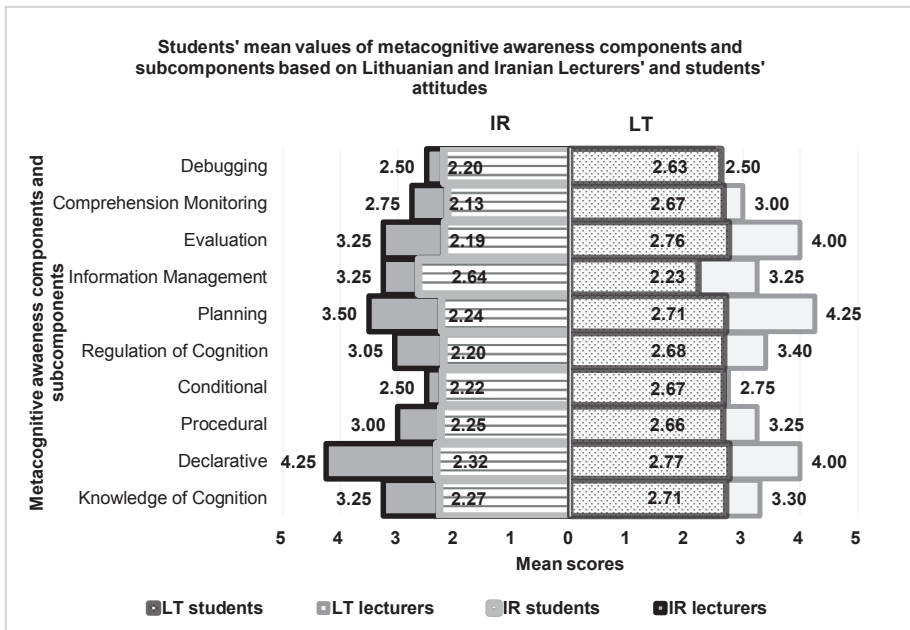**Figure 16.** *Students' mean values of metacognitive awareness components and subcomponents based on Lithuanian and Iranian lecturers' and students' attitudes*

3.2.5. Lecturers' justifications for assigned metacognitive awareness students' level

There was also a follow-up open-ended part (Q. 4.1) for lecturers to justify their answer for chosen metacognitive awareness level for their students.

Table 25. *Lithuanian and Iranian lecturers' justifications for assigned students' level of metacognitive awareness*

No	Lecturers' statements	Students' characteristics	Lecturers' characteristics	Characteristic of process
		Justifications for determined students' level of metacognitive awareness		
1	I assume that metacognitive awareness is a more advanced as an intuitive skill with some more gifted students, with the students who have problems in my subject, I think, the learning capacity and self-reflection is not developed in the same way. Their metacognitive skills are less developed in my subject. T25L1			+
2	Sometimes they really are aware of the best strategy, sometimes they totally forget about it. T25L2	+		
3	I have chosen medium as students' awareness depends on the task and on the group. There are cases when they are active, understand the task and are inquisitive and eager to learn. T25L3	+		
4	Nowadays students are conscious and smart to evaluate whether teaching strategies are effective and teaching / learning process is being successful. T25L4	+		
5	I find that many university students already know themselves and the better ways of learning which suit them personally. T25L5	+		
6	Sometimes they are quite conscious of what they are doing; sometimes they are not. T25L6	+		
7	I think so because of their work and my assumption that they rarely think in-depth about their metacognitive strategies. T25L7	+		
8	Students are very different, so it is difficult to generalize. But in every group there are some students whose metacognitive awareness is really high. I have described namely these students. T25L8	+		
9	It depends on the class. T25L9	+		
Lithuanian frequencies of chosen justification, 10		**9**	**0**	**1**
Percentages of chosen justification, 100%		**90%**	**0%**	**10%**
1	Some are really good in using augmentative awareness and only a few students know nothing about it. T25I1	+		

No	Lecturers' statements	Students' characteristics	Lecturers' characteristics	Characteristic of process
			Justifications for determined students' level of metacognitive awareness	
2	Some of my colleagues and I sometimes motivate the students to become self- regulated through instruction then we find out that they are trying to use more metacognitive strategies. T25I2		+	
3	They have sometimes critical thinking. T25I3	+		
4	Some students in each class of mine consciously and unconsciously use metacognitive strategies. Some even do not know anything about it. T25I4	+		
5	We have many students with good performance and academic achievement that apply these strategies consciously or automatically. T25I5	+		
6	They can have higher level of metacognitive awareness if we consider their emotional factors, interest, motivation and so on, which are associated with confidence and the level of success in learning. T25I6		+	
7	Half of the class is good at it and half is not. T25I7			
8	In most of my classes, the students are looking for a higher competence, so they believe in their goals and interests. They are motivated enough and these are factors to have higher metacognitive awareness. T25I8	+		
9	I have both experienced and unskillful learners in my classes somehow equally. T25I9	+		
10	Sometimes they use metacognitive awareness strategies sometimes not. T25I10	+		
	Iranian frequencies of chosen justification, 9	**7**	**2**	**0**
	Percentages of chosen justification, 100%	**77.8 %**	**22.2 %**	**0%**

KEY: T, L and I stand for Table, Lithuanian lecturer statement and Iranian lecturer statement.

After studying the responses, it was found through deductive content analysis that all of them could have been categorized under three themes of "characteristics of the students", "characteristics of the lecturers" (what they did in the class) and "characteristics of the metacognitive awareness process". One score was given to the participants' response for mentioning any theme.

The most to least frequent used key themes related to reasons for determined students' metacognitive awareness level based on the lecturers' attitudes was calculated and the percentages of using the themes was also mentioned in table 25. As it can be detected, both

groups mostly considered "students characteristics" as the main reason for the metacognitive awareness level they assigned to their students (see Figure 17).
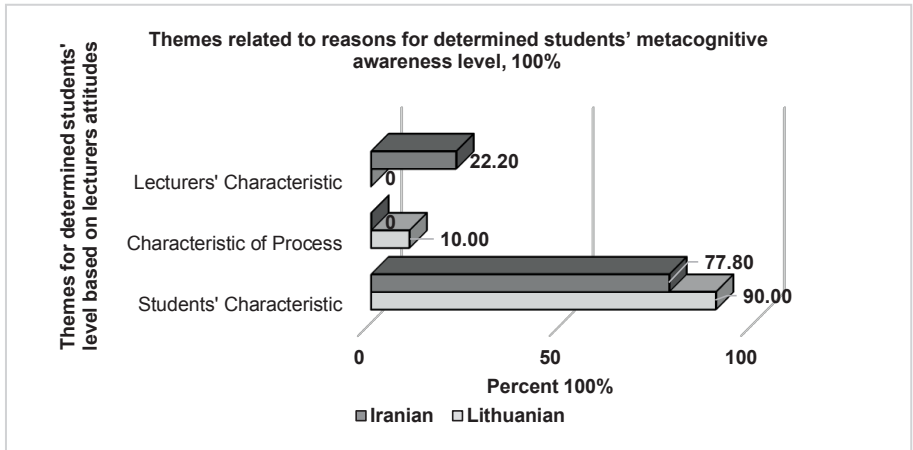

Figure 17. *Themes related to reasons for determined students' metacognitive awareness level based on Lithuanian and Iranian lecturers' attitudes, 100%*

3.2.6. Lecturers' reasons for promoting metacognitive awareness

In part 5, a yes/no question of "Do you think it is important to promote university students' metacognitive awareness?" and the follow-up open-ended part of "Please justify yourself." (Q. 5.1) were included to figure out the lecturers' attitudes towards the reasons for promoting students' metacognitive awareness. All participants mentioned that it is important to promote students' metacognitive awareness. Listed below are lecturers' responses that were categorized under five themes of "lifelong learning", "autonomy", "enhancing teaching", "university education" and "future success" by deductive content analysis of the raters. One point was given to the participants' response for mentioning any theme.

Table 26. *Frequencies and percentages of each reason for promoting metacognitive awareness based on Lithuanian and Iranian lecturers' attitudes*

No	Lecturers' statements	Enhance teaching	Lifelong learning	University education	Future success	Autonomy
		Reasons for promoting students' metacognitive awareness				
1	Metacognitive awareness is advancing higher level of thinking, critical thinking and this is part of university education. T26L1			+		
2	It will facilitate their learning process. T26L2		+			
3	To be aware of what you are doing is key to success in any situation. T26L3				+	
4	It is important to promote metacognitive awareness in order to make the teaching/learning process more efficient and effective. T26L4	+	+			
5	There are still some students who are not used to critical thinking and reflection on the process of their own learning. T26L5					
6	Analytical thinking is always good. T26L6					
7	Metacognitive awareness helps improve performance and enhances learning and teaching. T26L7	+	+			
8	The main task of university education is to develop critical thinking. This encompasses also critical evaluation of your own skills and ways how to develop these skills. T26L8			+		
9	It helps lifelong autonomous learning. T26L9		+			+
Lithuanian frequency of chosen reasons, 10		**2**	**4**	**2**	**1**	**1**
Percentage of chosen reasons %		**20 %**	**40%**	**20%**	**10%**	**10%**
1	Critical and analytic thinking is always necessary. T26I1					
2	It is vital for successful and lifelong learning. T26I2		+			
3	It improves learning and makes the student a self-regulated and autonomous learner. T26I3		+			+
4	If they are motivated enough and have a mastery goal, this means they are looking for having more knowledge and do not only consider their scores, learning related strategies can lead to more learners with more autonomy. T26I4		+			+

No	Lecturers' statements	Enhance teaching	Lifelong learning	University education	Future success	Autonomy
		Reasons for promoting students' metacognitive awareness				
5	It is second-order cognition and student's knowledge about his process of cognition, which helps him to become autonomous learner. T26I5					+
6	Because it is the key factor in university study for better and autonomous learning. T26I6			+		+
7	Students with higher level of it have real goal on learning. Furthermore, metacognition has a main role in self-regulation and encourages reflective thinking. T26I7		+			
8	MA improves performance and enhance learning and teaching. T26I8	+	+			
9	It helps learners to become autonomous and self-dependent in learning. T26I9		+			+
10	It is a crucial factor in learning and learner autonomy. T26I10		+			+
Iranian frequency of chosen reasons, 15		**1**	**7**	**1**	**0**	**6**
Percentage of chosen reasons, %		**6.7 %**	**46.7%**	**6.7%**	**0%**	**40%**

KEY: T, L and I stand for Table, Lithuanian lecturer statement and Iranian lecturer statement.

Table 26 shows the frequency and percentage distribution of using the key themes related to merits of promoting students' metacognitive awareness stipulated by lecturers.

By considering the sequence of the most to least frequent and the percentage of applied themes related to advantages of promoting the students' metacognitive awareness stipulated by Iranian lecturers, we reached "lifelong learning" (46.7%), "autonomy" (40%), "university education" and "enhance teaching" (these two themes had the same percentage of 6.7%). In contrast, in the counterpart group, the sequence was "lifelong learning" (40%), "enhancing teaching" and "university education" (each 20 %) and "future success" and "autonomy" (each 10 %). From the above findings, it can be concluded that "lifelong learning" was the most referred to advantage, while "future success" was the least applied one in the Lithuanian group. The same was found in the counterpart group (see figure 18). All of the given advantages were logical and important.
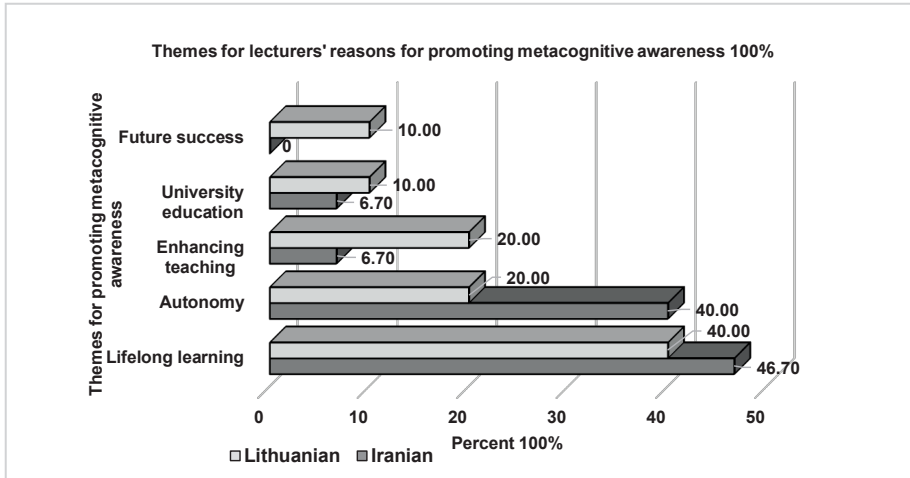
Figure 18. *Themes for Lithuanian and Iranian lecturers' reasons for promoting metacognitive awareness, 100%*

3.2.7. Summary of the main findings from the lecturers

In this chapter, the findings for the mixed method research were offered. The lecturers' questionnaire results were categorized under six sections.

In section 3.2.1, to determine the lecturers' attitudes towards the concept of metacognitive awareness, the responses of them were both inductively and inductively analysed which three main themes of "cognitive", "strategic" and "affective" developed from their words. Both groups considered this concept mostly cognitive and then strategic. Only a few Iranian lecturers' responses were categorized under the affective theme. In section 3.2.2, lecturers' attitudes towards their pedagogical knowledge about metacognitive awareness including the types of the metacognitive strategies they applied in their classes were analysed. The lecturers' levels of applied metacognitive strategy in both groups were high and the same in terms of the knowledge of cognition component. The regulation of cognition subcomponents of both lecturers' groups had very similar patterns, while the Lithuanian lecturers had lower scores in information management and debugging, the Iranian group had lower scores in monitoring and debugging. Through deductive content analysis of the lecturers' statements, four metacognitive awareness subcomponents of planning, monitoring, evaluation, and information management emerged as the types of the metacognitive strategies they used in their classes. Both groups exhibited quite the highest percentage usage of planning. No monitoring subcomponent in the Iranian group was recorded. In section 3.2.3, the lecturers' attitudes towards the level of metacognitive awareness of their students were considered which was medium. Furthermore, the order of the knowledge of cognition subcomponents means scores from the highest to the lowest in both groups were "declarative, procedural and conditional" respectively. According to the lecturers' attitudes,

the Lithuanian students had lower scores in information management and debugging while Iranian students had lower scores in monitoring and debugging. In section 3.2.4., comparing and contrasting the lecturers' and the students' attitudes towards the level of students' metacognitive awareness were conducted. Both Lithuanian and Iranian lecturers and Iranian students had the same attitudes towards the sequence of knowledge of cognition subcomponents, yet the Lithuanian students had another attitude. By comparing the Lithuanian lecturers' attitudes with Lithuanian students' attitudes towards the regulation of cognition, both of them considered that "information management, monitoring and debugging" were weaker than "planning and evaluation". Also, both Iranian students and lecturers had the same view regarding "planning and information management" as the strongest subcomponents compared to the others. Both Lithuanian and Iranian lecturers and Lithuanian students considered a medium level for the metacognitive awareness of the students. However, the Iranian students considered their metacognitive awareness low. In section 3.2.5., through the content analysis of the lecturers' responses regarding the reasons for assigning students' metacognitive awareness level, it was found that both groups mostly considered "students characteristics" out of "characteristics of the lecturers" and "characteristics of the metacognitive awareness process" as the main reason. In section 3.2.6., five key themes of "lifelong learning", "autonomy", "university education", "enhance teaching" and "future success" emerged through the content analysis of the lecturers' statements regarding the merits of promoting students' metacognitive awareness. "Lifelong learning" was the most referred to advantage, while "future success" was the least applied one in both groups.

4. DISCUSSION

This chapter includes an extensive discussion divided into eight categories on the main issues that surfaced from the research based on insights from the literature review and considering the objectives framing the study. In particular, it comprises extensive discussions on the lecturers' and students' attitudes towards their level of metacognitive awareness and related subcomponents, lecturers' attitudes towards their pedagogical knowledge, its link to practice and metacognitive awareness definitions. Besides, the relationship between two main components of metacognitive awareness, knowledge of cognition and regulation of cognition, comes under close scrutiny. This chapter also covers discussions on the students' strengths and weaknesses on metacognitive subcomponents in order to conduct needs analysis, discover their preferred strategies, present suggestions for teaching and find out the general trait in each culture to increase students' motivation and confidence in learning. There is also a discussion on the significance of collaborative and socially shared processes with considering previous knowledge and experience in an authentic context for metacognitive learning. Additionally, a part of the discussion focuses on the cross-cultural study of metacognitive awareness, which has a great impact on both increasing metacognitive learning and intercultural competence of both Lithuanian and Iranian university students.

Students' attitudes towards their metacognitive awareness and its applied subcomponents

This section aims to compare and contrast students' attitudes toward their own level of metacognitive awareness, applied subcomponents and MAI items in Lithuanian and Iranian university studies.

Following the analysis of the data gathered, it is concluded that Iranians report having a low level of metacognitive awareness, which is in parallel with the research results obtained by Sperling et al. (2004) at American universities. Lithuanians, on the other hand, consider that they have a medium level of metacognitive awareness, which coincides with Yesilyurt (2013) and Aljaberi and Gheith's (2015) findings. There might be numerous reasons for the low level of metacognitive awareness in Iranian students, such as lack of readiness in replying to the questions and lack of "familiarity with scientific reasoning beyond MAI to be able to evaluate his/her metacognitive awareness properly" (Schraw & Moshman, 1995, p. 367) since "effectiveness of some teaching and learning techniques in the Western countries may not be appropriate in the Asian ones and vice versa" as Teo and Chai (2008, p. 216) stipulated. Another reason can be that expert students can monitor, regulate and evaluate their own learning process automatically (Sperling et al. 2004). However, we have many experienced students that are conscious of their metacognitive strategies but their metacognitive processing has not yet become automatic. Further to metacognitive awareness many other factors such as a low level of self-efficacy, self-belief and motivation and negative emotions and attitudes can explain students' weaker outcomes in replying to MAI questions in spite of their high level of metacognitive awareness. The other reason can be

because of the self-reporting nature of the inventory, which cannot assess the real level of metacognitive awareness since it does not allow us to verify how students use it in an authentic learning situation (Aljaberi & Gheith, 2015).

In our study, the sequence of the knowledge of cognition subcomponents from the lowest to the highest in the Lithuanian group is "procedural, conditional and declarative". These results are consistent with the general trend obtained by Alkan and Erdem (2014) in Turkey, Kalley (2012) in Romania and Young and Fry (2008) in the US. The sequence for the Iranian group is "conditional, procedural and declarative", which is not in line with what is proposed by the aforementioned researchers. Considering the sequence of regulation of cognition subcomponents from the lowest to highest in the Lithuanian group, it is "debugging, information management, monitoring, planning and evaluation". Yet, the order is "monitoring, evaluation, debugging, information management and planning" in the Iranian group. The findings in this study related to both groups are not in line with what is proposed by Alhamouri and Abu Mokh (2011), Aljarah and Obeidat (2011) and Yunus et al. (2009) in Jordanian university contexts. On the other hand, Costabile et al. (2013) in Italian university studies confirm these findings regarding the sequence of regulation of cognition subcomponents in our Lithuanian group. Lithuanians declarative and conditional knowledge are higher than procedural knowledge which proves students' lower strategic knowledge when compared to their knowledge of when and why. This might mean that they do not allot enough time for various activities that need the application of different strategies. If they deal with a more demanding task they can be more metacognitively active. Regarding the regulation of cognition subcomponents, Lithuanians have the highest scores in evaluation and the lowest scores in debugging. This might mean that they do not employ sufficient strategies targeted at correcting conceptions and errors in their learning process and they can manage their analysis of performance and strategy effectiveness after a learning episode moderately well.

One of the findings of this research is that based on Iranian university students' attitudes, most of them have a low level of metacognitive awareness. These results are parallel to Ghorbani Nejad and Farvardin's (2018) findings with Iranian students that prove a low level of metacognitive awareness in all related subcomponents of the listening skill. In this situation students' low level of self- efficacy, self-belief and the attitudes of Iranians to listening are the reasons for low level of person knowledge strategies as one of the subcomponents of metacognitive awareness linked to listening rather than their lack of abilities or skills. In contrast, it does not correspond to the findings of the research carried out by Fazeli (2012) and Kamalizad (2015) who discover a high level of metacognitive awareness which is deeply influenced by the EFL students' high use of metacognitive strategies due to the lack of natural English use, popularity of a grammar-based approach in teaching or a high level of their autonomy which help them to control their learning even without suitable teaching programs which make them count on their conscious skills and metacognitive strategies for learning. He further considers nationality as an important factor in the application of strategies. Our results are also not in tune with a number of Iranian researchers' findings (Kasimi, 2012; Keshavarz & Ghamoushi, 2014; Maasum & Maarof, 2012; Seifoori, 2015) who disclose a medium level of metacognitive awareness and use of

related learning strategies in reading skills, suggesting that the majority of comprehension problems related with selecting suitable metacognitive strategies can be solved in new settings with self-dependency. It can be interpreted that a more comprehensive research is needed in this regard to clearly discover Iranian students' level of metacognitive awareness.

Comparing the results of Lithuanian university students in the current study with the findings of previous Lithuanian researchers, we can find out that they highly correlate with Vaičiūnienė and Užpalienė's (2013) findings, which suggest that their learners have a medium level of metacognitive awareness in reading, implying that they are able to solve the reading problems relatively well. Kučienė's (2010) findings show that most of her students are responsible for their own learning and employ planning and evaluation strategies moderately well. Our findings, though, are not corroborated by those of Beresnevičienė and Mačianskienė (2000) which shows that their students do not significantly apply any metacognitive awareness strategies, they instead use slight planning and evaluation strategies which disclose the same trend of subcomponents applied in our study.

The problems concerning monitoring, evaluation and debugging subcomponents in both Lithuanian and Iranian university studies can be overcome by some researchers' suggestions in these contexts (Burkšaitienė, 2009; Burkšaitienė & Šliogerienė, 2017; Khonamri & Kojidi, 2011; Šliogerienė, 2006a, 2006b, 2013). As Šliogerienė (2006a, 2006b) discovers the existing problems of controlling and monitoring in self-directed language learning in Lithuanian university studies might result from the lack of lecturer's control, too much independence of the students and the necessity for registering and framing of students' progress. She recommends learners to write learning contracts and learning journals as tools not only for their assessment but also for reflection, connecting learning to personalized experience and monitoring the process at their own pace to discover their strong and weak points with the help of a lecturer. She demonstrates that learning journals reinforce the students' self-correction dramatically. Similarly, in Iranian university studies, Khonamri and Kojidi (2011) suggest using a metacognitive journal, which can enhance comprehension monitoring, assessing and correction in reading. The role of the lecturer in increasing the students' comprehension monitoring is paramount. Šliogerienė (2013) and Zimmerman and Campillo (2003) believe that while students are shifting from the self-monitoring to the self-reflection stage, metacognitive experiences and motivation play a crucial role and they are expected to conduct an abundance of self-assessment. This stage of self-regulation can be facilitated by giving students both the freedom of time and selection of activities. Based on Šliogerienė (2013), reflection pages are helpful for students to reflect on the learning, self-assess their progress and identify their strengths, weaknesses and needs. Burkšaitienė (2009) claims that the degree of applying, organizing, assessing, controlling and planning metacognitive strategies are positively influenced by the use of a learning portfolio. Writing portfolios is another way to reflect on the learning outcomes (Burkšaitienė, 2009; Šliogerienė, 2013) which can be a means of increasing the dialogue between a lecturer and a student (Burkšaitienė & Šliogerienė, 2017).

Based on the below researchers' perspectives there can be some potential suggestions to help improve knowledge of cognition subcomponents. Some students may be aware of strategies, yet they are not able to clarify the reasons for employing them. In order to solve

this problem, the gap between students' declarative, procedural and conditional knowledge should be removed. Owing to the fact that conditional knowledge, which is applied in making a decision (Kiesewetter et al., 2016), is the most important knowledge and develops quickest among others that is why it is called the culmination of cognition. Conditional knowledge is fundamental to making declarative knowledge operative to get access to the procedures (Cikrikci & Odaci, 2016). Creativity in different situations requires conditional knowledge (van de Kamp, Admiraal, & Rijlaarsdam, 2016). Conditional knowledge can be increased by lecturers' modeling, explicitly showing the students how to employ suitable metacognitive strategies for solving a learning problem and when and why to apply those strategies.

Individual's beliefs and attitudes about his/her abilities and skills are part of declarative knowledge (Flavell, 1976; Tarricone, 2011) regarded as the simplest part of cognition. A student with declarative knowledge about a particular strategy is more critical in using that strategy again. Efficacy and self-motivation are parts of procedural knowledge (Ma & Baranovich, 2015), and are supported by declarative knowledge as well. Procedural knowledge gives a feeling of safety to the student when encountering any learning difficulty (Harris et al., 2010; Schraw et al., 2006). The higher level of procedural knowledge makes a major contribution to strategy application. (Schraw & Moshman, 1995). It can be implied that by enhancing the application of affective strategies, creating a motivating class atmosphere for students to express their feeling and ideas, considering the nature of students' attitudes and equipping them with strong source of adequacy, we can improve declarative and procedural knowledge. Besides, exercising the new strategies through different types of activities can turn the strategy into an individual's procedural knowledge (Tavakoli & Koosha, 2016).

A discussion on the positive relationship between knowledge of cognition and regulation of cognition

This section deals with the identification of the relationship between the two main metacognitive awareness components – knowledge of cognition and regulation of cognition.

In a broad perspective, metacognitive awareness is postulated in two clusters of interconnected (Schraw et al., 2006) components. The first cluster is related to the students' states of awareness on their learning process, while the second cluster engages the control components of regulating this process. The subcomponents of regulation of cognition are relatively heterogeneous.

Many researchers (see, for instance, Schraw & Dennison, 1994) have theorized that the two key components of metacognitive awareness are related to each other. In separate studies, Koc and Kuvac (2016) and Tock and Moxley (2015) articulated that there was a positive correlation between knowledge of cognition and regulation of cognition. However, Maftoon, Birjandi and Farahian (2012) put forth that the group of university learners they investigated had indicated that these two components were distinct. In fact, they found some unskilled students who were well aware of the writing cognitive process yet unable to monitor and control the process, which could have been due to other factors, such as their attitudes.

Scott and Levy (2013) and Abdellah (2014) did not encounter any relation between knowledge of cognition and regulation of cognition. Scott and Levy (2013) discovered significant differences between graduate and undergraduate students with regard to their scores on the regulation of cognition and not on the knowledge of cognition factor. Graduate and undergraduate students did not differ in relation to knowledge of cognition, they differed in terms of their regulatory skills. Roussos, Koulianou and Samartzi (2016) on a Turkish student population found ample use of knowledge of cognition subcomponents against regulation of cognition subcomponents. These findings are in line with those of Schraw and Dennison (1994) and Abdellah (2014) who found that adult students tended to differ with regard to the use of metacognitive regulatory skills and not so with regard to metacognitive knowledge skills.

Azevedo and Aleven (2013), Cho and Cho (2013) and Schraw and Dennison's (1994) studies were important in regard to highlighting that three subcomponents of knowledge of cognition are related to each other and are able to predict each other and provide insights into each other. If one subcomponent of knowledge of cognition is at a high level, then the others are also at a high level.

Interestingly, the results observed from both Lithuanian and Iranian university students showed that knowledge of cognition seemed to correlate positively with regulation of cognition. It can be safely said that any increase or decrease in any component has a direct and positive effect on another. This finding did not support that of Schraw and Dennison (1994) who found that adults tended to differ with regards to the use of regulation of cognition and not with the knowledge of cognition.

An analysis of lecturers' attitudes towards their students' level of metacognitive awareness

In this section we analyze lectures' attitudes toward their students' metacognitive awareness level in both Lithuanian and Iranian university studies.

The sequence of strongest to weakest knowledge of cognition subcomponents, according to Iranian lecturers' attitudes is "declarative, procedural and conditional". The regulation of cognition subcomponents of both lecturers' groups have a very similar pattern, while Lithuanian lecturers have lower scores in information management and debugging, their counterpart group has lower scores in monitoring and debugging respectively.

Our findings are not congruent with Kistner et al.'s (2010) and Spruce and Bol (2015) investigations, which show that lecturers apply monitoring strategies but not planning and evaluation and with that of Bidabadian and Tabatabaei (2015), who found out that lecturers do not apply any metacognitive awareness strategies.

Both lecturers' groups evaluate the students' level of metacognitive awareness as medium, which conveyed their level of expectations as well. This finding is in agreement with Hornstra, et al. (2010) and Woodrock and Vialle's (2011) results and Rosenthal's (1997) affect-effect theory that confirms that lecturer's attitudes and expectations may be unintentionally and non-verbally transferred to the students. Therefore, a lecturer can express his/her high expectation with a positive tone to enhance students' motivation and self-efficacy

and get to mastery rather than only teaching the content and hope for the best while considering each student's strengths and requirements (Levy, 2008).

Since the most frequent theme related to reasons for students' metacognitive awareness level based on both lecturers' groups is connected to "students' characteristics", the lecturers should also consider their own preparation and seek more training in this area. It should be noted that we could not find any social perspective among their comments such as learning in pairs and groups, as if they ignored the role of collaborative working as socially mediated learning for promoting metacognitive awareness. Furthermore, nothing can be explored regarding the power to control ones' learning and situation such as decision-making. In addition, there is no sign of considering the role of a lecturer in fostering metacognitive awareness. They ignore that lecturers have a responsibility to help learning. Also, no lecturer suggests anything related to age limit, cultural hindrances and learner/learning-centered environment. There is not any sub-theme that reflects any cultural differences between the Lithuanian and Iranian participants' attitudes.

Lecturers' attitudes towards the concept of metacognitive awareness

According to Papaleontiou-Louca (2008), the concept of metacognitive awareness includes not only cognitive states but also affective states, motives and intentions. Hacker's (1998, pp. 1-23) comprehensive definition of metacognitive awareness focuses on the same points by stating "knowledge of one's knowledge, processes and cognitive and affective states" and "ability to consciously monitor and regulate one's knowledge, processes, cognitive and affective states". Affective status is associated with emotions, motivation and attitudes towards learning (Oxford, 1990). When we speak and read, we often employ affective strategies indirectly which help to reduce anxiety, motivate ourselves and take our emotional temperature in the learning process. As we read a text, the affective facet, motivation to solve the reading problems pertains potently to the cognitive aspect which is focusing on linguistic features to get the meaning (Chamot & O'Mally, 1994).

The findings of the current study indicate that in defining the concept of metacognitive awareness, both Lithuanian and Iranian lecturers consider it to be mostly cognitive and only a few Iranian lecturers take into account the affective states of this concept. It is sensible to presume that both groups should consider its affective dimensions more. What is more, it is quite indisputable that students' attitudes towards this concept have a larger impact on their teaching, on the students' learning and on motivation than their knowledge. That is the reason why we consider students' affective dimensions in this part as well. The present findings are consistent with research findings revealing that the teaching aims of the majority of future foreign language lecturers are cognitive and related to increasing linguistic competence (Kriaučiūnienė, 2010). Melienė (2008) cannot find reading for curiosity or interest among the students. External reading motivation for obtaining a good score is merely the main target of the students as well. Yet, it seems that our findings do not confirm the standpoints proposed by lecturers in Čepaitė and Prakapas' (2012) research which shows that the development of metacognitive competence is more often linked to the students' motivation and that Iranian students, as Kamalizad (2015) articulates, are less

inclined to employ affective strategies compared to other strategies. As the classroom is the only environment for Iranian students to exercise English language; therefore, they do not have any other opportunities to build up a second language identity for self-expression which causes some problems for them to control their emotions and anxiety and fear of making mistakes when they talk in the classroom. All of these can be the potential explanation for Iranian students' lower use of affective strategies.

Furthermore, the importance of the motivation factor as part of metacognitive awareness affective states is indirectly expressed by a few Lithuanian and Iranian lecturers in the current study while they are explaining metacognitive awareness strategies applied by them in the classroom. One of the lecturers writes "self-reward" among other activities. "Work in pairs, in groups, individually, comparison of pairs and groups results, self-reward, self-evaluation, various languages applying strategy while teaching the multicultural group; theory combination with practice strategy" T22L1. One form of self-regulation which can increase motivation is the use of self-rewards or self-gifts. Learners often promise themselves a reward if they finish a personal task or solve a problem (Bandura, 1997). Another lecturer uses "encourage" in her statement "I encourage students to reflect on the ways, which are the best for them to acquire the necessary information" T22L2. Often "motivate" and "encourage" are very close in meaning. It is easy for a learner to become motivated after receiving support and advice as encouragement from his/her lecturer. There is a statement from another Iranian lecturer that conveys that what keeps students motivated is a motivated lecturer. If a lecturer has a passion for teaching, his/her students care for learning. This can be started through asking interesting questions as a first step for the involvement of students. "I start the class with some interesting questions to motivate them to guess what the topic is and what we are going to do that day" T22I1. The other lecturer states "I introduce them to additional resources for their learning" T22I3. Offering additional resources can be done through various learning channels for visual, auditory and kinesthetic students, based on the diversity of their needs, interests, learning styles and expectations. This is one of the responsibilities of the lecturer and is regarded as having a great effect on the students' motivation. Furthermore, the lecturers in both contexts while explaining the reasons for the assigned level of metacognitive awareness for their students, mention words such as "inquisitive and eager", "motivate", "considering emotional factors, interest, motivation" and "goals and interests…motivated", which imply the importance of the level of self-efficacy, curiosity and motivation in the level of metacognitive awareness. "I have chosen medium …when they are active, understand the task and are inquisitive and eager to learn" T25L3, "Some of my colleagues and I sometimes motivate the students to …" T25I2, "They can have higher level of metacognitive awareness if we consider their emotional factors, interest, motivation and so on, which are associated with confidence and the level of success in learning" T25I6 and "…so they believe in their goals and interests so they are motivated enough and these are factors to have higher metacognitive awareness" T25I8.

Moreover, self-efficacy affects student's learning, motivation and ability to undertake a task (Bandura, 1997). For instance, if a student considers writing as a complex activity with inborn talent, this way of thinking gives him/her negative self-concepts regarding this skill. Most of the scholars, especially those that believe in constructivism (Flavell, 1976), assume

the attitudes as part of students' declarative knowledge that have great impact on their thinking and learning. As a result, any enhancement in self-efficacy has a direct positive impact on the level of declarative knowledge. When one of the Lithuanian lecturers in her statement considers metacognitive awareness as an "intuitive skill" which is mostly related to feeling rather than facts, she emphasizes the affective facet of this concept. Also, she connects it to gifted students; therefore, she considers it as "an inborn talent", which implies negative self-concepts of both herself and less metacognitively aware students which can decrease her and their level of declarative knowledge. "I assume that metacognitive awareness is a more advanced as an intuitive skill with some more gifted students, with the students who have problems in my subject, I think, the learning capacity and self-reflection is not developed in the same way. Their metacognitive skills are less developed in my subject" T25L1.

Insufficient motivation is regarded as a chronic problem in metacognitive learning processes. The motivational dimension of metacognitive awareness has almost gone unnoticed by our participants. Lecturers' cognitive attitudes towards this concept may affect not only their own motivational behavior and practice but also their students' attitudes. In this vein, Burkšaitienė (2006) and Šliogerienė (2006a) argue that a significant part of a lecturer's role lays in motivating their students to enhance their metacognitive awareness. Also, Šliogerienė (2013) stresses the positive impact of students' motivation on self-monitoring the learning process. Furthermore, Melienė (2008) emphasizes lecturers' internal motivation as a significant point of students' metacognitive strategies. What is more, it is quite indisputable that the learners determined motivation as one of the main reasons for success in learning in Rinkevičienė & Zdanytė's (2002) study. In Beresnevičienė and Mačianskienė's (2000) study, students did not apply affective strategies two decades ago. Actually, more competent students employed a few affective strategies which was statically insignificant, such as taking risks, encouraging themselves and making positive statements whereas unskillful students did not employ any.

Some researchers (Bandura, 1997; Coutinho, 2007; Larivèe, 2008) demonstrate that self-efficacy (or self-belief) is another significant factor of metacognitive awareness affective status and a lion's share of students' problem is associated with low level of it not lack of ability and skills (Pajares, 1992). The high level of it leads to autonomous, confident, successful interested and motivated students with better academic performance and higher achievement.

The level of students' self-efficacy was found to be low in previous Iranian university studies but enhanced to medium level after instruction by Tavakoli and Koosha (2016). They ascertain that a new metacognitive strategy becomes the students' procedural knowledge if lecturers equip them with a variety of related and repeated activities. Based on Nosratinia, Saveiy and Zaker (2014) a positive strong relationship exists between or among students' self-efficacy, metacognitive awareness and learning strategy application. With the level of metacognitive awareness, we can predict the amount of application of learning strategies which is associated with the students' level of or sense of self-efficacy. Since Iranian students are not high strategy users (Riazi & Rahimi, 2005), they weakly reinforce their self-efficacy and raise their metacognitive awareness less than students in other countries.

Due to the fact that learning is a multidimensional phenomenon, not only students, but also lecturers are required to play their role properly in order to facilitate and optimize this complicated process. In other words, lecturers personal and psychological features like beliefs, attitudes, motivation level and self-efficacy are influential factors not only on their teaching process but also on the level of students' self-efficacy (Bandura, 1997; Pajares, 1992). The importance of impact of lecturers' metacognition and self-efficacy on their academic performance has been proved by Iranian researchers like Ghonsooly, Khajavy and Mohaghegh Mahjoobi (2014). It means that lecturers with a higher level of metacognitive awareness have a stronger sense of self-efficacy compared to their colleagues with a lower level of it.

The issue that highlights the role of lecturers might be the lack of considering an affective facet of metacognitive awareness and its impact on their students' behavior. Considering this dimension might be expected for a more humanitarian teaching style which fosters the development of self-efficacy both in students and lecturers. The results of this part underlined the contribution of affective facets including motivational and emotional factors in forming and raising students' metacognitive awareness. Therefore, lecturers should consider the underlying effects of these aspects in their practice. If a lecturer does not believe in this state and only focuses on the cognitive dimension, it will be very daunting for him/her to circulate a healthy feeling and inspire emotions among students. Self and peer modeling, knowing about students' preference of metacognitive strategy, interest and choice, presenting metacognitive strategies from the simplest to most complex ones, noticing learners' feedback, and leading the students to experience learning progress, all are main sources of reinforcing students' self-efficacy by the lecturers in the classroom environment.

Lecturers' attitudes towards metacognitive pedagogical knowledge

Part of our data analysis focuses on identifying lecturers' attitudes towards their metacognitive pedagogical knowledge and the link to their practices in the classroom. Hence, the results give us additional insights into how lecturers' attitudes and pedagogical knowledge about metacognitive awareness can be related to their instructional practice. The overall mean scores of two main components of metacognitive awareness, knowledge and regulation of cognition are quite high in both groups, which reveal that they have rich pedagogical knowledge about metacognitive strategies and have a complex understanding of both the concept of metacognitive awareness and related strategies. Furthermore, our lecturers can understand the issues surrounding the teaching of metacognitive strategies quite well.

As Prytula (2012) points out, a lecturer cannot teach what he/she does not know, the lecturers should be metacognitively aware and have good knowledge of metacognitive strategies to be able to teach metacognitively. It seems that both lecturers' groups have rich knowledge of metacognitive strategies, which is an important factor in making them effective teachers and adapting the best teaching style. This view is supported by Valiukienė (2014), who highlights that lecturers in her study consider metacognitive skill as an essential part of their work. There is a great connection between societal changes and students' skill changes to

become successful in learning. They should be equipped with enough knowledge to predict and prepare for these changes, which can be only facilitated by lecturers with a high level of metacognitive thinking. Even our lecturers with relatively high level of metacognitive awareness should review and update their knowledge and teaching with innovative strategies based on the envisaged changes in the educational system which help them to have immediate creative decision when confronting unforeseen situations (Shafiee Nahrkhalaji, 2014). This type of thoughtfully effective adaptive metacognitive teaching gives power to the lecturers to switch gears if any strategy or technique does not work as expected.

Besides, the content analysis of lecturers' responses to questions about the metacognitive awareness strategies that they might use in the classroom vividly delineates their instructional framework. The data demonstrates that the lecturers' value and implement a variety of metacognitive strategies, which can be aligned with different learning objectives. A lecturer's pedagogical knowledge appears mostly to be associated with his/her instructional strategies. As a matter of fact, lecturers value a variety of metacognitive strategies that aligned with their pedagogical knowledge. Furthermore, the findings suggest that despite a relatively high alignment between lecturers' pedagogical knowledge and practice, only four of the Lithuanian regulation of cognition subcomponents in pedagogical knowledge, namely planning, evaluation, monitoring and information management and three of those of Iranians including planning, information management and evaluation in Iranian are sequentially identified in their practice. In other words, for instance, planning has the highest mean score in the lecturers' pedagogical knowledge, which has the same trend in the practice of both groups. The second highest mean score in the Lithuanian group in pedagogical knowledge is evaluation, while in Iranians is information management of which the same order can be reported in their practice in the classroom. Yet, the debugging subcomponent has been totally absent in the instruction activities of both groups apart from comprehension monitoring in the Iranian group. An interesting conclusion that can be drawn from this finding is that if the lecturers' pedagogical knowledge in any metacognitive strategy is low-medium or medium, it is most likely that they do not apply this strategy in their classroom activities.

Regarding the knowledge of cognition component of lecturers' pedagogical knowledge, the sequence of subcomponents from the strongest to the weakest in both groups is declarative, procedural and conditional. It means that their scores in conditional knowledge are lower than in the other two subcomponents. This can be detected as well through the results obtained from their mentioned practices applied in their classroom, which lacks any reference to conditional knowledge.

Some of the studies conducted in Lithuanian university studies assert reverse results to the present study results. Čepaitė and Prakapas (2012), Gerulaitienė and Mažeikienė (2012), Kriaučiūnienė (2010) and Melienė (2008) detect that the lecturers in their research apply the classical paradigm and mostly lack communicative, metacognitive and problem-solving activities. In Kriaučiūnienė's reserach (2010), the goal of future lecturers is greatly cognitive rather than social. Lecturer-directed teaching without considering students' previous experience, correction of their mistakes and engagement in assessment and evaluation of the learning process is found through Melienė's (2008) obtained results.

Gerulaitienė and Mažeikienė (2012) could not find equal lecturer-student relationships.

Many studies in this area in Iran (Azari, Moeini & Shafiee, 2014; Nazari, 2018) state the congruities between the lecturers' attitude and their practices about metacognitive awareness instruction. Azari, Moeini and Shafiee (2014) put forward that there is a medium level of metacognitive awareness among their lecturers while they conclude that the lecturers regularly apply the metacognitive strategies that they find more useful. Shafiee Nahrkhalaji (2014) discovers a relatively high correlation between EFL lecturers' metacognitive awareness and their pedagogical success. She draws attention to the importance of the lecturers' modeling for their students by thinking aloud regarding their cognitive process and explaining how they are using the suitable metacognitive awareness strategy for solving a special problem and discuss it with the students. This way of sharing knowledge with explicit explanation increases the conditional knowledge of the students. The lecturer can have enough metacognitive knowledge; however, students do not have the means to get access to it. Conversely, Nazari (2018) states that lecturers' listening attitudes and practices reveal a product-oriented notion with a low level of metacognitive awareness. He also investigates that after embedding metacognitive training, the lecturers' pedagogical knowledge can be enhanced. Bidabadian and Tabatabaei (2015) in their research on sixty EFL male and female Iranian lecturers about their attitudes towards different writing strategies discover that they take into account mostly compensational and social strategies of writing and ignore metacognitive strategies.

All of the lecturers in the two groups have high qualifications with many years of teaching experience and high academic degree. This case can be interpreted as there is positive meaningful connection between lecturers' metacognitive awareness level and pedagogical knowledge and additional years of teaching and education (Garmabi & Zareian, 2016; Shafiee Nahrkhalaji, 2014).

Giving the lecturers the chance of being aware of their level of pedagogical knowledge, metacognitive practice and related strong and weak issues can raise their insight to develop meaningful teaching to facilitate the learning process. In fact, a lecturer's metacognitive teaching can be affected by the understanding of his/her pedagogical knowledge (Wilson & Bai, 2010). Also, by reflecting on the obtained results, they can monitor and regulate their teaching and reflect on their practice. This reflective adaptation enhances lecturers' own metacognitive learning and motivation, assists them to shine in teaching and change their strategies according to the society's changes and needs. Since the lecturers' knowledge is implicit, they cannot convey it to their students intuitively. Owing to the fact that they enjoy sufficient knowledge about metacognitive awareness and with their rich resource of metacognitive knowledge they can involve the students explicitly in the learning process.

Fostering the need, learning tendencies, peculiarities of the students in metacognitive awareness

The literature review of the thesis indicates that prior to having any metacognitive awareness instruction, it is of great value not only for the lecturers but also for the students to get access to the students' metacognitive awareness learning tendency, preference of strategy application, attitudes, peculiarities level, strengths and weakness as an initial needs analysis.

The lecturers should also empower the students to find and solve the problems themselves. Furthermore, identifying the similarities between these contexts in the field of metacognitive awareness can be useful in finding global traits in the metacognitive awareness learning process and the differences may reveal distinctive features of each nation in this regard.

Taking into account each student's peculiarities, personalities and needs in the non-homogeneous class has been emphasized by different people (Galkienė, 2005). More than three decades ago, Vabalas Gudaitis' (1983) Lithuanian sagacious wordings of the necessity for considering various students' point of views and world views rather than just transferring the knowledge to the students by the lecturers are still applicable to our contemporary education.

Considering from which stage and how to teach students to raise their metacognitive awareness, which makes the students get familiar with their abilities (Rinkevičienė & Zdanytė, 2002), and taking into account students' requirements and previous experiences in metacognitive awareness (Tolutienė, 2010) increases motivation and self-confidence. Lecturers' responsibility is not only to appropriately connect the level of metacognitive activities in the classroom to the students' metacognitive awareness level, but also to establish links between other factors (Fazeli, 2012) such as students' level of self-beliefs/self-efficacy, students' preference of application of some learning strategies and their motivation.

Furthermore, it is important for students to know about their level, strength and weak points in metacognitive awareness and related strategies. The students' awareness regarding the employment of their own metacognitive reading strategies can enhance their self-confidence in learning which has a direct impact on their level of self-reliance, autonomy and problem-solving skills (Ghahari & Basanjideh, 2015). Mostly incompetent students are bitterly disappointed in their learning, which can be due to the fact that their previous learning failures and unsuccessful experience affect their self-concept and demotivate them. They believe that they are not smart enough or will fail again in their next attempt. Based on Flavell's (1976) knowledge of person variables as one of the components of metacognition can assist the students to identify their weak and strong points precisely. Accordingly, Paris and Winograd (1990) mention that unskillful students increase their own self-efficacy when they know about their frustrations and identify that other classmate have similar feelings. If students want to employ metacognitive strategies, they have to be aware of their own learning tendencies (Brown, 2007). In other words, if students are not explicitly aware of their weak and strong points and preference of metacognitive strategies, they cannot decide about their own learning and analyse it properly which helps them believe in their abilities and exhibit profound interest and expand their confidence in the learning process.

According to Fazeli (2012) preference of selecting special metacognitive strategies is based on each individual's unique personality pattern of traits. He finds out among Iranian university students that openness to experiences, one of the domains of personality traits includes the tendency to imaginative, intellectually curious and artistically sensitive, and conscientiousness another domain which shows how much you are responsible, organized, hard-working, dependable, achievement oriented, purposeful, strong-willed, and determined are decisive factor in metacognitive awareness up to 17.7%.

Moreover, the main goal of some of the theories of learning is to discover universal human traits as fundamental factors in students' success or failure in the learning process (Brown, 2007). Nevertheless, it seems that such theories cannot describe the differences among the students and the distinctive features of each nation in metacognitive learning processes (Brown, 2007).

Thus, it is useful for not only our Lithuanian and Iranian university students to know about the result of this study to discover their possible areas of strength and weakness and share with each other but also the lecturers to assist their students through metacognitive exercises to familiarize them with these points and pinpoint the most effective metacognitive strategies for themselves based on their needs. In this way the unskilled students appropriately manage their emotions and find solutions which ties directly to motivation empowering students to use their newly found knowledge about themselves and about learning strategies curiously and persistently.

In Constructivism, metacognitive learning as a socially shared process based on existing knowledge in an authentic context

A constructivist perspective of learning originated from Dewey (1929). Metacognition plays a key role in this perspective. Students build their own knowledge through experiencing and reflecting. When they are exposed to a piece of new information, they can accept, reject or modify it based on previous and existing knowledge. For constructing and transferring such knowledge a socially shared learning condition is required (Terhart, 2003 cited in Burkšaitienė, 2006; Ubartaitė-Vingienė, 2007). Besides, these factors, freely expressing and accepting ideas and emotional feelings are employed in critical thinking (Tolutienė, 2010).

In Lithuanian university studies, Čepaitė and Prakapas (2012) based on some lecturers' perspective indicate that the key means for raising metacognitive competence is cooperative and communicative learning. Students in Kučienė's research (2010) are prone to communicative and social activities. Though the students in Beresnevičienė and Mačianskienė's (2000) do not use any strategy significantly, successful students apply social strategies a little bit more frequently than unsuccessful ones. Kriaučiūnienė (2010) suggests that most of the future lecturers' aims of studies are cognitive not social. They mention that teaching methods are mostly passive and less frequently used are communicative and problem-solving methods. From a practical point of view, Gerulaitiė and Mažeikienė (2012) have not found a lot of evidence centering on group work, problem-based learning, and equal lecturer-student relationships.

Constructivism encourages social and communicative activities such as lecturer-student and student-student discussions, negotiation, debates, group and pair working, since learning is a socially shared process with metacognitive and reflective thinking. Collaborative learning in a group provides an arena for both lecturers and students to get familiar with each other's attitudes, exchange ideas and discuss about learning and activities openly. By the same token, in an attempt to unveil trends among the lectures' statements regarding applied metacognitive practices in the classroom collaborative learning was mentioned in

three of the Lithuanian statements and none of the Iranian statements. This in turn highlights it as an indispensable factor for the consolidated findings and provides a ground for future studies on measuring social strategies and social facets of metacognitive awareness of these two contexts, especially the Iranian one. It seems that some phrases from research participants such as "work in pair/group/team" and "comparison of pair and groups results" demonstrate cooperative learning with discussion and exchanging ideas in these statements, "work in pairs, in groups, individually, comparison of pairs and groups results, self-reward, self-evaluation, various languages applying strategy while teaching the multicultural group; theory combination with practice strategy" T22L1, "work in pairs, groups and individually" T22L4 and "I walk in the class and control if the students are doing individual work or in a team" T22L8.

Based on a constructivist perspective, creating knowledge in the learning process can be achieved through meaningful connections between prior and new knowledge. Experiential learning is effective due to the fact that knowledge is not static. It is changing with experiences. Creating knowledge based on previous knowledge and experience can be only detected in the statements of one Iranian lecturer, while she is explaining her metacognitive practices in the classroom. "I ask them to look at their experience in the past. Bearing in mind what was successful and what was not in order to formulate their learning accordingly" T22I2.

Following this thread of thought, learning should occur in an authentic, realistic and real-world context which involves the students to employ their curiosity naturally with authentic activities. In Iranian university settings, Ramezanzadeh (2017) underlines lecturer's authenticity in three concepts which all nurture metacognitive awareness. By pedagogical relationship as the first concept, he determines lecturers, students and subject matters as contributing items on lecturers' decisions. They should bring their own self including values, expectations, interest and experiences to class setting. The second concept is reflectivity, meaning that lecturers should reflect on their teaching in order to improve it. Another concept is context-appropriate adjustments. As authentic educators they try to get familiar with native speakers' methods and theories of teaching while preparing their pedagogical activities based on the uniqueness of their own contexts, needs and culture of their students.

In line with the theory of constructivism, as a modern perspective to the learning process, a safe conclusion to be drawn here is that gaining knowledge is in contradiction to traditional practices. Both lecturers and students need to reflect on their practice and be metacognitively aware of the knowledge construction process in a socially shared authentic context and based on previous experience. Apart from the cognitive facet of metacognitive awareness, the social facet of it should be taken into consideration.

Emergence of metacognitive awareness as part of intercultural competence

As this study is a cross cultural comparison of metacognitive awareness and related strategies in two university studies with two different cultures and contexts, the obtained results have direct effects on increasing the intercultural competence. Globalization brings together people with different cultures and languages. A response to globalization in

higher education is internationalization and cross-cultural collaboration of universities which lead education towards metacognitive learning and teaching. Students and lecturers should be able to interact with different people from various cultures; therefore, having an interest and acceptance of cultural diversity is a requirement for intercultural teaching and learning. According to constructivism, you can develop your intercultural competence by comparing one's own culture with another culture, constructing experience in interaction in socially shared context/environment.

Some Lithuanian scholars (Gerulaitė & Mažeikienė, 2012; Mažeikienė & Virgailaitė-Mečkauskaitė, 2007) draw attention to the significance of metacognitive and cultural awareness in the construction of intercultural competence. Gerulaitė and Mažeikienė (2012) put forward that the intercultural competence is based on the constructivist paradigm and consists of experiential, problem solving, collaborative and metacognitive learning. They highlight that experiential learning is solving problems in real cross-cultural situations by employment of knowledge and expressing emotions in the real context. This causes an individual to experience the differences between cultures and values which is effective in the learning process. Gerulaitė and Mažeikienė (2012) state that the educational context is not appropriate for developing intercultural competences.

Vitality of promoting intercultural competence among lecturers and students is clear in university studies. Cross-cultural comparison research of metacognitive awareness and metacognitive strategies can help immensely not only in its development but also in those specific contexts and in other global academic settings.

Cross-cultural comparison of level of cognitive and metacognitive awareness of Turkish and Iranian university students in reading skill (Kasimi, 2012) and those of Persian monolingual and Azeri-Persian bilingual students (Keshavarz & Ghamoushi, 2014) have been detected. Kasimi (2012) proves that there are positive and strong correlations between the cognitive and metacognitive awareness levels of both groups with medium level of metacognitive awareness. What is different between these two groups are the frequency and choice of the strategies due to different logographic skills and the cultural, educational divergence and styles of thoughts and values (Keshavarz & Ghamoushi, 2014).

Another factor that has a great influence on the level of metacognitive awareness and intercultural competence is being a monolingual or a bilingual. A number of comparative studies in the Iranian university setting (Kasimi, 2012; Ramezanzadeh, 2017) can be detected. They argue that being bilingual can facilitate the learning of other languages, providing more resources superior performance on metacognitive skill, and positive transfer of metacognitive strategies from other languages to the new one.

To sum up, metacognitive awareness can increase cultural awareness and knowledge of intercultural competence which empowers students to manage diversity of cultures, languages and values when they expose to a multitude of unexpected learning situations. Language lecturers'/students' attitudes toward intercultural competence have a great influence on their teaching/learning (Pajares, 1992). Cross-cultural comparison of metacognitive awareness studies can be helpful in its raising.

Recommendations. The relevance of metacognitive awareness training in successful learning (Brown, 1987; Coutinho, 2007) can be the starting point for this recommendation.

Though metacognition is teachable (Al-Jarrah & Obeidat, 2011, Cheng, 2011), according to Bandura (1997), metacognitive awareness training cannot be the sole reason for the transfer and application of metacognitive strategies spontaneously. As a result, individuals need to show the effectiveness of metacognitive awareness training over and over. The first recommendation is for students to be involved in explicit metacognitive awareness training. To support the development of this training, I recommend that lecturers' attention be drawn to decide from where to start metacognitive awareness training based on the obtained results of the current research. They can begin with presenting the results to their students with a concentration on weak points. This action might help them enhance not only their knowledge but also their self-efficacy, motivation and confidence. Additionally, they can use the MAI repeatedly as a consciousness raising instructional tool during each term to enable the students to reflect on their learning process. Metacognition is malleable even in large and online classrooms where lecturers have little chance of knowing their students individually. Lecturers can use the MAI as a screening tool to pinpoint weakness areas of the students even in detail from each statement of the inventory to tailor-make metacognitive teaching to meet the students' requirements. Furthermore, based on our findings our lecturers mostly ignore the affective states of metacognitive awareness not realizing that this attitude has a huge influence on their teaching and consequently on students' learning. Therefore, it is highly recommended that the provided activities in students' metacognitive instruction raise motivation, a sense of self-efficacy and confidence and expectation from learning.

Moreover, as metacognitive awareness is socially mediated learning, it can be developed in a collaborative and authentic environment. Cultivating the nature of students' independence with the lecturers' supportive role, giving the students choice in what they do at their own pace and informing the purpose of whatever is going on in the classroom can be defining factors. Lecturers are expected to be in a consistent students' need analysis, discovering their interests, preferred activities and style of learning. The relation of newly learned information to the past experience has a great impact on knowledge internalization. Writing in learning journals, learning contracts and writing portfolios are tools not only for their assessment but also for their reflection and monitoring the learning process. Besides, metacognitive learning can be nurtured by e-learning, online/virtual learning and social networks on an individual or interactive basis. Last but not least, lecturers should increase the metacognitive awareness climate of a classroom by expressing high expectation to metacognitive awareness learning verbally and non-verbally while communicating with students in a warm, positive and motivating manner to boost students' sense of self-confidence and self-efficacy (Rosenthal, 1997).

The following advice has been given to students going to engage in metacognitive awareness training to contribute to the development of their metacognitive awareness in the study settings: 1. The results gained can contribute to detecting obstacles and find out how to navigate around them in the field of learning metacognitive awareness and assist the students to look at learning as a problem solving exercise to deploy the most suitable metacognitive strategies. 2. Since introducing metacognitive strategies and making them a natural part of the learning process are time-consuming, it gives sufficient time to students

to adjust to the new learning environment, especially for those who came from lecturer-centered approach classes to adopt to a student/learning-centered approach and break down the previous educational habits. 3. We are expecting that all students in the class with any level of metacognitive awareness can enjoy metacognitive awareness teaching; however, learners with a higher level of metacognitive awareness will improve more significantly and faster. Also, accessing to theoretical and practical studies to find out the most effective components associated with their improvement can be helpful. 4. Apart from learning about their results on the MAI, students can elaborate on their exposed problems, how they deal with them, how they prepare for the exams and apply for the strategies in general before and during the training. In this way, not only do the students become motivated to learn with such a student and learning-centered approach at an early stage of the semester, but also the lecturers perceive students' emotional-motivational constructs and can explain each required strategy with the rationale behind each strategy's use, so that finally the strategy itself becomes part of students' procedural knowledge.

Despite the lecturers' rich repertoires of metacognitive knowledge, this study highlights the necessity for lecturers' metacognitive training so that they can update their knowledge to cope with changes in the education system innovatively and creatively to implement their expertise in the classroom. Therefore, the second recommendation is aimed at the development of a lecturers' metacognitive program in general and particularly in improving their declarative knowledge with sufficient procedural materials. Lecturer research participants themselves mention only the cognitive facets and ignore affective ones while defining the metacognitive awareness concept. It is quite sensible to equip them with metacognitive affective states, which have a direct effect on their teaching content. In these training courses, socialization of ideas can be conducted either by having co-teaching or analysing their results together upon pre-determined variables related to metacognitive awareness.

According to the results of this research, the third recommendation is made for material developers who should revise the curriculum based on consideration of the findings taking into account both students' and lecturers' attitudes towards metacognitive awareness and design varieties of practices and activities that elicit a range of metacognitive strategies. In this way, individual differences in selecting their preferred strategies will be taken into consideration which can increase the application of metacognitive strategies, their sense of self-efficacy and motivation. Particular attention needs to be devoted to the nature of generated group's problem-solving activities to give opportunities to students to think collaboratively and value each other's ideas. Attention should be drawn to open-ended activities as well which call up prior knowledge, personal experience, reflective thinking and thinking about process of thinking.

Future research. The results of the current study on students' and lecturers' attitudes towards metacognitive awareness point out some ideas that need exploring. Some students, who may not be able to demonstrate their metacognitive awareness properly, should be given different measures to reveal their attitudes towards metacognitive awareness. As Schraw and Dennison (1994) state, any quantitative data from the MAI can merely be regarded as a "reliable initial test of metacognitive awareness" (p. 472). Prolonged and in-depth class observation with interview and triangulating data from various sources, which

are gathered through different types of tools of measurement is needed. Simultaneously, it would be of significant interest to detect the preferred learning styles and strategies used in each lesson in order to gain a more realistic and detailed picture on metacognitive awareness learning in Lithuanian and Iranian university studies.

The training programs for students on how to adopt and use effective metacognitive strategies and its impact on different variables such as performance, goals, efficacy, emotion and motivation is another idea which is worth exploring.

Since training students with high level of metacognitive awareness is the ultimate goal of any education system, and teaching and learning are two sides of the same coin, there is a pressing need in the area of lecturers' metacognitive training (Prytula, 2012) with a pre- and post-test that would control the various variables. In fact, students' metacognitive awareness would be the result of lecturers' metacognitive awareness (Wilson & Bai, 2010). Additionally, research is still lacking in discovering the relationship between lecturers' practice and students' learning after their metacognitive program.

A further study can also be conducted to consider the relationship between students' gender, age, study field and level of metacognitive awareness and related subcomponents. Further to these four variables, the lecturer should notice the students' unusual and novel choice of individual metacognitive activities, various mindsets, individuals' way of thinking, social and cultural contexts, notions, personal characteristics and style of learning (visual, auditory or touch) and personality traits (extrovert and introvert), which can be a good base for future research. The more he/she focuses on these individual variables, the more successful he/she can be to satisfy the need, expectations and preferences of the students and to decide upon the selection of the types of the metacognitive activities that are appropriate for specific students. In other words, each class is different from another and requires different metacognitive interventions and practices. In light of this result, lecturers should design the learning environment, curriculum, educational methods and material in accordance with the students' individual variables and align their teaching practice accordingly to reach the more pleasurable classes with deep and durable learning.

As Bandura (1997) stresses, a self-efficacy questionnaire should be designed based on specific field of study, which in our case is metacognitive awareness. This is the reason why applying the existing general Sense of Self-Efficacy Scales may not be predictive and valid on justifying the Iranian low level of metacognitive awareness. Similarly, as this study has only focused on metacognitive awareness, considering motivational attitudes of students should be addressed in future research.

There is a need to delve deeper into the similarities and differences between students' metacognitive awareness level in other universities abroad. To this end, future research could also further probe the same objectives in our study in other contexts holding different cultural values, which may shed light on the nature of intercultural competence and prevent individuals from resorting to cultural stereotypes while facing cross-cultural interactions.

CONCLUSIONS

1. The data analysis of students' attitudes towards their own level of metacognitive awareness reveals that Iranians determine low level of metacognitive awareness for themselves while the Lithuanians think that their level of metacognitive awareness is medium. Moreover, it can be concluded that there was a significant positive relationship between the two main components of knowledge and regulation of cognition. Furthermore, the sequence of strongest to weakest subcomponents in knowledge of cognition is "declarative, conditional and procedural" in the Lithuanian group while that of Iranians is "declarative, procedural and conditional". The Lithuanian students consider themselves weaker in "information management" and "debugging" than in the other subcomponents of regulation of cognition. The Iranian students determine "debugging", "evaluation" and "monitoring" subcomponents as their weaker ones. In addition, through our large-scale metacognitive awareness measurement and rigorous analysis in each group, we got access to in-depth explicit and predictive information. The findings of this research provided a hint as to where to start investigating the problematic areas in students' metacognitive awareness and determined what type of metacognitive knowledge and regulation skills the students reportedly utilize or require while learning. Finally, lecturers should explicitly explain to students the result of their metacognitive measurement with a focus on their weaknesses which helps students to consider a process-oriented approach more than a product-oriented one in the learning. This affects the students' self-beliefs and attitudes positively as emotional factors, which have an impact on their level of self-efficacy and increases their confidence. A lecturer who discovers more about the metacognitive awareness levels of his/her students can adapt his/her teaching to the constantly evolving educational environment through considering the students' needs, develop his/her pedagogical knowledge, transfer his/her knowledge into his/her classrooms properly, foster the metacognitive awareness of the students, and create an open atmosphere which makes learners feel positive to take more responsibility for their own learning with less tutoring sessions.

2. The findings regarding lecturers' attitudes toward their students' metacognitive awareness level and applied subcomponents provide significant information for educationalists and lecturers on how their students could take control of their learning and a variety of metacognitive strategies that the students apply or ignore while learning in both Lithuanian and Iranian university studies. Both lecturers' groups report metacognitive strategy mean scores, applied by the students, which fall into the medium range. In our study, the sequence of the knowledge of cognition subcomponents from the strongest to the weakest in both lecturers' groups is "declarative, procedural and conditional". According to the lecturers' attitudes in each group, the Lithuanian students have lower scores in "information management" and "debugging" while their Iranian counterparts have lower scores in "monitoring" and "debugging". The findings regarding the most frequent theme based on both Lithuanian and Iranian lecturers' attitudes towards the reason for assigned students' metacognitive awareness level is "students' characteristics". "Lecturers' characteristics" and "characteristics of process" themes are ignored or considered

slightly. This implies that lecturers should not avoid their own role in teaching the meta-cognitive awareness learning process in the classroom. According to the above findings, we can conclude that both lecturers' groups should place more emphasis on teaching conditional knowledge. Lithuanian lecturers with more emphasis on practical activities related to "information management" and "debugging" strategies and Iranian lecturers with more focus on "monitoring" and "debugging" strategies can make the discussion of metacognitive awareness strategies as a part of the everyday discourse of the classroom. Additionally, the lecturers' reasons for promoting metacognitive awareness were categorized under five themes of "lifelong learning", "autonomy", "enhancing teaching", "university education" and "future success". Furthermore, they can emphasize the importance of metacognitive awareness in educational technologies such as virtual and interactive learning including Moodle, social networks and Facebook. The outcomes of this part are essential in some ways. First, the data created a possibility to scrutinize the similarities and differences among lecturers' attitudes in both contexts. Generally, the obtained results from two lecturer groups are consistent with each other while the settings are not close culturally which is in a contradiction to some posited literature that culture affects learning and metacognitive strategy application. This conveyed that the resident culture did not limit the metacognitive awareness. Second, this research can contribute to broadening the related literature exploring the contexts that varied from previous studies. Finally, the outcomes of lecturers' and students' attitudes are essential since we discover the complex and dynamic process of learning and teaching that is intertwined. As a result, in spite of this complexity, a clear connection between lecturers and students' attitudes emerges.

3. When considering the results of lecturers' attitudes towards metacognitive awareness concept and their pedagogical knowledge in both groups, it can be said that they have rich pedagogical knowledge with a similar pattern. They are quite familiar with the concept of metacognitive awareness, though they mostly related it with its "cognitive" dimension rather than the "strategic" and "affective" ones. This means that they need more training on the theory and practice of metacognitive awareness, so that they can also consider the benefits of focusing on emotional and motivational factors of learning. Regarding the knowledge of cognition component of lecturers' pedagogical knowledge, the sequence of subcomponents from the strongest to the weakest in both groups is the same and is "declarative, procedural and conditional". It means that their scores in conditional subcomponent are lower than in the other two subcomponents. This can be detected as well through the results obtained from the declared practices applied in their class, which lacked any reference to conditional knowledge. The regulation of cognition subcomponents of both lecturers' groups have similar patterns, while Lithuanian lecturers have lower scores in "information management" and "debugging", their counterpart group has lower scores in "monitoring" and "debugging" respectively. These findings are in line with the outcomes of applied personal strategies detected by the raters among their statements, which show that both groups' statements lacked any "debugging" strategies and only a few of the strategies mentioned by Lithuanian lecturers were related to "information management". Moreover, Iranian lecturers' statements did not mirror any

"monitoring" strategies. There is congruity between the lecturers' attitude relevant to their metacognitive awareness pedagogical knowledge and practices and the sequence of the strongest to the weakest subcomponents follow the same trend in both of them. However, the subcomponents with lowest mean scores, "debugging" in both groups and "comprehension monitoring" in the Iranian group are not observed in their practical activities.

4. Comparisons were made across the review of literature of both Lithuanian and Iranian university studies, and these similarities were drawn. Metacognitive awareness is considered to be one of the fundamental and defining concepts in learning in the last two decades. It is an overarching phenomenon that subsumes multiple relevant concepts. Quite similar themes with similar frequencies are revealed including "skills", "language learning strategies", "lecturers", "intercultural competence" and "cross-cultural comparison", "motivation" and "efficacy", "components & model", "technology", "critical thinking" and "problem solving". Some themes which are absent in one context such as "forms of register", "shifting to lifelong paradigm", "personality traits" and "authenticity", can be found in the other context. Some subjects are discussed in both contexts such as self-confidence, academic achievement, autonomy, performance, cognitive strategies and cooperative learning, which are the most common sub-themes. Also, similar metacognitive practices consisting of "prompts", "reflective writing", "interactive-reflective" activities and "modeling" emerge in both contexts with relatively different frequency of application. Admittedly, three roles for metacognitive awareness, measured quantitatively and qualitatively and instructional role with a similar frequency, can be found in both university studies. We found out that there are differences between type of language skills highlighted in both Lithuanian and Iranian university studies. Reading and writing in both contexts and listening in the Iranian contexts are mostly analysed. There are only a few studies that have been conducted on speaking. Moreover, a stronger resistance can be seen towards shifting to a reflective paradigm compared to the Iranian one. Relatively, some missing points, which could act as research ideas for future studies in both contexts, are the following: (i) In most of the studies metacognitive awareness is considered in English as a foreign language context whereas wide range of fields in social sciences, art and history can be treated as the context of research. (ii) Some studies related with metacognitive instruction are interlocked with other sorts of instructions, which impacts on an accurate measurement of metacognitive awarenes. (iii) In most of the studies, raising students' metacognitive awareness are taken into account while the need to evaluate and raise lecturers' metacognitive awareness is insufficiently considered. (iv) Most of the studies are on regulation of cognition whereas research on knowledge of cognition is ignored. (v) Metacognitive training and instruction with explicit explanation especially for lecturers is absent. The application of technology in metacognitive learning could also be enhanced. (vi) The greater proportion of the papers consider students' attitudes, knowledge and practices whereas fewer studies are related to lecturers' ones.

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APPENDICES

APPENDIX 1.

Metacognitive Awareness and Demographic Surveys for Students

Please help us by taking 5 minutes to respond to the questions below for a quick assessment of Ph.D research on metacognative awareness. Be assured that your participation is completely voluntary and your responses will be totally anonymous. Please read the directions carefully and furnish your responses in the format requested. Thank you in advance for your participation in this survey.

Section 1-Demographic Survey

Please reply to the following questions by ticking the box or writing:
1. What is your gender?   Female ☐   Male ☐
2. What is your age? _____
3. At which higher education institute do you take_____
4. What study program do you study_____
5. What is your nationality_____

Section II. Metacognitive Awareness Survey

Please indicate your reaction to each of the following statements by marking your level of agreement or disagreement with it.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. I ask myself periodically if I am meeting my goals.					
2. I consider several alternatives to a problem before I answer.					
3. I try to use strategies that have worked in the past.					
4. I pace myself while learning in order to have enough time.					
5. I understand my intellectual strengths and weaknesses.					
6. I think about what I really need to learn before I begin a task.					
7. I know how well I did once I finish a test.					
8. I set specific goals before I begin a task.					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
9. I slow down when I encounter important information.					
10. I know what kind of information is most important to learn.					
11. I ask myself if I have considered all options when solving a problem.					
12. I am good at organizing information.					
13. I consciously focus my attention on important information.					
14. I have a specific purpose for each strategy I use.					
15. I learn best when I know something about the topic.					
16. I know what the teacher expects me to learn.					
17. I am good at remembering information.					
18. I use different learning strategies depending on the situation.					
19. I ask myself if there was an easier way to do things after I finish a task.					
20. I have control over how well I learn.					
21. I periodically review to help me understand important relationships.					
22. I ask myself questions about the material before I begin.					
23. I think of several ways to solve a problem and choose the best one.					
24. I summarize what I've learned after I finish.					
25. I ask others for help when I don't understand something.					
26. I can motivate myself to learn when I need to					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
27. I am aware of what strategies I use when I study.					
28. I find myself analyzing the usefulness of strategies while I study.					
29. I use my intellectual strengths to compensate for my weaknesses.					
30. I focus on the meaning and significance of new information.					
31. I create my own examples to make information more meaningful.					
32. I am a good judge of how well I understand something.					
33. I find myself using helpful learning strategies automatically.					
34. I find myself pausing regularly to check my comprehension.					
35. I know when each strategy I use will be most effective.					
36. I ask myself how well I accomplish my goals once I'm finished.					
37. I draw pictures or diagrams to help me understand while learning.					
38. I ask myself if I have considered all options after I solve a problem.					
39. I try to translate new information into my own words.					
40. I change strategies when I fail to understand.					
41. I use the organizational structure of the text to help me learn.					
42. I read instructions carefully before I begin a task.					
43. I ask myself if what I'm reading is related to what I already know.					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
44. I reevaluate my assumptions when I get confused.					
45. I organize my time to best accomplish my goals.					
46. I learn more when I am interested in the topic.					
47. I try to break studying down into smaller steps.					
48. I focus on overall meaning rather than specifics.					
49. I ask myself questions about how well I am doing while I am learning something new.					
50. I ask myself if I learned as much as I could have once I finish a task.					
51. I stop and go back over new information that is not clear.					
52. I stop and reread when I get confused.					

Designed by Schraw and Dennison (1994)

Lecturers' attitudes towards Metacognitive Awareness

Dear Lecturer,

This questionnaire is part of a PhD research study that aims to identify lecturers' attitudes towards metacognitive awareness and their students' metacognitive awareness levels. Please help us by taking 10 minutes to respond to the questions. Be assured that your participation is completely voluntary and that all data gathered will be treated anonymously and confidentially. Thank you in advance for taking the time to participate in this study.

Declaration of consent

☐ I agree to participate in this study and I am aware that all information will be treated anonymously and confidentially.

Section 1 - Demographic Profile

Please reply to the following questions by ticking the appropriate box or writing:

1. What is your gender?   Female ☐   Male ☐

2. What is your age?
   ☐ Under 34   ☐ 35-40   ☐ 41-45   ☐ 46-50   ☐ 51-55   ☐ 56-60   ☐ Over 61

3. What is your academic background?
   ☐ Master   ☐ PhD   ☐ Postdoc

4. Please choose the name of the university you are teaching in at the moment.
   ☐ Mykolas Romeris University
   ☐ Tehran Azad University

5. How many years have you been teaching at university?
   ☐ Less than 4   ☐ 5-10   ☐ 11-15   ☐ 16-20   ☐ 21-25
   ☐ 25-30   ☐ More than 31

6. What courses do you usually teach? Name 3 of them ....
   ....
   ....

Section II. Beliefs about Metacognitive Awareness

Please answer this section based on your experience. There is no wrong or right answer.

1. What is metacognitive awareness? Please try to define it in your own words.

   ....
   ....
   ....

2. How frequently do you use the following metacognitive awareness strategies? Please indicate your reaction to each of the following statements by marking the appropriate box.

Statements	Never	Rarely	Sometimes	Often	Always	Do not know
1. I ask them to have a specific purpose for using each strategy they use.						
2. I help them to know what kind of information is most important to learn.						
3. I suggest that they ask themselves if there was an easier way to do things after finishing a task.						
4. I request them to pace themselves while learning in order to have enough time.						
5. I suggest them to change strategies when they fail to understand.						
6. I ask them to use different learning strategies depending on the situation.						
7. I allow them to consider several alternatives to a problem before they answer.						
8. I suggest them to consciously focus their attention on important information.						

3. Please add any other metacognitive awareness strategies that you might use in class.

   ....
   ....
   ....

4. How frequently do you think your students use the following strategies? Please indicate your reaction to each of the following statements by marking the appropriate box.

Statements	Never	Rarely	Sometimes	Often	Always	Do not know
1. My students set specific goals before they begin a task.						
2. They ask themselves if they have considered all options when solving a problem.						
3. They organize information.						
4. They know what I expect them to learn.						
5. They periodically review to help themselves understand important relationships.						
6. They ask themselves questions about the material before they begin.						
7. They summarize what they have learned after they finish.						
8. They motivate themselves to learn when they need to.						
9. They are aware of what strategies they use when they study.						
10. They use their intellectual strengths to compensate for their weaknesses.						
11. They focus on the meaning and significance of new information.						
12. They create their own examples to make information more meaningful.						
13. They find themselves using helpful learning strategies automatically.						
14. They ask themselves how well they have accomplished their goals once they are finished.						
15. They re-evaluate their assumptions when they get confused.						
16. They stop and go back over new information that is not clear.						

5. How do you evaluate the overall level of metacognitive awareness of your students?
   ☐ low
   ☐ medium
   ☐ high
   ☐ I do not know

5.1. Please justify your answer.

....
....
....

6. Do you think it is important to promote university students' metacognitive awareness?
   ☐ Yes
   ☐ No

6.1. Please justify your answer.

....
....
....

Thank you for your kind participation.

Total metacognitive awareness scores of Lithuanian and Iranian students
on each item from the weakest to strongest

Total metacognitive awareness scores of Iranian students
on each item from the weakest to strongest

Item	Statements	Iranian students' sum of scores
43	I ask myself if what I'm reading is related to what I already know.	912
2	I consider several alternatives to a problem before I answer.	920
11	I ask myself if I have considered all options when solving a problem.	925
5	I understand my intellectual strengths and weaknesses.	926
6.	I think about what I really need to learn before I begin a task.	939
7	I know how well I did once I finish a test.	941
15	I learn best when I know something about the topic.	963
21	I periodically review to help me understand important relationships.	964
29	I use my intellectual strengths to compensate for my weaknesses.	964
49	I ask myself questions about how well I am doing while I am learning something new.	964
36	I ask myself how well I accomplish my goals once I'm finished.	967
8	I set specific goals before I begin a task.	968
37	I draw pictures or diagrams to help me understand while learning.	969
50	I ask myself if I learned as much as I could have once I finish a task.	971
44	I reevaluate my assumptions when I get confused.	972
14	I have a specific purpose for each strategy I use.	981
38	I ask myself if I have considered all options after I solve a problem.	982
52	I stop and reread when I get confused.	988
4	I pace myself while learning in order to have enough time.	994
48	I focus on overall meaning rather than specifics.	1004
34	I find myself pausing regularly to check my comprehension.	1007
40	I change strategies when I fail to understand.	1008
25	I ask others for help when I don't understand something.	1033
27	I am aware of what strategies I use when I study.	1034
47	I try to break studying down into smaller steps.	1036
35	I know when each strategy I use will be most effective.	1037
1	I ask myself periodically if I am meeting my goals.	1039
3	I try to use strategies that have worked in the past.	1039
46	I learn more when I am interested in the topic.	1042
28	I find myself analyzing the usefulness of strategies while I study.	1044
32	I am a good judge of how well I understand something.	1046
42	I read instructions carefully before I begin a task.	1046
41	I use the organizational structure of the text to help me learn.	1047

Item	Statements	Iranian students' sum of scores
24	I summarize what I've learned after I finish.	1047
13	I consciously focus my attention on important information.	1049
39	I try to translate new information into my own words.	1049
9	I slow down when I encounter important information.	1050
51	I stop and go back over new information that is not clear.	1051
10	I know what kind of information is most important to learn.	1052
31	I create my own examples to make information more meaningful.	1058
18	I use different learning strategies depending on the situation.	1063
20	I have control over how well I learn.	1078
26	I can motivate myself to learn when I need to	1078
33	I find myself using helpful learning strategies automatically.	1080
17	I am good at remembering information.	1083
30	I focus on the meaning and significance of new information.	1084
45	I organize my time to best accomplish my goals.	1084
23	I think of several ways to solve a problem and choose the best one.	1191
22	I ask myself questions about the material before I begin.	1195
19	I ask myself if there was an easier way to do things after I finish a task.	1143
16	I know what the teacher expects me to learn.	1151
12	I am good at organizing information.	1169

Total metacognitive awareness scores of Lithuanian students
on each item from the weakest to strongest

Item	Statements	Lithuanian students' sum of scores
51	I stop and go back over new information that is not clear.	702
49	I ask myself questions about how well I am doing while I am learning something new.	706
4	I pace myself while learning in order to have enough time.	748
9	I slow down when I encounter important information.	752
41	I use the organizational structure of the text to help me learn.	753
21	I periodically review to help me understand important relationships.	757
26	I can motivate myself to learn when I need to	757
52	I stop and reread when I get confused.	759
14	I have a specific purpose for each strategy I use.	763
28	I find myself analyzing the usefulness of strategies while I study.	765
43	I ask myself if what I'm reading is related to what I already know.	765
44	I reevaluate my assumptions when I get confused.	766
5	I understand my intellectual strengths and weaknesses.	769

Item	Statements	Lithuanian students' sum of scores
6	I think about what I really need to learn before I begin a task.	774
35	I know when each strategy I use will be most effective.	775
48	I focus on overall meaning rather than specifics.	776
10	I know what kind of information is most important to learn.	779
13	I consciously focus my attention on important information.	779
22	I ask myself questions about the material before I begin.	779
33	I find myself using helpful learning strategies automatically.	780
47	I try to break studying down into smaller steps.	781
30	I focus on the meaning and significance of new information.	786
18	I use different learning strategies depending on the situation.	790
12	I am good at organizing information.	793
39	I try to translate new information into my own words.	794
24	I summarize what I've learned after I finish.	795
45	I organize my time to best accomplish my goals.	797
7	I know how well I did once I finish a test.	799
23	I think of several ways to solve a problem and choose the best one.	799
1	I ask myself periodically if I am meeting my goals.	804
36	I ask myself how well I accomplish my goals once I'm finished.	804
37	I draw pictures or diagrams to help me understand while learning.	804
17	I am good at remembering information.	805
29	I use my intellectual strengths to compensate for my weaknesses.	805
27	I am aware of what strategies I use when I study.	807
19	I ask myself if there was an easier way to do things after I finish a task.	809
3	I try to use strategies that have worked in the past.	810
32	I am a good judge of how well I understand something.	811
40	I change strategies when I fail to understand.	815
31	I create my own examples to make information more meaningful.	826
2	I consider several alternatives to a problem before I answer.	830
15	I learn best when I know something about the topic.	831
11	I ask myself if I have considered all options when solving a problem.	836
38	I ask myself if I have considered all options after I solve a problem.	841
34	I find myself pausing regularly to check my comprehension.	847
25	I ask others for help when I don't understand something.	856
16	I know what the teacher expects me to learn.	863
50	I ask myself if I learned as much as I could have once I finish a task.	863

Item	Statements	Lithuanian students' sum of scores
8	I set specific goals before I begin a task.	867
20	I have control over how well I learn.	874
46	I learn more when I am interested in the topic.	874
42	I read instructions carefully before I begin a task.	879

Marjan Masoodi

METACOGNITIVE AWARENESS IN UNIVERSITY STUDIES: THE COMPARATIVE STUDY OF LITHUANIAN AND IRANIAN CASES

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**METACOGNITIVE AWARENESS IN UNIVERSITY STUDIES:
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Summary of Doctoral Dissertation

Introduction

Relevance of the thesis. Over the last few decades, metacognition has become one of the most significant concepts in theories of educational psychology (Flavell, 1976; Zhang, 2010) which has contributed to a shift in classroom instruction style from a teaching-centered pedagogy to a learning-centered one. Metacognition is associated with the theory of the mind. It is the ability to understand the mental state of yourself and others. In fact, mentalizing our mental states occurs before mentalizing about others. In this field, inspecting our unknown motivates us to discover new information (Metcalfe & Finn, 2008) and share our uncertainty with others, which not only opens the lifelong learning doors but also helps us to direct our forthcoming learning (Bahrami et al., 2010).

As recent studies have elaborated on the ingenious role of metacognition in transforming old concepts, problem solving (Ghorbani Nejad & Farvardin, 2018), critical and creative thinking (Gok, 2010; Tolutienė, 2010; Valiukienė, 2014) and learning achievement (Cheng, 2011; Mačiulienė, 2019) there is a growing requirement for the better understanding of the nature and conceptualization of this unclear construct. The most common approach among all the definitions is regarding it as a componential rather than a uni-dimensional one. Flavell (1976) who coined this concept, introduced it as "one's knowledge concerning one's own cognitive processes and products" (p. 232) while Schraw and Dennison (1994) described it as knowledge of cognition and regulation of cognition with more focus on its pedagogical implications.

Metacognition is also thought to play a main role in self-regulation (Šliogerienė, 2013; Zimmerman & Schunks, 2011), encouraging reflective thinking (Ansarin, Farrokhi & Rahmani, 2015; Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008), self-efficacy (Schunk, 2008), building self-confidence (Ghahari & Basanjideh, 2015; Tolutienė, 2010) to make decisions quickly and emotional-motivational constructs (Doğan, 2016). Self-regulation, for instance, is a decisive aspect in learning and helpful in problem solving involving information management and reasoning (Kramarski & Michalsky, 2009). A self-regulated student can regulate his/her cognition and has a developed metacognitive awareness (Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008).

Self-efficacy, reflection on mind and own effectiveness, is an emotional-motivational construct in students' metacognition which has been emphasized in relevant studies (Flavell, 1976; Schraw, Olafson, Weibel & Sewing, 2012; Schunk, 2008; Tavakoli & Koosha, 2016). A student with higher self-efficacy, which is context-specific, has better desire to apply effective and extensive metacognitive strategies. The level of students' motivation, which directly influences on their performance, is in accordance with their attitudes.

A student with metacognitive awareness is a socialized person. In fact, metacognitive

awareness teaching is not individualized instruction with absolute freedom of students. It is a social process whereby all people in the class are considered and lecturers share the learning responsibility with students without any fear of losing their authority. This sociological perspective emphasizes the effect of context. Therefore, in a globalized, interconnected world, a good level of metacognitive awareness allows students to participate in the modern multilingual society.

Metacognitive awareness is not innate and must be taught formally. Students' and lecturers' metacognitive awareness are interdependent (Garmabi & Zareian, 2016), lecturers who desire to foster metacognitive awareness in the classroom should commence with themselves and reflect on their own attitudes, practices, and perspectives in this regard (Atai, Babaii & Taherkhani, 2017; Masouleh & Jooneghani, 2012; Nazari, 2018). As Willis (2011) stressed, it is crucial to get access to lecturers' attitudes towards their students' level of metacognitive awareness and their related practices in class.

Still, metacognitive awareness is not always easy to integrate in a classroom. On one hand, lecturers can have students with various levels of metacognitive skills and on the other hand, the current training schedules are mostly traditional, unrealistically long, and underestimate the role of metacognitive awareness in students' success. As a matter of fact, the workshops offered by universities to get students fully involved in the learning process with small and large group discussions, activities and exercises do not often focus on the development of metacognitive awareness in the classroom (Pucheu, 2008). Since the notion of encouraging metacognitive awareness instruction in Lithuania and Iran, the two contexts of this study, has not yet penetrated the university curriculum, effective programs are required to guide lecturers to understand students' learning needs in this field (Prytula, 2012; Pucheu, 2008).

Metacognition is teachable (Al-Jarrah & Obeidat, 2011; Cheng, 2011; Coutinho, 2007; Sperling, Howard, Staley & DuBois, 2004; Young & Fry, 2008). Since lecturers play an important role in helping students to develop metacognitive awareness (Pucheu, 2008), lecturers' development of their own metacognitive skills is needed, so that they can support their students (Prytula, 2012; Pucheu, 2008). Therefore, effective teaching and learning depends upon both students' and lecturers' levels of metacognitive awareness (Pucheu, 2008).

The significance of identifying metacognitive awareness as an essential factor in university studies entails the necessity of understanding the nature of students' and lecturers' attitudes. Despite still being a fuzzy concept, hard to conceptualize and to implement, attitudes have been reported to play an important role in driving one's actions, namely in resorting to metacognitive awareness strategies (Bullock, 2010), and accepting and rejecting new information and how knowledge is employed (Borg, 2009, 2015, 2018; Mansour, 2013; Pajares, 1992).

Lecturers' attitudes are thought to include their educational or pedagogical attitudes towards their teaching (Borg, 2009, 2018; Pajares, 1992). Successful experience in teaching has a positive effect on the sense of efficacy and engages the lecturer to repeat the same behavior in teaching (Bandura, 2008; Bullock, 2010). Even if there is a systematic metacognitive awareness program imposed by some universities, lecturers will have the final word in implementing it or rejecting it based on their attitudes. Lecturers' actions are habitually

or spontaneously driven by their attitudes more than by a pre-determined methodology or course book that they have to follow.

Despite the interlocked complex and dynamic process of learning and teaching, a clear connection has been found between lecturers' and students' attitudes. Lecturers' expectations and their attitudes towards their students are closely connected to each other and many students perform in the manner that their lecturers, even unintentionally and non-verbally, expects them to perform (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Attitudes also have a connection to the level of expectation from learning and teaching (Bernat, 2008) and class practices (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013). Attitudes are also associated to one's social systems, to economic and political situations, class observation and experience, selection of objectives in class, what language lecturers and students think, believe in and act upon, and the level of consciousness (Bullock, 2010). Analysing students' metacognitive awareness attitudes can assist lecturers not only in reflecting on their own teaching and modifying it in a creative way based on their students' requirements and expectations, but also to guide the students to get rid of their detrimental notions of learning (Bernat, 2008; Eliss, 2008).

Previous studies have advocated for the usefulness of raising and training students' metacognitive awareness. However, it is fundamental that before starting metacognitive instruction in any setting, the nature of students' metacognitive awareness is explored through identifying both lecturers' and students' attitudes. To the best of the researcher's knowledge, no research has sought to analyse the overall level of metacognitive awareness in such a detailed manner and especially comparing students in two different countries, such as Lithuania and Iran, using Schraw and Dennison's Metacognitive Awareness Inventory (MAI) developed by them in 1994. Only a few research studies have analysed the metacognitive awareness of Lithuanian or Iranian university students in specific skills or subskills such as reading, writing, listening, speaking, grammar or vocabulary or language proficiency. Consequently, the lack of relevant research in both contexts burdens the researcher's mission in comparing and contrasting the findings of current research with the relevant international literature. In this direction, identifying and comparing the general metacognitive awareness levels of Lithuanian and Iranian university students considering two-dimensions – knowledge of cognition and regulation of cognition - their related subcomponents and the MAI items can help unveil weaknesses and strengths in each component in detail and contribute to furthering knowledge on this issue.

The relevance of exploring university students in these two settings is related not only to personal reasons, as the researcher is an Iranian national conducting her studies in Lithuania who is deeply interested in this subject, but also to contextual factors that nowadays affect research worldwide. In a globalized and interconnected world that allows us to access the latest information across the globe, various educational and learning issues can best be detected and solved from an international-comparative viewpoint. The students from Lithuania and Iran differ in language (though both languages originated from Indo-European), culture, social environment, interests, prior learning experience and curriculum. These factors have a huge impact on their learning (Zohar & Dori, 2012). Thus, investigating similarities and differences between these two countries in the field of metacognitive

awareness can add valuable information to learning not only in these two contexts but also in other academic settings.

Scientific novelty and significance of the research. Despite the fact that the exploration of a student's metacognitive awareness at university studies is gaining momentum as an educational phenomenon, there is no simultaneous and comprehensive research globally aimed at identifying students' level of metacognitive awareness by considering both students' and lecturers' attitudes. Therefore, the research field is scientific, developing and encompassing many unanswered questions and featuring the prevailing tendencies to employ a pragmatic view for finding ways to analyse metacognitive awareness in university studies. Furthermore, the research is new and unique since no studies have compared and contrasted the levels of metacognitive awareness in Lithuanian and Iranian university settings so far.

Metacognitive awareness has been analysed in the context of education in international studies mostly regarding students' metacognitive awareness (Adiguzel & Orhan, 2017; Aljaberi & Gheith, 2015; Costabile et al., 2013; Kallay, 2012), lecturers' attitudes towards metacognitive awareness (Bidabedian & Tabatabaei, 2015), lecturers' attitudes and knowledge (Borg 2015, 2018; Mansour, 2013), lecturers' attitudes, pedagogical knowledge and practice (Desautel, 2009; Ozturk, 2017; Spruce & Bol, 2015; Wilson & Bai, 2010). However, it is necessary to analyse this complex concept more in depth and both from students' and lecturers' perspectives. This study is significant since it provides comprehensive information concerning the analysis of metacognitive awareness by considering students' and lecturers' atitudes, lecturers' pedagogical knowledge (applied metacognitive awareness strategies), reported practices and the nature of what it means to teach students to be metacognitive. Moreover, since previous related studies have mainly focused on using either qualitative or quantitative methods, the present study expands the existing methods to include a mixed-methods approach which may contribute to a better understanding and to a more systematic, effective and in-depth exploration of this phenomenon.

In analysing metacognitive awareness, lecturers' attitudes are crucial because their attitudes towards student's metacognitive awareness may, intentionally or unintentionally, either impede the development of students' metacognitive awareness or provide them with an opportunity to reflect on various ways of enhancing their metacognitive awareness. Borg (2009, 2015, 2018) noted that lecturer's cognition and practice are related to each other which means that attitudes affect practices and practices can also cause changes in attitudes. Without such an insight on lecturers' attitudes, the analysis of students' metacognitive awareness may not be comprehended fully.

Moreover, effective teaching and learning depends upon students' and lecturers' metacognitive awareness (Pucheu, 2008). If improving students' metacognitive awareness continues to be an important part of educational reform, then raising lecturers' metacognitive awareness will be an important emphasis in education as well. In addition, learning how to learn which develops knowledge of one's cognitive process and improves learning skills is a worthwhile issue that may help people, especially university students.

The theoretical significance of this study is that the results may further contribute to

the literature on the connection between students' and students' attitudes and promote understanding on how lecturers' attitudes towards students' metacognitive awareness are manifested into teaching practices in teaching and learning situations. Thus, the current research adds new information about metacognitive awareness to the growing, yet limited, literature.

The practical significance of this study is that it will not only contribute to both lecturers' and students' development of metacognitive awareness but will also guide the design and implementation of future metacognitive awareness programs for lecturers. The findings can increase lecturers' pedagogical knowledge, which is associated with their teaching practice. The outcome can not only lead to the reformation of methodology but also contribute to formulate future interventions to change attitudes towards students' metacognitive awareness, to increase lecturers' instructional abilities by cultivating the use of appropriate and required metacognitive awareness strategies and removing those which obstruct learning, particularly in Lithuanian and Iranian university studies. The findings will also be useful for curriculum designers, policy makers and educationalists by helping them to gain an insight into this phenomenon.

The scientific problem, the research questions and null hypotheses of the thesis. Many students come to the university with limited study skills, over-dependence on the lecturers for their learning, lack of motivation and relying on a fixed curriculum. Therefore, we are faced here with the problem of how to identify students' level of metacognitive awareness and their preferred applied metacognitive strategies. The goals of many studies on the metacognitive field have been to recognize the level of metacognitive awareness of more and less efficient students and to provide instruction in the way to assist less successful students become more competent in their learning. For instance, students with higher scores on metacognition measurement are smarter, better predictors of their own learning process and control their cognitive processes, have better academic achievement, attempt to find out their own mistakes and interests and know what to do or need to do when they do not know what to do (Schraw & Dennison, 1994; Whitebread & Pino Pasternak, 2010) compared to less competent students with lower scores of metacognitive awareness. According to Hacker et al. (2009) and Jansiewicz (2008) metacognitive strategies are used as tools for becoming a proficient student. However, they claimed that there is always the possibility that less competent students deploy the same metacognitive strategies while becoming unsuccessful. and Lee and Oxford (2008) and McMullen (2009) asserted that applying the same appropriate metacognitive strategies does not guarantee that unskilled students will also become successful in learning. These problems impact the study process and student achievements in university studies.

Previous studies have advocated for the usefulness of raising and training students' metacognitive awareness. Yet, applying metacognitive awareness teaching has not been motivated sufficiently in both Lithuanian and Iranian university studies. Hence, it is fundamental that before starting metacognitive instruction in any setting, the nature of students' metacognitive awareness, their strengths and weaknesses in that specific setting are explored in detail.

Metacognitive awareness does not come naturally, but must be taught by sharing lecturers' responsibility to some extent (Masouleh & Jooneghani, 2012) and without any fear of losing authority in the classrooms (Madjar et al., 2013). Lecturers' voices have, however, been largely absent from such analyses, and little is actually known about what students' metacognitive awareness means to lecturers. This is a significant gap which affects lecturers' attitudes on how they teach metacognitive awareness (Borg, 2011). There is a body of literature on identifying the level of students' metacognitive awareness internationally (Adiguzel & Orhan, 2017; Aljaberi & Gheith, 2015; Costabile et al., 2013; Kallay, 2012) but still there is limited simultaneous attention to lecturers' attitudes toward this concept. Consequently, identifying such attitudes is central to the process of understanding and promoting changes in the extent to which lecturers raise students' metacognitive awareness in their practice. That is why it is essential to access students' attitudes toward their own level of metacognitive awareness and those of lecturers in any specific context (Willis, 2011).

Teaching and learning are two sides of a coin and are not independent of each other. Metacognitive pedagogical knowledge is defined in this research as lecturers' knowledge regarding effective metacognitive strategy instruction for helping students to become metacognitively aware. However, despite the recognition of the role of lecturers' pedagogical knowledge in student metacognitive awareness level (Desautel, 2009; Ozturk, 2017; Wilson & Bai, 2010), limited research has been done globally to explore lecturers' metacognitive pedagogical knowledge and its relation to their metacognitive practices in the classroom. Since the early 1990s, different studies (Curwen 2010; Perry, Hutchinson & Thauberger, 2008) have enriched the problem by their observations that lecturers' instructions lack pedagogies of metacognition. Lecturers are required to be metacognitively aware, which is central to their teaching and helps fostering student learning (Kramarski & Michalsky, 2009; Pucheu, 2008; Schraw, Olafsan, Weibel & Sewing, 2012; Young, 2010). However, lecturers' lack of metacognitive awareness are associated with their students' lack of metacognitive awareness and being unsuccessful at fostering students' metacognitive awareness (Pucheu, 2008; Schraw et al., 2012).

Hence, educational problems tend to remain and make some lecturers still struggle to teach metacognitively due to a lack of sufficient knowledge about metacognition despite their theoretical studies (Veenman, 2012). The problem which is described by Kerndl and Aberšek (2012) indicates that lecturers can understand the relevance of metacognitive awareness, yet they still have difficulty in teaching it. A considerable lack of specification in teaching metacognition was identified, which highlights a lack of pedagogy of metacognition.

Furthermore, with globalization and internalization of higher education, the cross-cultural comparison study of metacognitive awareness and related strategies can not only greatly contribute to our understanding of different problems of human learning processes but also prevent us from being mono-cultural bias in our cultural mix classroom and society.

Therefore, the disconnection between the studies which identify students' attitudes towards their own level and applied subcomponents of metacognitive awareness and lecturers' attitudes towards those of students, the concept of metacognitive awareness, their own

metacognitive pedagogical knowledge as well as the dependency between these attitudes and learning process on one hand, and the lack of such relevant and comprehensive research in both Lithuanian and Iranian university studies and the comparative analysis of these two contexts that can add precious information to learning process not only in these two settings but also in other academic contexts, on the other hand, led the researcher to explore all of these issues together pursuing answers to the following research questions: (i) How do the level, applied subcomponents and Metacognitive Awareness Inventory items of metacognitive awareness of Lithuanian university students differ/compare with those of Iranians'? (ii) Is there any relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition? and (iii) What are Lithuanian and Iranian lecturers' attitudes toward the students' level and applied subcomponents of metacognitive awareness, metacognition awareness concept and their own related pedagogical knowledge in university studies? (iv) How do the trend, diversity of approaches and complexity of the concept of metacognitive awareness in Lithuanian university studies differ/compare with those of Iranian university studies?

Two null hypotheses were established for the purely quantitative research method used for analyzing the students' data: (i) There are no differences in the overall score of the metacognitive awareness or any eight sub-components (Declarative, Procedural, Conditional, Planning, Comprehension monitoring, Information management, Evaluation, and Debugging) between Lithuanian and Iranian university students. (ii) There is no relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition of Lithuanian and Iranian university students.

The object of thesis. Lecturers' and students' attitudes towards the metacognitive awareness in both Lithuanian and Iranian university studies, and the dependency between those attitudes and learning processes.

The aim and objectives of the research. The aim of the research is to compare both students' and lecturers' attitudes towards the metacognitive awareness in university studies on the basis of Lithuanian and Iranian cases, and describe the dependency between those attitudes and learning processes.

To achieve this aim the following objectives were set:

1. To compare students' attitudes toward their own level of metacognitive awareness, applied subcomponents and Metacognitive Awareness Inventory items in Lithuanian and Iranian university studies.
2. To identify the relationship between the two main metacognitive awareness components of knowledge of cognition and regulation of cognition.
3. To analyse lecturers' attitudes toward their students' metacognitive awareness level and applied subcomponents, the metacognitive awareness concept and their related pedagogical knowledge in both Lithuanian and Iranian university studies.
4. To set the discourse pertaining to metacognitive awareness to disclose the trend, diversity of approaches and the complexity of the concept in Lithuanian and Iranian university studies.

Research methodology. Within the framework of pragmatic paradigm focusing on what works in practice to best answer the research questions, mixed methods research which is a methodology for conducting research that involves collecting, analysing and integrating quantitative and qualitative research (Creswell, 2014) were applied in this thesis. Believing that the methodological combination was the only and most valuable way to respond to increasingly complex problems related to metacognitive awareness concept and it is more natural and practical. It is natural because individuals tend to solve problems using numbers and words simultaneously as a humanistic requirement and combining deductive and inductive thinking. It is practical because the researcher is free to use all possible methods and techniques to respond to an investigative problem (Creswell & Plano Clark, 2011). Mixed methods research was appropriate for this study with considering the complexity that existed in the sociocultural environment of the participants which the participants' beliefs, sets of values and attitudes are embedded. Most importantly, it is significant for investigating metacognitive awareness due to the challenges in analysing it (Akturk & Sahin, 2011; Schraw, 2009). In fact, mixed methods make this multifaceted complex entity understandable.

The quantitative method aimed at the analysing of both Lithuanian and Iranian students' and lecturers' attitudes towards students' level of metacognitive awareness and the qualitative method aimed at understanding the lecturers' reported practice in this regard in university studies. With these goals in mind, the present study relied on random total sampling of 755 students and 20 lecturers. At the first stage, the data was collected from both Lithuanian and Iranian students (LG= 296, IG=459) with Schraw & Dennison questionnaire (1994) and the quantitative data analysis was conducted. The second stage of data collection from Lithuanian and Iranian lecturers (LG=10, IG=10) used a researcher-created questionnaire. At this stage, qualitative method was embedded in the quantitative one, however; the weight was on quantitative analysis rather than on qualitative data analysis. In fact, the qualitative approach allowed the researcher to "explore the behavior, perspectives and experiences in depth" (Vilelas, 2009, p. 105) of the lecturers. According to the typology of Creswell et el. (2003), the present research design can be classified as a mixed method, with a concurrent triangular research design adopting a pragmatic position.

The obtained data through the questionnaires was submitted for statistical analysis both descriptive and inferential. On the other hand, the data collected through open-ended questions of the researcher-created questionnaire were submitted to inductive or deductive qualitative content analysis developed by Krippendof (2013) which is a recursive process in which the data was reviewed to determine the major themes by the researcher and three raters. The final phase of the study consisted of the discussion of the data obtained through the two separate quantitative and qualitative methods which complement each other (Creswell & Plano Clark, 2011) and the integration of the results and their interpretation.

Limitations of the research. The main limitation for this study is the use of self-report questionnaires for both lecturers and students. Multiple methods can be used to analyse metacognitive awareness, such as think aloud and interview which enable the researcher to maintain eye contact with the interviewee and take a note of comments which are of particular interest which in turn leads to more comprehensive data. A further limitation is

that the study did not address the actual student and lecturer employment of metacognitive strategies during teaching and learning. In fact, prolonged and in-depth class observation and triangulation of data from various sources which is gathered through different types of tools of measurement is needed. The researcher would like to address this gap in future studies by exploring how to accurately measure what students do in the classroom. One of the limitations of this study is that the sample size for both groups of Lithuanian and Iranian was selected randomly from two capitals, Vilnius and Tehran, so it is a little bit difficult to overgeneralize the outcomes to other cities. Another limitation is that the number of lecturers was limited which can influence the generalizability of findings. Finally, the study was restricted to the undergraduate students in both groups.

Structure of the dissertation. The thesis consists of an introduction, four chapters, conclusions, references as well as appendices.

The introductory chapter highlights topicality, the novelty, originality and significance of the research, the scientific problem while demonstrating the aim, the object, the objectives and research questions framing this study.

The first chapter in addition to providing the necessary definitions and components related to metacognitive awareness and attitudes is intended to give an overview of research relevance and discuss the importance of dealing with them. Also, the previous studies regarding metacognitive awareness in Lithuanian and Iranian university studies are reviewed, compared and contrasted. The second chapter presents the methodology and design of the research to delve into the usefulness and understanding of the planning and implementation of the research. It also justifies the procedures and methods followed for the collection and analysis of the data. Chapter three explores the findings obtained from the data analysis, the questionnaires filled by the students and lecturers. Their attitudes towards how they learn and teach are analysed and presented. Chapter four discusses the most significant findings and results arising from the study in relation to international, Lithuanian and Iranian literature. Additionally, suggested recommendations are made as well as some possible practical implication for future studies.

The dissertation finalizes with a Conclusion, Bibliography and Appendices.

Chapter 1. A Discourse on Metacognitive Awareness in University Studies

In this chapter, a comprehensive literature review, which encompasses three sections, is presented. The first section covers the complexity and scopes of metacognitive awareness in university studies. The second section focuses on the concept of lecturers' and students' attitudes related to metacognitive awareness knowledge and practice. Finally, the previous studies regarding metacognitive awareness in Lithuanian and Iranian university studies are reviewed, compared and contrasted.

Metacognitive awareness and its components. The following part presents the theoretical and conceptual framework of this study and owes a lot to Schraw and Dennison's theory (1994). ***Metacognitive Awareness*** means you as the learner are considered as another person who observes the learning process. It includes awareness of the learning process, learning evaluation, creating metacognitive strategies and implementing these strategies.

This term has got two different but interrelated parts of **knowledge of cognition** and **regulation of cognition** (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012). **Knowledge of cognition** refers to what individuals know about their own cognition. This component has three subcomponents: declarative, procedural, and conditional knowledge (Harris, Santangelo & Graham, 2010; Ma & Baranovich, 2015; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Young & Fry, 2008). An individual's cognitive knowledge which includes his/her attitudes towards his/her capabilities is regarded as **declarative knowledge**. Therefore, we can say that attitude is a subcategory of declarative knowledge. **Procedural knowledge** refers to the individual's awareness considering how to employ strategies to solve problems. **Conditional knowledge** means that an individual knows when and why to apply declarative and procedural knowledge. Activities that assist learners in regulating their learning, which consists of five subcomponents of planning, monitoring, evaluation, debugging and information management, are considered **regulation of cognition** (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012). Suitable strategies and cognitive skill selections for a good outcome are called **planning** which encompasses target setting, applying related background knowledge, allocating resources and time management. The subcategory of organizing is **information management**. During Information management, the learner applies a chain of strategies to process information properly. **Monitoring** is understanding when some thing is not going right in completion of a task, identifying errors and correcting them before evaluation stage. **Evaluation** is a learner's own learning process evaluation. Using any strategy for correction of errors or asking for help as encountering any problem is referred to as **Debugging**.

Other scopes of metacognitive awareness. The metacognition awareness construct is not completed without SRL, which assists to control one's own behavior and connects cognition and metacognition (Hacker, Dunlosky & Graesser, 2009; Schraw et al., 2006; Zimmerman & Schunk, 2011). SRL (Sperling et al., 2004) involves an underlying sense of self-efficacy, motivational and emotional constructs and is the means to alter self-belief to effect (Tanner, 2012). In fact, these factors have an impact on metacognitive awareness, while at the same time being affected by metacognitive awareness (Clark, 2014). Papaleontiou-Louca (2008) and Flavell (1976) have considered metacognitive awareness more psychological and affective than cognitive.

Students' and lecturers' attitudes. Attitudes as a confusing and messy concept affect making sense of the world, perceiving, accepting and rejecting new information and how knowledge is employed (Borg, 2009, 2015, 2018; Mansour, 2013; Pajares, 1992). Understanding one's attitudes needs inference being made about the underlying mind state of that person such as one's saying, intention and behavior consciously or unconsciously which is not an easy task since that person may be unable or unwilling to express one's attitudes (Borg, 2009; Bullock, 2010; Mansour, 2013) that causes inconsistency between attitudes and practices (Mansour, 2013).

Identifying the students' attitudes can assist lecturers not only to reflect on their teaching and modify it in a creative way based on their students' requirements and expectations but also to guide the students to get rid of their detrimental notions in learning (Bernat, 2008; Eliss, 2008). Lecturers' attitudes are more crucial factor than their knowledge on

having effective teaching (Xu, 2012). Despite the interlocked complex and dynamic learning and teaching process, there has been a clear connection between the attitudes of lecturers and students. The values of lecturers and their perceptions of their students are closely linked and many students perform in the manner their instructor wants them to act, even involuntarily and non-verbally (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Attitudes are also associated with learning and teaching expectation (Bernat, 2008) and class practices (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013).

Analyzing, comparing and contrasting the discourse in both contexts

Systematic literature review. A systematic literature review was performed to include the published papers between 2000 to 2019 searched on Scopus and ERIC databases. The Lithuanian papers were also found in the Lituanistika and Lietuvos akademinė elecktroninė biblioteka (eLABa) databases. The same key words - "metacognitive awareness", "metacognitive strategies" and "metacognition" – were used to conduct an online search in all databases. Considering the title, reading the abstract and the whole article were the steps in selecting articles. Initially, 118 papers in the Lithuanian context and 110 articles in the Iranian context were found. Then, after carefully reading the abstract, 55 papers in Lithuanian studies and 50 papers in Iranian university setting were selected for a full text analysis. Finally, 55 papers were chosen (33 Lithuanian and 22 Iranian).

General findings. In both contexts, metacognitive awareness was important in successful learning. Growing number of studies has been started by studying the concept alone with the addressing the main goals of learning. Also, a myriad of studies was empirical and only four were based on the conceptual synopsis of the topic in the Lithuanian setting. Furthermore, our analysis indicates that the context of study was mostly learning English as a foreign language. It is noteworthy to consider other study field contexts such as history, sciences, etc. In addition, in a few Lithuanian and Iranian papers that have studied metacognitive instruction, the metacognitive instruction was interweaved with other types of instruction, meaning that the improvement of learning could not be purely assigned to metacognitive instruction. Moreover, the trend of this potential resistance to a new paradigm, in our case reflective and constructive ones, can be found in Iranian studies, yet it is much stronger in Lithuanian research.

Main themes associated with metacognitive awareness. The most frequent to least frequent themes which were associated with metacognitive awareness in both contexts were skills (LG=17.2%, IG=25%), forms of register (LG=17.2%), shifting to lifelong paradigm (LG 10.3%), language learning strategies (LG=10.3%, IG=8.3), lecturers' attitudes, knowledge & practices (LG=10.3%, IG=25%), intercultural competence (LG=7%), cross-cultural comparative (IG=8.3%), motivation (LG=7%), efficacy (IG=12.4%), components & model (LG=7%, IG=4.2%), technology (LG=10.3%, IG=4.2%), critical thinking (LG=3.5%), problem solving (IG=4.2%), personality traits (IG=4.2%) and authenticity (IG=4.2%). As we can see, quite similar themes with similar percentages can be detected in both university studies which the comparison of them is demonstrated in Figure 1.
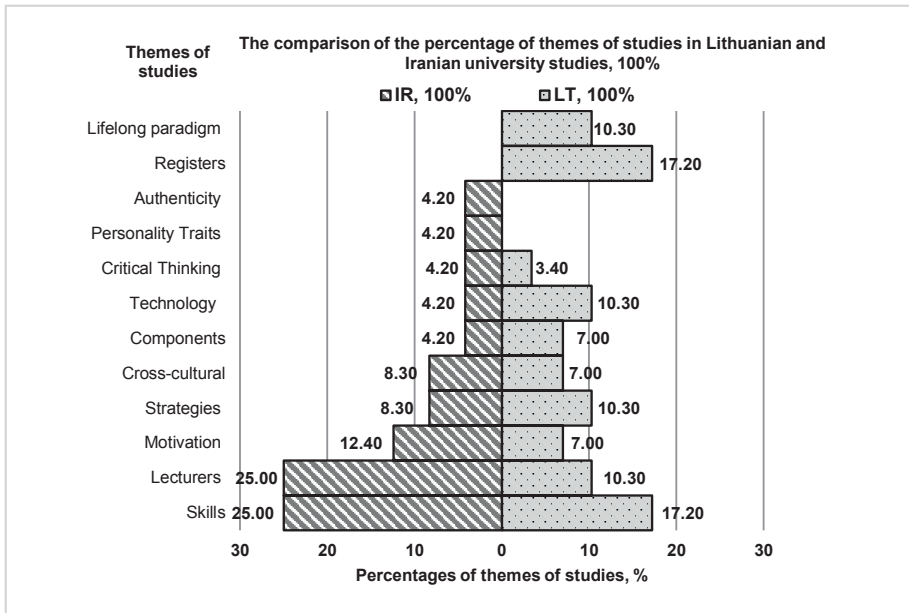
Figure 1. *The comparison of the percentages of themes of studies in Lithuanian and Iranian university studies*

In Lithuanian university studies, the scholars mostly considered reading and then writing as the learning skills associated with metacognitive awareness, while in the Iranian context apart from these, listening was also the focal point of the study. Speaking, fluency, and pronunciation were absent in both contexts.

Roles of metacognitive awareness. The same trend exists in both students' contexts by considering three roles of metacognitive awareness. The most frequent role is metacognitive awareness measured quantitatively (LG=47.6%, IG=62.5%) then metacognitive awareness measured qualitatively (LG=35%, IG=20.8%) and finally metacognitive instruction (LG=17.4%, IG=16.7%). The comparison of the related percentages is presented in Figure 2. The need for metacognitive instruction is very striking in both contexts. Quantitative and qualitative measurements should go along with to triangulate data and show the students' strategies in real learning situations.
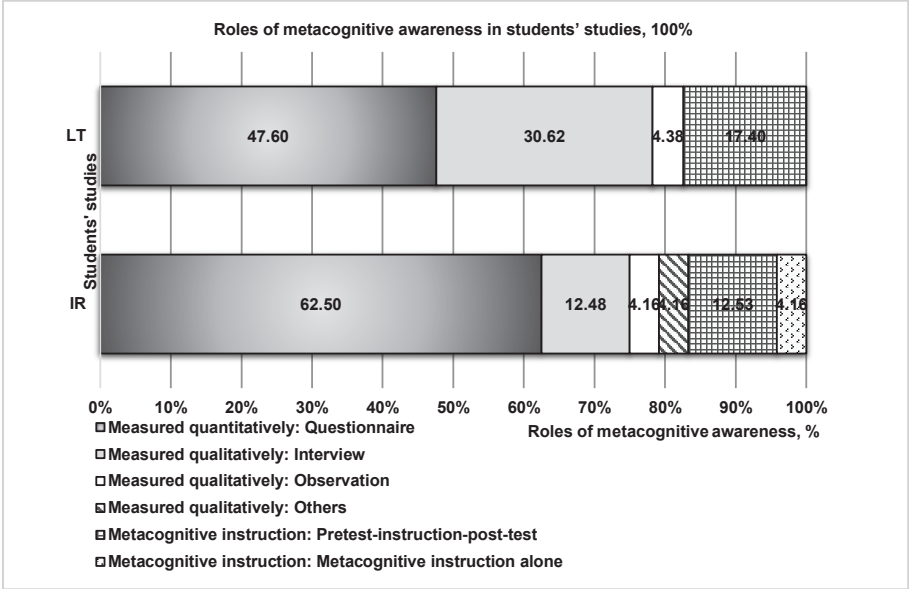
Figure 2. *The comparison between the percetages of the roles of metacognitive awareness in Lithuanian and Iranian students' studies*

As it is clear in Figure 3, the number of the lecturers' studies in both contexts is much less than that of the students' ones, especially in the Lithuanian context, which reveals the need for more profound studies to be done in this area.
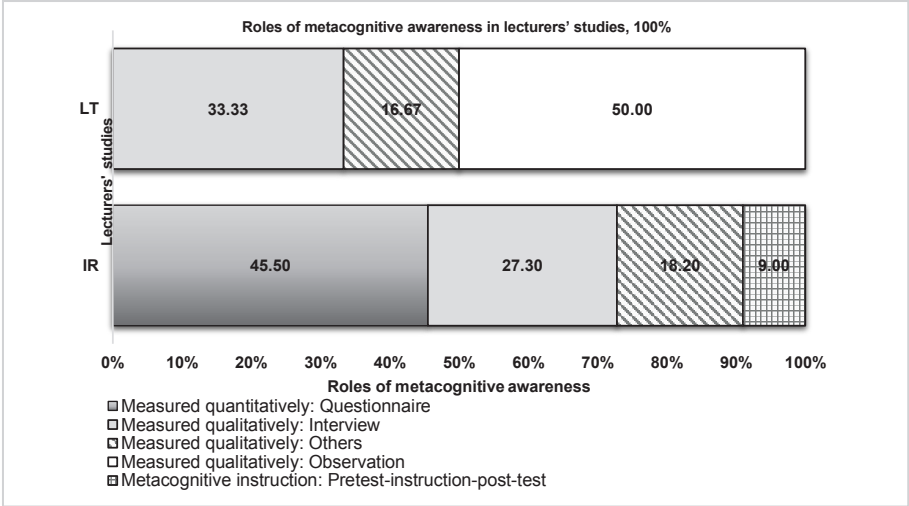
Figure 3. *The comparison between the percetages of the roles of metacognitive awareness in Lithuanian and Iranian lecturers' studies*

Metacognitive awareness instructional practices.* Use of prompt (74%) was the most popular practice in Iranian students' studies, in compare to Lithuanian interactive-reflective one (60%). Reflective writing was the second frequent one in both contexts (LG=30%, IG=13%). Interactive-reflective activities was the third common in Iranian context (8.7%). Modeling (4.3%) was the least frequent practice in Iranian studies, whereas prompts and modeling (both 5%) were the least in Lithuanian ones. Explicit metacognitive instruction was only in one study. In one of the Iranian studies, prolonged and repeated exposure to the metacognitive questionnaire was considered as metacognitive awareness instruction. Applied metacognitive practices are shown in Figure 4.
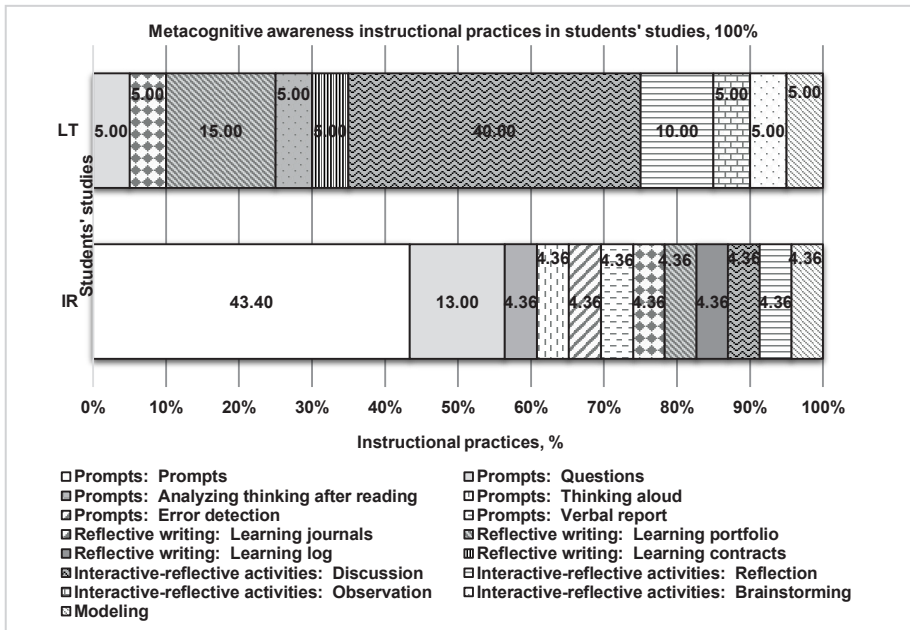
Figure 4. *The comparison between the percetages of the metacognitive awareness instructional practices in Lithuanian and Iranian students' studies*

By examining the previous papers, we can find that most of the studies are on regulation of cognition subcomponents. This imbalance may be due to different underlying reasons. According to Veenman, 2012, metacognitive strategies are fertile in the betterment of learning process. General applicability of metacognitive strategies might be another reason. Special instruction should be designed for metacognitive knowledge but same strategies in different contexts and topics. Metacognitive knowledge activates and develops metacognitive strategies (Efklides, 2009; Schraw, 1998; Schraw & Moshman, 1995; Veenman, 2012) and cognitive ones (Flavell, 1976; Schraw & Moshman, 1995).

Students as research participants. To provide evidence to determine if the Lithuanian *sample size* of 296 from 3 universities in Vilnius (Lithuania) and Iranian sample size of 459 from 3 universities in Tehran (Iran) were enough to get the correct results, a Sample Size Calculator was used. With considering the confidence interval (the margin of error) of each group, the results showed that this study sample size to reflect the target population was precise enough. Moreover, the background part of questionnaire was used to determine *how similar the two student groups were* in gender, area of study, and age. Since the probabilities associated with t- observed values (.309, .155, .206) were higher than the significant level of .05, it was safely concluded that the two groups of Lithuanian and Iranian university students did not differ significantly on any of the background characteristics. Figure 5 illustrates the descriptive statistics of Lithuanian and Iranian students.
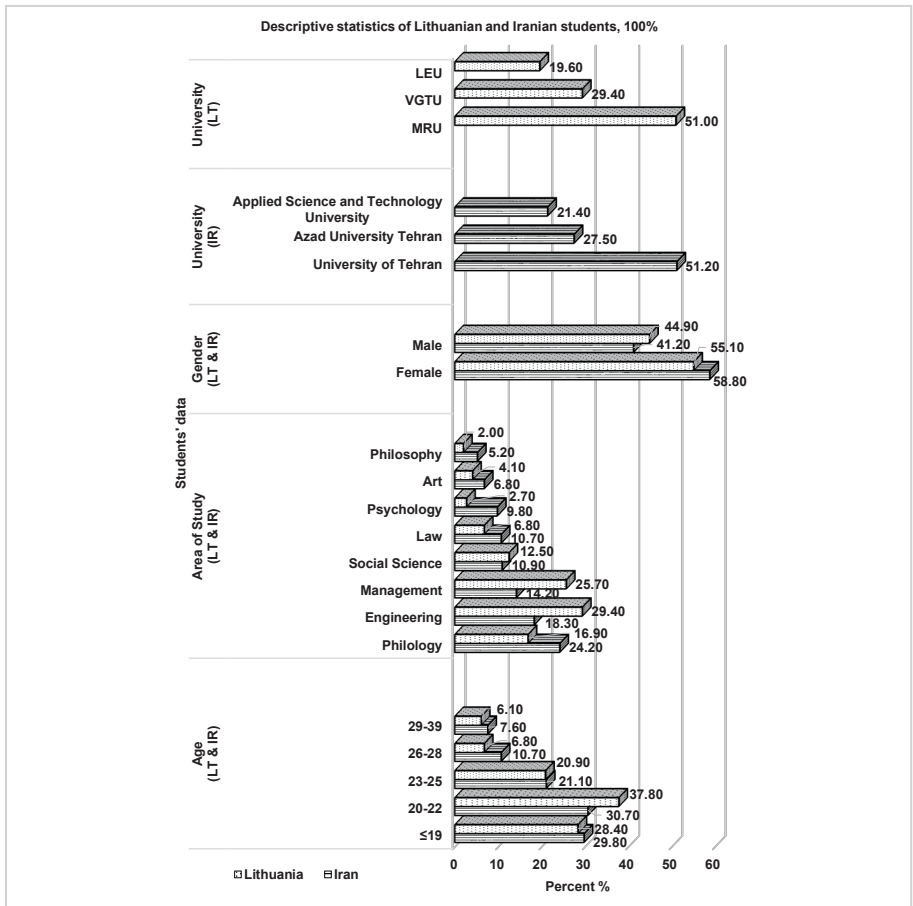
Figure 5. *Descriptive statistics of Lithuanian and Iranian students, 100%*

Lecturers as research participants. Since both quantitative and qualitative data analyses were conducted on the data obtained from lecturers and the weight was mostly on the qualitative part of the research and the question about sample size in qualitative research is unimportant, 20 lecturers (10 from MRU in Vilnius and 10 from Azad University in Tehran) helped to answer a giant part of the related research question sufficiently. Figure 6 shows the descriptive statistics of both Iranian and Lithuanian lecturers which is the same.
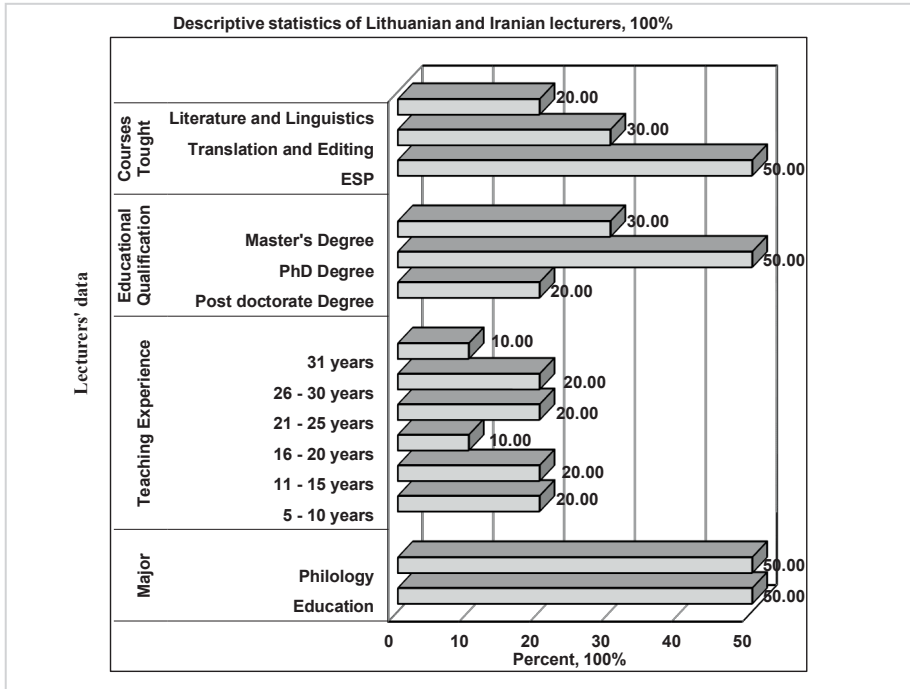
Figure 6. *Descriptive statistics of Lithuanian and Iranian lecturers, 100%*

Instrumentation. The students completed the questionnaire developed by Schraw and Dennison (1994) to measure their metacognitive awareness. It consisted of 52 items classified into eight subcomponents subsumed under two broader components: knowledge of cognition and regulation of cognition (Appendix 1). In addition, the data for this study was also collected from the lecturers using the researcher-created instrument with strategies designed by Schraw and Dennison (1994) for analysing their attitudes towards metacognitive awareness (Appendix 2).

Piloting phase for lecturers and students. In the piloting phase of this study, the students' questionnaire was given to 833 students and 80 lecturers filled out the researcher-created questionnaire, with the same characteristics of the real participants of this study, to check the validity and reliability of questionnaires. The results are described as: ***The calculated Cronbach alpha reliability values of the metacognitive awareness questionnaires***

were quite high. Therefore, it can be concluded that the questionnaires are reliable. ***Factor analysis and construct validity of the metacognitive awareness questionnaires.*** Kaiser-Meyer-Olkin degrees were quite higher than .60, hence the sample sizes were sufficient for the purpose of the study. The probability associated with the Bartlett's Test was also significant (less than .05) and correlations between variables were all zero. So the use of factor analysis was allowed. Finally, two factor analyses through varimax rotation were run to probe the underlying constructs of the items of the questionnaires.

Data collection procedures and data analysis. The students' questionnaire and some parts of lecturers' one were submitted to quantitative analysis using SPSS, which included both the use of descriptive and inferential statistics. Demographic data and all open-ended questions of lecturer questionaire were submitted to either inductive or deductive content analysis (Krippendorf, 2013). To establish the main themes, the lecturers' statements were read and analysed carefully by three raters (Creswell, 2014). The agreement of the raters' assigning the responses to each theme was calculated using a mean score to find the inter-rater reliability of .89, which was the average value of agreement from each pair of raters.

Chapter 3. Findings

Findings from the students' questionnaire

In this chapter, the findings for the quantitative method research were offered. The results of the students' questionnaire were presented in four sections.

Group with higher level of metacognitive awareness. In the first section, statistical analyses, according to the first null hypothesis, were offered. Eight t-tests were used to see if any significant differences existed between the overall score of the metacognitive awareness or any eight sub-components of Lithuanian and Iranian university students. A statistically significant difference between the mean scores of the two groups was found which were the base for rejecting the null hypothesis. Therefore, it can be concluded that the students of Lithuania were stronger than those of Iranians in metacognitive awareness level, components and subcomponents.

Groups' level of metacognitive awareness with the sequence of the strongest to the weakest subcomponents. In the second section, the level of metacognitive awareness of the two groups was assessed with the sequence of the strongest to the weakest subcomponents. As 52 items were on a five-point Likert scale, with the options ranging from "always" to "never", the options were given values from 5 to 1 accordingly. Then the mean score was calculated for each item in each group. The criteria for judging students' metacognitive awareness level are shown in Figure 7.
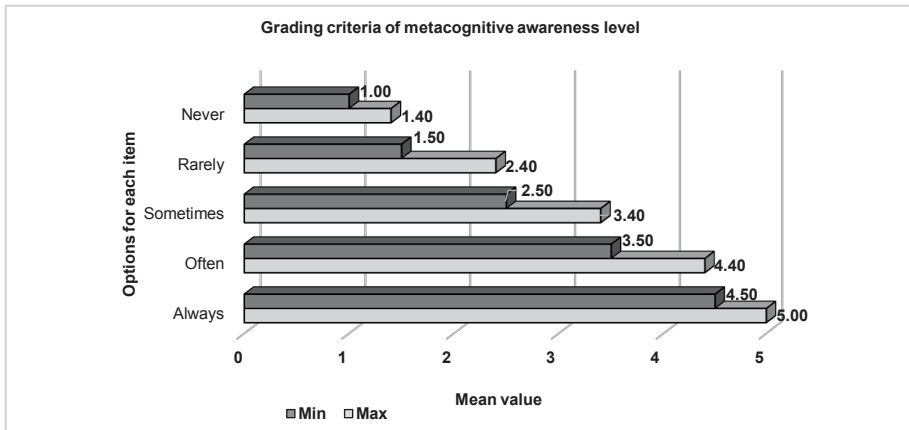
Figure 7. *Grading criteria of metacognitive awareness level*

The Iranian students' metacognitive awareness level was low in comparison with those of Lithuanians which was medium. Besides, the sequence of the strongest to the weakest subcomponents in the knowledge of cognition was "declarative, conditional and procedural" in the Lithuanian group while that of Iranians was "declarative, procedural and conditional". Regarding the subcomponents of regulation of cognition, the Lithuanian students considered themselves weaker in "information management" and "debugging" while the Iranian students determined "debugging", "evaluation", and "monitoring" subcomponents as their weaker ones (see Figure 8).
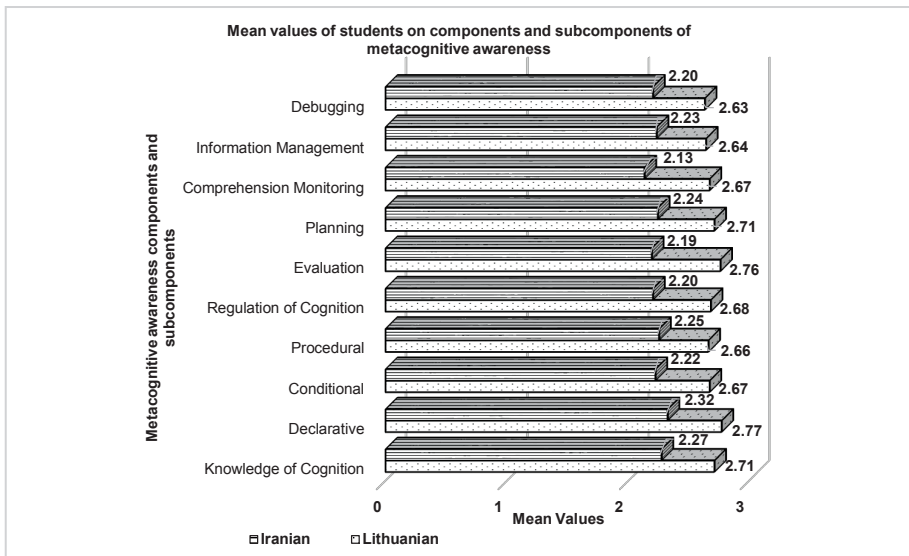
Figure 8. *The mean values of Lithuanian and Iranian university students on all components and subcomponents of metacognitive awareness*

The sequence of MAI items from the highest to the lowest score in each group. In the third section, the sequence of 52 MAI items from the highest to the lowest score in each group was reckoned. The complete list has been presented in Appendix 3.

The correlation between knowledge of cognition and regulation of cognition in both groups. In the section four, Kendall's tau-b correlation was utilized for the second null hypothesis, which attempted to determine any statistical difference between the two main metacognitive awareness components of Lithuanian and Iranian university students. Finding a statistically significant difference gave precise criteria for rejecting the null hypothesis within a confidence level.

Findings from the lecturers' questionnaire

In this part, the findings for the mixed method research were offered. The lecturers' questionnaire results were categorized under six sections.

Lecturers' attitudes towards the concept of metacognitive awareness. In the first section, to determine the lecturers' attitudes towards the concept of metacognitive awareness, the responses of them were inductively analysed which three main themes of "cognitive", "strategic" and "affective" developed from their words. Both groups considered this concept mostly cognitive and then strategic. Only a few Iranian lecturers' responses were categorized under the affective theme (see Figure 9).
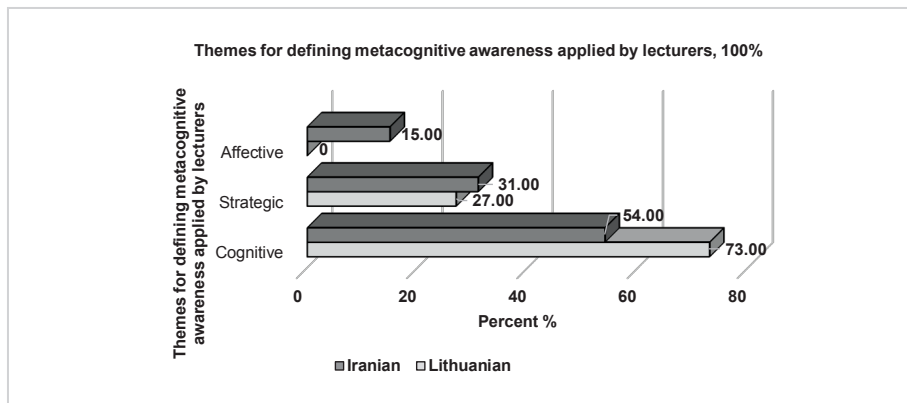
Figure 9. *Themes applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100%*

Themes related to researchers' definitions applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100 %
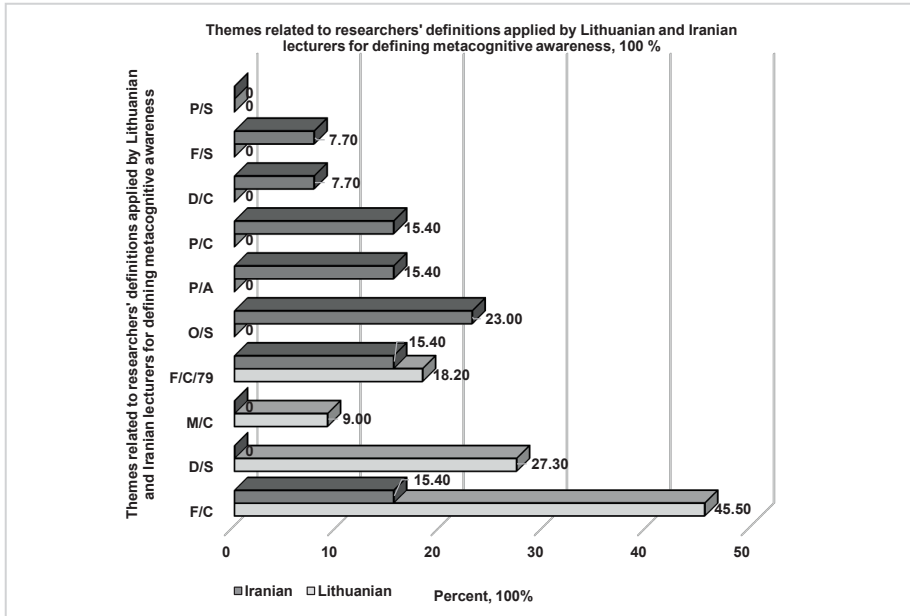
KEY: C, S and A stand for cognitive, strategic and affective respectively. While F, D, M, O and P, are the initials of the following researchers' names: Flavell, Dunslosky & Thiede, Metcalfe, Ormrod, and Young & Fry and Papaleontiou-Louca.

Figure 10. *Themes related to researchers' definitions applied by Lithuanian and Iranian lecturers for defining metacognitive awareness, 100 %*

Furthermore, for the above lecturers' responses, deductive content analysis was conducted to associate the lecturers' responses to six most common definitions for metacognitive awareness in the literature. The obtained results were the same as the finding from the inductive content analysis (see also Figure 10).

Lecturers' pedagogical knowledge about metacognitive awareness. In the section two, lecturers' attitudes towards their pedagogical knowledge about metacognitive awareness including the types of the metacognitive strategies they applied in their classes were analysed. The lecturers' levels of applied metacognitive strategy in both groups were high and the same in terms of the knowledge of cognition component. As it can be seen in Figure 11, the regulation of cognition subcomponents of both lecturers' groups had similar patterns, while the Lithuanian lecturers had lower scores in "information management" and "debugging", the Iranian group had lower scores in "monitoring" and "debugging".
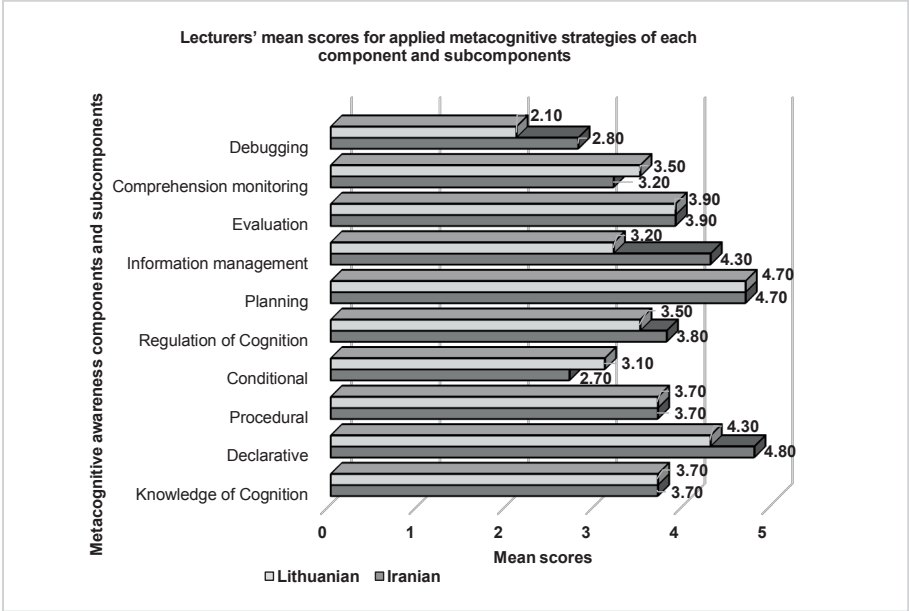
Figure 11. *Lithuanian and Iranian lecturers' mean scores for applied metacognitive strategies of each component and subcomponent*

Moreover, through deductive content analysis of the lecturers' statements, four metacognitive awareness subcomponents of "planning", "monitoring", "evaluation", and "information management" emerged as the types of the metacognitive strategies they used in their classes, as it can be depicted in Figure 12. Both groups exhibited quite the highest percentage usage of "planning". No "monitoring" subcomponent in the Iranian group was recorded.
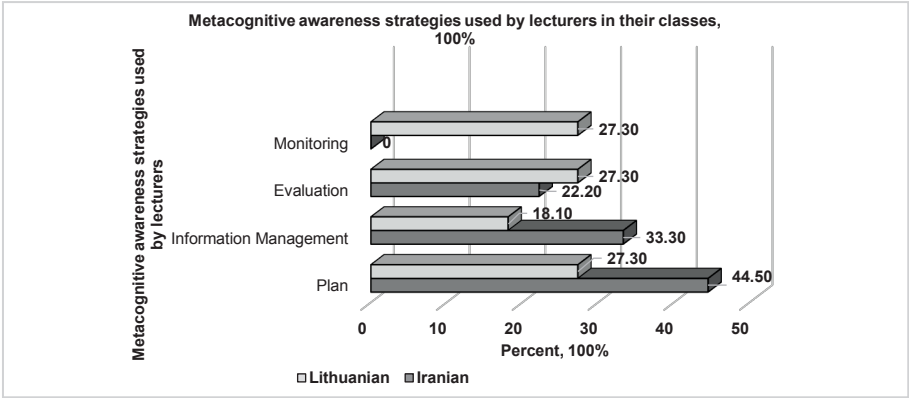
Figure 12. *Metacognitive awareness strategies used by Lithuanian and Iranian lecturers in their classes, 100%*

Lecturers' attitudes towards the level of metacognitive awareness of their students. In the third section, the lecturers' attitudes towards the level of metacognitive awareness of their students were considered which was medium.
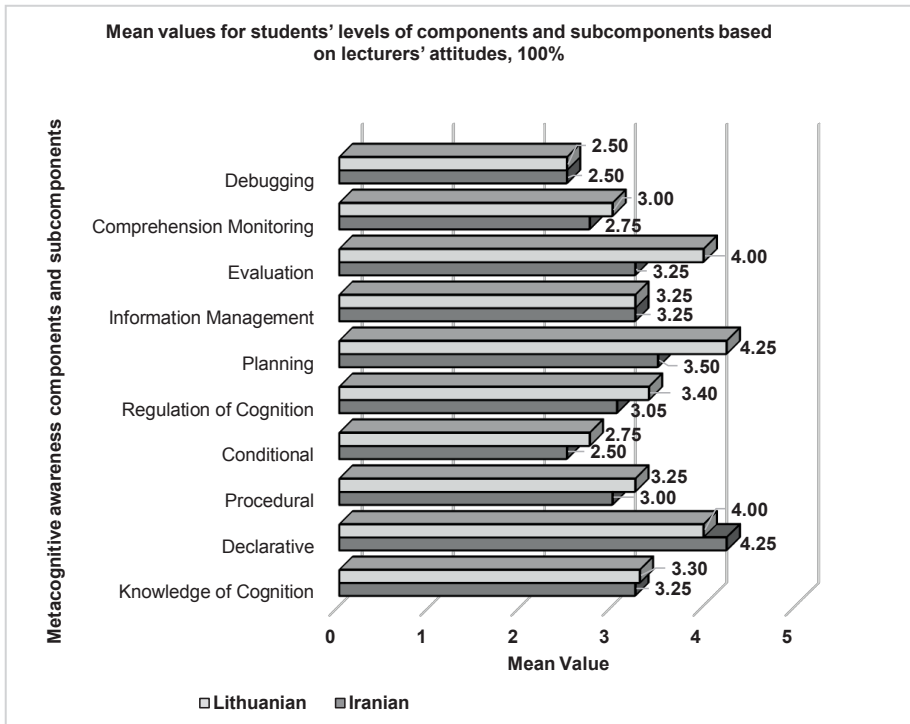
Figure 13. *Mean values for Lithuanian and Iranian students' levels of components and subcomponents based on their lecturers' attitudes, 100%*

Furthermore, the order of the knowledge of cognition subcomponents means scores from the highest to the lowest in both groups were "declarative, procedural and conditional" respectively. According to the lecturers' attitudes, the Lithuanian students had lower scores in "information management" and "debugging" while Iranian students had lower scores in "monitoring" and "debugging". Mean values for Lithuanian and Iranian students' levels of components and subcomponents based on their lecturers' attitudes are indicated in Figure 13.

Comparing and contrasting lecturers' and students' attitudes towards the level of students' metacognitive awareness. In the fourth section, we can find that both Lithuanian and Iranian lecturers and Iranian students had the same attitudes towards the sequence of knowledge of cognition subcomponents, yet the Lithuanian students had another attitude. By comparing the Lithuanian lecturers' attitudes with Lithuanian students' attitudes towards the regulation of cognition subcomponents, both of them considered that

"information management, monitoring and debugging" were weaker than "planning and evaluation". Both Lithuanian and Iranian lecturers and Lithuanian students considered a medium level for the metacognitive awareness of the students. However, the Iranian students considered their metacognitive awareness low (see Figure 14).
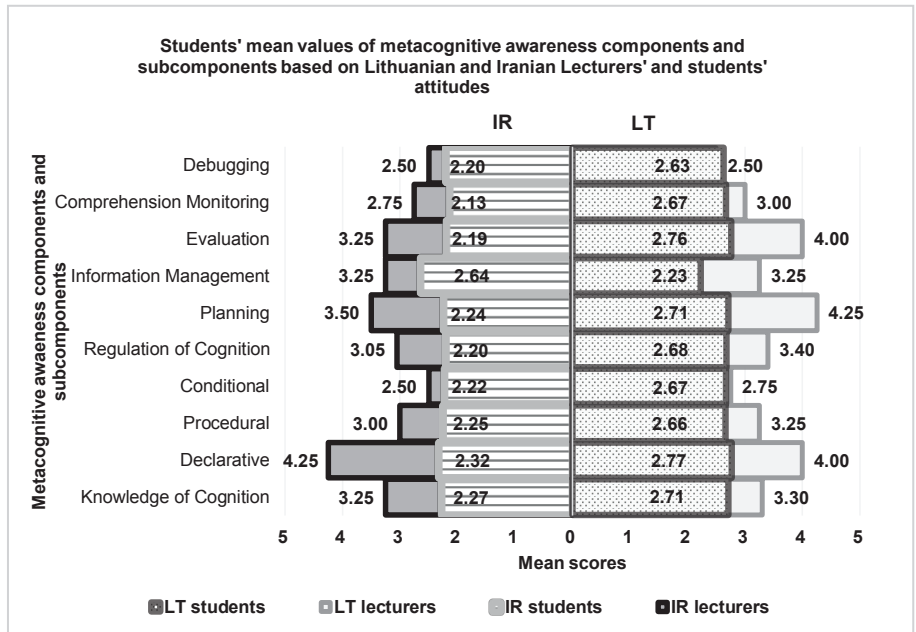

Figure 14. *Students' mean values of metacognitive awareness components and subcomponents based on Lithuanian and Iranian lecturers' and students' attitudes*

Lecturers' justifications for assigned metacognitive awareness students' level. In the fifth section, through the content analysis of the lecturers' responses regarding the reasons for assigning students' metacognitive awareness level, it was found that both groups mostly considered "students characteristics" out of "characteristics of the lecturers" and "characteristics of the metacognitive awareness process" as the main reason (see Figure 15).
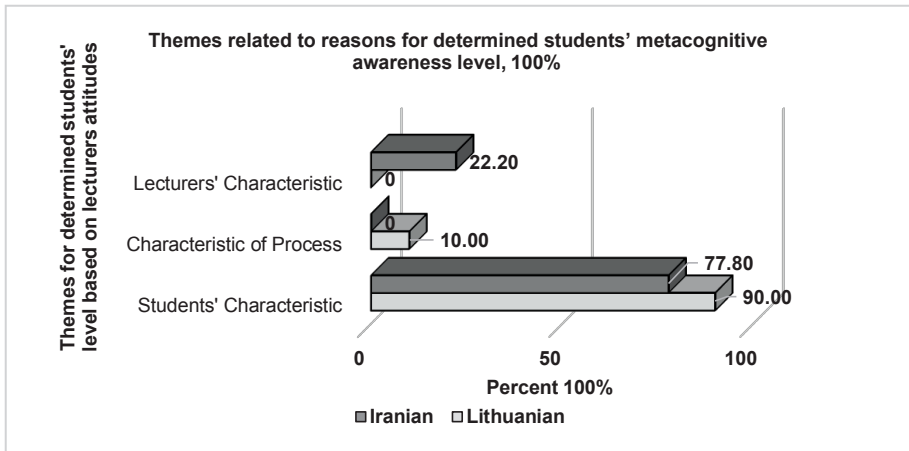
Figure 15. *Themes related to reasons for determined students' metacognitive awareness level based on Lithuanian and Iranian lecturers' attitudes, 100%*

Lecturers' reasons for promoting metacognitive awareness. In the section sixth, five key themes of "lifelong learning", "autonomy", "university education", "enhance teaching" and "future success" emerged through the content analysis of the lecturers' statements regarding the merits of promoting students' metacognitive awareness. "Lifelong learning" was the most referred to advantage, while "future success" was the least applied one in both groups. Figure 16 shows the percentage of using the key themes related to merits of promoting students' metacognitive awareness stipulated by lecturers.
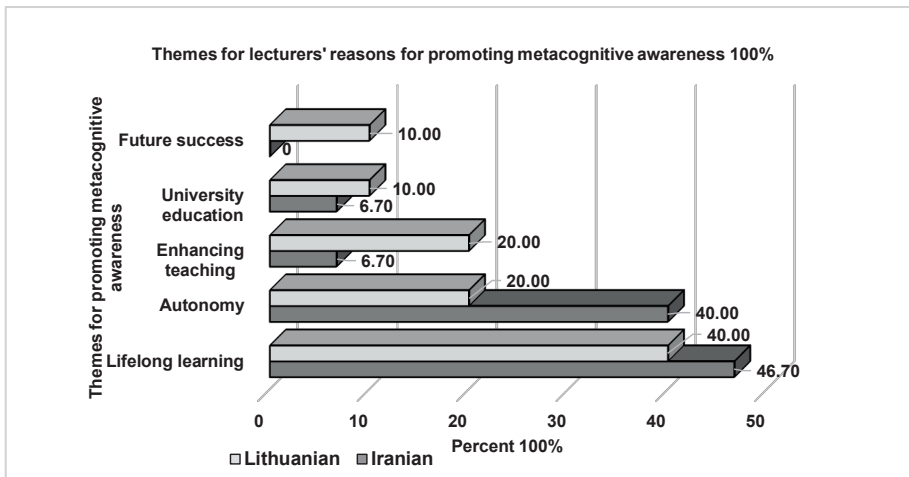
Figure 16. *Themes for Lithuanian and Iranian lecturers' reasons for promoting metacognitive awareness, 100%*

4. Discussion

This chapter includes an extensive discussion regarding Lithuanian and Iranian university studies, divided into eight categories on the main issues.

Students' attitudes towards their metacognitive awareness and its applied subcomponents. Following the analysis of the data gathered, there might be numerous reasons for the low level of metacognitive awareness in Iranian students. (i) Lack of "familiarity with scientific reasoning beyond MAI to be able to evaluate his/her metacognitive awareness properly" (Schraw & Moshman, 1995, p. 367). (ii) Many experienced students that are conscious of their metacognitive strategies but their metacognitive processing has not yet become automatic. (iii) A low level of self-efficacy, self-belief and motivation and negative emotions and attitudes. (iv) The self-reporting nature of the inventory, which cannot verify how students use it in an authentic learning situation (Aljaberi & Gheith, 2015).

The problems concerning "monitoring", "evaluation" and "debugging" subcomponents can be overcome by some researchers' suggestions. As Šliogerienė (2006a, 2006b) discovers the existing problems of controlling and monitoring in self-directed language learning in Lithuanian university studies might result from the lack of lecturers' control, too much independence of the students and the necessity for registering and framing of learners' progress. Learning contracts, learning journals (Khonamri & Kojidi, 2011; Šliogerienė, 2006a, 2006b), reflection pages and writing portfolios are helpful for students to reflect on the learning, self-assess their progress and identify their strengths, weaknesses and needs (Šliogerienė,2013).

Based on the below researchers' perspectives there can be some potential suggestions to help improve knowledge of cognition subcomponents. Owing to the fact that conditional knowledge is fundamental to make declarative knowledge operative to get access to the procedures (Cikrikci & Odaci, 2016). Conditional knowledge can be increased by lecturers' modeling, explicitly showing the students how, when and why to employ suitable metacognitive strategies. Also, individual's attitudes about his/her abilities are part of declarative knowledge (Flavell, 1976; Tarricone, 2011) while efficacy and self-motivation are parts of procedural knowledge (Ma & Baranovich, 2015), and are supported by declarative knowledge. It can be implied that by enhancing the application of affective strategies, creating a motivating class atmosphere, we can improve declarative and procedural knowledge.

A discussion on the positive relationship between knowledge and regulation of cognition. Interestingly, the results observed from both Lithuanian and Iranian university students showed that knowledge of cognition seemed to correlate positively with regulation of cognition. It can be safely said that any increase or decrease in any component has a direct and positive effect on another.

An analysis of lecturers' attitudes towards their students' level of metacognitive awareness. Both lecturers' groups evaluated the students' level of metacognitive awareness as medium, which conveyed their level of expectations as well. This finding was in agreement with Hornstra, et al. (2010), Woodrock and Vialle (2011) and Rosenthal's (1997) affect-effect theory that confirmed that lecturer's attitudes and expectations may be unintentionally and non-verbally transferred to the students and enhanced their motivation and

self-efficacy. Also, since the most frequent theme related to reasons for assigning students' metacognitive awareness level based on both lecturers' groups was connected to "students' characteristics", the lecturers should consider their own preparation and seek more training in this area. It should be noted that we could not find any social perspective among the lecturers' statements as if they ignored the role of collaborative working as socially mediated learning for promoting metacognitive awareness. There was not any sub-theme that reflected any cultural differences between the Lithuanian and Iranian lecturers' attitudes.

Lecturers' attitudes towards the concept of metacognitive awareness. The findings of the current study indicated that in defining the concept of metacognitive awareness, both Lithuanian and Iranian lecturers considered it to be mostly cognitive and only a few Iranian lecturers took into account the affective states of this concept. It is sensible to presume that both groups should consider its affective dimensions more. As Kamalizad (2015) articulates, Iranian students are less inclined to employ affective strategies since the classroom is the only environment for them to exercise and build up a second language identity for self-expression which causes some problems for them to control their emotions and fear of making mistakes. Furthermore, the importance of the motivation factor as part of metacognitive awareness affective states was indirectly expressed in the lecturers' statements. One form of self-regulation which can increase motivation is the use of self-rewards or self-gifts which was expressed by a Lithuanian letcturer. The statement from an Iranian lecturer conveys that what keeps students motivated is a motivated lecturer. Therefore, asking interesting questions and offering additional resources by lecturers can be done through various learning channels for visual, auditory and kinesthetic students, based on the diversity of their needs, interests, learning styles and expectations. Most of the scholars, especially those that believe in constructivism (Flavell, 1976), assume the attitudes as part of learners' declarative knowledge. As a result, any enhancement in self-efficacy has a direct positive impact on the level of declarative knowledge. When one of the Lithuanian lecturers in her statement considered metacognitive awareness as an "intuitive skill" which is mostly related to feeling rather than facts, she emphasized the affective facet of this concept.

Lecturers' attitudes towards metacognitive pedagogical knowledge. Even our lecturers with relatively high level of metacognitive awareness should review and update their knowledge with innovative strategies based on the envisaged changes in the educational system which help them to confront unforeseen situations (Shafiee Nahrkhalaji, 2014). Furthemore, our findings suggested that despite a relatively high alignment between lecturers' pedagogical knowledge and practice, only four of the Lithuanian regulation of cognition subcomponents, planning, evaluation, monitoring and information management, and three of those of Iranians including planning, information management and evaluation were sequentially identified in their practice. An interesting conclusion that can be drawn from this finding is that if the lecturers' pedagogical knowledge in any metacognitive strategy is medium, it is most likely that they do not apply this strategy in their classroom activities. Regarding the knowledge of cognition component of lecturers' pedagogical knowledge, their scores in conditional knowledge were lower than in the other two subcomponents. This can be detected as well through the results obtained from their mentioned practices applied in their classroom.

Fostering the need, learning tendencies, peculiarities of the learners in metacognitive awareness. The literature review of the thesis indicates that prior to having any metacognitive awareness instruction, it is of great value for the lecturers to get access to the students' metacognitive awareness learning tendency, preference of strategy application, attitudes, peculiarities level, strengths and weakness as an initial needs analysis. The students' awareness regarding the employment of their own metacognitive reading strategies can enhance their self-confidence in learning which has a direct impact on their level of self-reliance, self-efficacy, autonomy and problem-solving skills (Ghahari & Basanjideh, 2015).

In Constructivism, metacognitive learning as a socially shared process based on existing knowledge in an authentic context. In line with the theory of constructivism, both lecturers and students need to reflect on their practice and be metacognitively aware of the knowledge construction process in a socially shared authentic context and based on previous experience. By the same token, in an attempt to unveil trends among the lecturers' statements regarding applied metacognitive practices in the classroom collaborative learning was mentioned in three of the Lithuanian statements and none of the Iranian statements. Also, creating knowledge based on previous knowledge and experience can be only detected in the statements of one Iranian lecturer. This in turn highlights it as an indispensable factor for the consolidated findings and provides a ground for future studies on measuring social facets of metacognitive awareness of these two contexts, especially the Iranian one.

Emergence of metacognitive awareness as part of intercultural competence. As this study is a cross cultural comparison of metacognitive awareness and related strategies in two university studies with two different cultures and contexts, the obtained results have direct effects on increasing the intercultural competence (Mažeikienė & Virgailaitė-Mečkauskaitė, 2007; Gerulaitė & Mažeikienė, 2012). A response to globalization in higher education is internationalization and cross-cultural collaboration of universities which lead education towards metacognitive learning and teaching. According to constructivism, you can develop your intercultural competence by comparing one's own culture with another culture, constructing experience in interaction in socially shared context/environment.

Recommendations. The relevance of metacognitive awareness training in successful learning (Brown, 1987; Coutinho, 2007) can be the starting point for this recommendation. Though metacognition is teachable (Al-Jarrah & Obeidat, 2011, Cheng, 2011), according to Bandura (1997), metacognitive awareness training cannot be the sole reason for the transfer and application of metacognitive strategies spontaneously. As a result, individuals need to show the effectiveness of metacognitive awareness training over and over. The first recommendation is for students to be involved in explicit metacognitive awareness training. To support the development of this training, I recommend that lecturers' attention be drawn to decide from where to start metacognitive awareness training based on the obtained results of the current research. They can begin with presenting the results to their students with a concentration on weak points. This action might help them enhance not only their knowledge but also their self-efficacy, motivation and confidence. Additionally, they can use the MAI repeatedly as a consciousness raising instructional tool during each term to enable the students to reflect on their learning process. Metacognition is malleable

even in large and online classrooms where lecturers have little chance of knowing their students individually. Lecturers can use the MAI as a screening tool to pinpoint weakness areas of the students even in detail from each statement of the inventory to tailor-make metacognitive teaching to meet the students' requirements. Furthermore, based on our findings our lecturers mostly ignore the affective states of metacognitive awareness not realizing that this attitude has a huge influence on their teaching and consequently on students' learning. Therefore, it is highly recommended that the provided activities in students' metacognitive instruction raise motivation, a sense of self-efficacy and confidence and expectation from learning.

Moreover, as metacognitive awareness is socially mediated learning, it can be developed in a collaborative and authentic environment. Cultivating the nature of students' independence with the lecturers' supportive role, giving the students choice in what they do at their own pace and informing the purpose of whatever is going on in the classroom can be defining factors. Lecturers are expected to be in a consistent students' need analysis, discovering their interests, preferred activities and style of learning. The relation of newly learned information to the past experience has a great impact on knowledge internalization. Writing in learning journals, learning contracts and writing portfolios are tools not only for their assessment but also for their reflection and monitoring the learning process. Besides, metacognitive learning can be nurtured by e-learning, online/virtual learning and social networks on an individual or interactive basis. Last but not least, lecturers should increase the metacognitive awareness climate of a classroom by expressing high expectation to metacognitive awareness learning verbally and non-verbally while communicating with students in a warm, positive and motivating manner to boost students' sense of self-confidence and self-efficacy (Rosenthal, 1997).

The following advice has been given to students going to engage in metacognitive awareness training to contribute to the development of their metacognitive awareness in the study settings: 1. The results gained can contribute to detecting obstacles and find out how to navigate around them in the field of learning metacognitive awareness and assist the students to look at learning as a problem solving exercise to deploy the most suitable metacognitive strategies. 2. Since introducing metacognitive strategies and making them a natural part of the learning process are time-consuming, it gives sufficient time to students to adjust to the new learning environment, especially for those who came from lecturer-centered approach classes to adopt to a student/learning-centered approach and break down the previous educational habits. 3. We are expecting that all students in the class with any level of metacognitive awareness can enjoy metacognitive awareness teaching; however, learners with a higher level of metacognitive awareness will improve more significantly and faster. Also, accessing to theoretical and practical studies to find out the most effective components associated with their improvement can be helpful. 4. Apart from learning about their results on the MAI, students can elaborate on their exposed problems, how they deal with them, how they prepare for the exams and apply for the strategies in general before and during the training. In this way, not only do the students become motivated to learn with such a student and learning-centered approach at an early stage of the semester, but also the lecturers perceive students' emotional-motivational constructs and can explain

each required strategy with the rationale behind each strategy's use, so that finally the strategy itself becomes part of students' procedural knowledge.

Despite the lecturers' rich repertoires of metacognitive knowledge, this study highlights the necessity for lecturers' metacognitive training so that they can update their knowledge to cope with changes in the education system innovatively and creatively to implement their expertise in the classroom. Therefore, the second recommendation is aimed at the development of a lecturers' metacognitive program in general and particularly in improving their declarative knowledge with sufficient procedural materials. Lecturer research participants themselves mention only the cognitive facets and ignore affective ones while defining the metacognitive awareness concept. It is quite sensible to equip them with metacognitive affective states, which have a direct effect on their teaching content. In these training courses, socialization of ideas can be conducted either by having co-teaching or analysing their results together upon pre-determined variables related to metacognitive awareness.

According to the results of this research, the third recommendation is made for material developers who should revise the curriculum based on consideration of the findings taking into account both students' and lecturers' attitudes towards metacognitive awareness and design varieties of practices and activities that elicit a range of metacognitive strategies. In this way, individual differences in selecting their preferred strategies will be taken into consideration which can increase the application of metacognitive strategies, their sense of self-efficacy and motivation. Particular attention needs to be devoted to the nature of generated group's problem-solving activities to give opportunities to students to think collaboratively and value each other's ideas. Attention should be drawn to open-ended activities as well which call up prior knowledge, personal experience, reflective thinking and thinking about process of thinking.

Future research. The results of the current study on students' and lecturers' attitudes towards metacognitive awareness point out some ideas that need exploring. Some students, who may not be able to demonstrate their metacognitive awareness properly, should be given different measures to reveal their attitudes towards metacognitive awareness. As Schraw and Dennison (1994) state, any quantitative data from the MAI can merely be regarded as a "reliable initial test of metacognitive awareness" (p. 472). Prolonged and in-depth class observation with interview and triangulating data from various sources, which are gathered through different types of tools of measurement is needed. Simultaneously, it would be of significant interest to detect the preferred learning styles and strategies used in each lesson in order to gain a more realistic and detailed picture on metacognitive awareness learning in Lithuanian and Iranian university studies.

The training programs for students on how to adopt and use effective metacognitive strategies and its impact on different variables such as performance, goals, efficacy, emotion and motivation is another idea which is worth exploring.

Since training students with high level of metacognitive awareness is the ultimate goal of any education system, and teaching and learning are two sides of the same coin, there is a pressing need in the area of lecturers' metacognitive training (Prytula, 2012) with a pre- and post-test that would control the various variables. In fact, students' metacognitive awareness would be the result of lecturers' metacognitive awareness (Wilson & Bai,

2010). Additionally, research is still lacking in discovering the relationship between lecturers' practice and students' learning after their metacognitive program.

A further study can also be conducted to consider the relationship between students' gender, age, study field and level of metacognitive awareness and related subcomponents. Further to these four variables, the lecturer should notice the students' unusual and novel choice of individual metacognitive activities, various mindsets, individuals' way of thinking, social and cultural contexts, notions, personal characteristics and style of learning (visual, auditory or touch) and personality traits (extrovert and introvert), which can be a good base for future research. The more he/she focuses on these individual variables, the more successful he/she can be to satisfy the need, expectations and preferences of the students and to decide upon the selection of the types of the metacognitive activities that are appropriate for specific students. In other words, each class is different from another and requires different metacognitive interventions and practices. In light of this result, lecturers should design the learning environment, curriculum, educational methods and material in accordance with the students' individual variables and align their teaching practice accordingly to reach the more pleasurable classes with deep and durable learning.

As Bandura (1997) stresses, a self-efficacy questionnaire should be designed based on specific field of study, which in our case is metacognitive awareness. This is the reason why applying the existing general Sense of Self-Efficacy Scales may not be predictive and valid on justifying the Iranian low level of metacognitive awareness. Similarly, as this study has only focused on metacognitive awareness, considering motivational attitudes of students should be addressed in future research.

There is a need to delve deeper into the similarities and differences between students' metacognitive awareness level in other universities abroad. To this end, future research could also further probe the same objectives in our study in other contexts holding different cultural values, which may shed light on the nature of intercultural competence and prevent individuals from resorting to cultural stereotypes while facing cross-cultural interactions.

Conclusions

1. The data analysis of students' attitudes towards their own level of metacognitive awareness reveals that Iranians determine low level of metacognitive awareness for themselves while the Lithuanians think that their level of metacognitive awareness is medium. Moreover, it can be concluded that there was a significant positive relationship between the two main components of knowledge and regulation of cognition. Furthermore, the sequence of strongest to weakest subcomponents in knowledge of cognition is "declarative, conditional and procedural" in the Lithuanian group while that of Iranians is "declarative, procedural and conditional". The Lithuanian students consider themselves weaker in "information management" and "debugging" than in the other subcomponents of regulation of cognition. The Iranian students determine "debugging", "evaluation" and "monitoring" subcomponents as their weaker ones. In addition, through our large-scale metacognitive awareness measurement and rigorous analysis in each group,

we got access to in-depth explicit and predictive information. The findings of this research provided a hint as to where to start investigating the problematic areas in students' metacognitive awareness and determined what type of metacognitive knowledge and regulation skills the students reportedly utilize or require while learning. Finally, lecturers should explicitly explain to students the result of their metacognitive measurement with a focus on their weaknesses which helps students to consider a process-oriented approach more than a product-oriented one in the learning. This affects the students' self-beliefs and attitudes positively as emotional factors, which have an impact on their level of self-efficacy and increases their confidence. A lecturer who discovers more about the metacognitive awareness levels of his/her students can adapt his/her teaching to the constantly evolving educational environment through considering the students' needs, develop his/her pedagogical knowledge, transfer his/her knowledge into his/her classrooms properly, foster the metacognitive awareness of the students, and create an open atmosphere which makes learners feel positive to take more responsibility for their own learning with less tutoring sessions.

2. The findings regarding lecturers' attitudes toward their students' metacognitive awareness level and applied subcomponents provide significant information for educationalists and lecturers on how their students could take control of their learning and a variety of metacognitive strategies that the students apply or ignore while learning in both Lithuanian and Iranian university studies. Both lecturers' groups report metacognitive strategy mean scores, applied by the students, which fall into the medium range. In our study, the sequence of the knowledge of cognition subcomponents from the strongest to the weakest in both lecturers' groups is "declarative, procedural and conditional". According to the lecturers' attitudes in each group, the Lithuanian students have lower scores in "information management" and "debugging" while their Iranian counterparts have lower scores in "monitoring" and "debugging". The findings regarding the most frequent theme based on both Lithuanian and Iranian lecturers' attitudes towards the reason for assigned students' metacognitive awareness level is "students' characteristics". "Lecturers' characteristics" and "characteristics of process" themes are ignored or considered slightly. This implies that lecturers should not avoid their own role in teaching the metacognitive awareness learning process in the classroom. According to the above findings, we can conclude that both lecturers' groups should place more emphasis on teaching conditional knowledge. Lithuanian lecturers with more emphasis on practical activities related to "information management" and "debugging" strategies and Iranian lecturers with more focus on "monitoring" and "debugging" strategies can make the discussion of metacognitive awareness strategies as a part of the everyday discourse of the classroom. Additionally, the lecturers' reasons for promoting metacognitive awareness were categorized under five themes of "lifelong learning", "autonomy", "enhancing teaching", "university education" and "future success". Furthermore, they can emphasize the importance of metacognitive awareness in educational technologies such as virtual and interactive learning including Moodle, social networks and Facebook. The outcomes of this part are essential in some ways. First, the data created a possibility to scrutinize the similarities and differences among lecturers' attitudes in both contexts. Generally, the

obtained results from two lecturer groups are consistent with each other while the settings are not close culturally which is in a contradiction to some posited literature that culture affects learning and metacognitive strategy application. This conveyed that the resident culture did not limit the metacognitive awareness. Second, this research can contribute to broadening the related literature exploring the contexts that varied from previous studies. Finally, the outcomes of lecturers' and students' attitudes are essential since we discover the complex and dynamic process of learning and teaching that is intertwined. As a result, in spite of this complexity, a clear connection between lecturers and students' attitudes emerges.

3. When considering the results of lecturers' attitudes towards metacognitive awareness concept and their pedagogical knowledge in both groups, it can be said that they have rich pedagogical knowledge with a similar pattern. They are quite familiar with the concept of metacognitive awareness, though they mostly related it with its "cognitive" dimension rather than the "strategic" and "affective" ones. This means that they need more training on the theory and practice of metacognitive awareness, so that they can also consider the benefits of focusing on emotional and motivational factors of learning. Regarding the knowledge of cognition component of lecturers' pedagogical knowledge, the sequence of subcomponents from the strongest to the weakest in both groups is the same and is "declarative, procedural and conditional". It means that their scores in conditional subcomponent are lower than in the other two subcomponents. This can be detected as well through the results obtained from the declared practices applied in their class, which lacked any reference to conditional knowledge. The regulation of cognition subcomponents of both lecturers' groups have similar patterns, while Lithuanian lecturers have lower scores in "information management" and "debugging", their counterpart group has lower scores in "monitoring" and "debugging" respectively. These findings are in line with the outcomes of applied personal strategies detected by the raters among their statements, which show that both groups' statements lacked any "debugging" strategies and only a few of the strategies mentioned by Lithuanian lecturers were related to "information management". Moreover, Iranian lecturers' statements did not mirror any "monitoring" strategies. There is congruity between the lecturers' attitude relevant to their metacognitive awareness pedagogical knowledge and practices and the sequence of the strongest to the weakest subcomponents follow the same trend in both of them. However, the subcomponents with lowest mean scores, "debugging" in both groups and "comprehension monitoring" in the Iranian group are not observed in their practical activities.

4. Comparisons were made across the review of literature of both Lithuanian and Iranian university studies, and these similarities were drawn. Metacognitive awareness is considered to be one of the fundamental and defining concepts in learning in the last two decades. It is an overarching phenomenon that subsumes multiple relevant concepts. Quite similar themes with similar frequencies are revealed including "skills", "language learning strategies", "lecturers", "intercultural competence" and "cross-cultural comparison", "motivation" and "efficacy", "components & model", "technology", "critical thinking" and "problem solving". Some themes which are absent in one context such as

"forms of register", "shifting to lifelong paradigm", "personality traits" and "authenticity", can be found in the other context. Some subjects are discussed in both contexts such as self-confidence, academic achievement, autonomy, performance, cognitive strategies and cooperative learning, which are the most common sub-themes. Also, similar meta-cognitive practices consisting of "prompts", "reflective writing", "interactive-reflective" activities and "modeling" emerge in both contexts with relatively different frequency of application. Admittedly, three roles for metacognitive awareness, measured quantitatively and qualitatively and instructional role with a similar frequency, can be found in both university studies. We found out that there are differences between type of language skills highlighted in both Lithuanian and Iranian university studies. Reading and writing in both contexts and listening in the Iranian contexts are mostly analysed. There are only a few studies that have been conducted on speaking. Moreover, a stronger resistance can be seen towards shifting to a reflective paradigm compared to the Iranian one. Relatively, some missing points, which could act as research ideas for future studies in both contexts, are the following: (i) In most of the studies metacognitive awareness is considered in English as a foreign language context whereas wide range of fields in social sciences, art and history can be treated as the context of research. (ii) Some studies related with metacognitive instruction are interlocked with other sorts of instructions, which impacts on an accurate measurement of metacognitive awarenes. (iii) In most of the studies, raising students' metacognitive awareness are taken into account while the need to evaluate and raise lecturers' metacognitive awareness is insufficiently considered. (iv) Most of the studies are on regulation of cognition whereas research on knowledge of cognition is ignored. (v) Metacognitive training and instruction with explicit explanation especially for lecturers is absent. The application of technology in metacognitive learning could also be enhanced. (vi) The greater proportion of the papers consider students' attitudes, knowledge and practices whereas fewer studies are related to lecturers' ones.

APPROBATION OF THE RESEARCH RESULTS

Scientific publication on the dissertation topic:

1. Masoodi, M. (2020). Exploring Lecturers' Attitudes towards the Concept of Metacognitive Awareness: A Qualitative Comparative Case. *Contemporary Research on Organization Management and Administration,* 8 (2), pp. 58-72. doi.org/10.33605/croma-022020-004. http://journal.avada.lt/images/dokumentai/2020/2/CROMA_2020_8_2_58-72.pdf

2. Masoodi, M. & Butvilas, T. (2020). Metacognitive Awareness in Iranian University Studies: An Overview for Future Direction. *Socialinis Darbas (Social Work)*, 18(1), pp. 5–26. DOI: 10.13165/SD-20-18-1-01. file:///C:/Users/marja/Downloads/5409-12287-1-SM%20(1).pdf

3. Masoodi, M. (2019). An Investigation into Metacognitive Awareness Level: A Comparative Study of Iranian and Lithuanian University Students. *The New Educational Review, 56 (2),* pp. 148-160. DOI: 10.15804/tner.2019.56.2.12. DOI: 10.15804/tner.2019.56.2.12. https://tner.polsl.pl/e56/a12.pdf.

4. Masoodi, M. (2019). Crossing Metacognitive Awareness in University Studies: An Emphasis on Beliefs. *Social Transformations in Contemporary Society,* 2019 (7), pp. 94- 104. http://stics.mruni.eu/wpcontent/uploads/2019/06/STICS_2019_7_94-104.pdf

5. Masoodi, M. (2019). Confronting Metacognitive Awareness in University Studies. International Security in the Frame of Modern Global Challenges 2019: Collection of research papers. Mykolas Romeris University, Vilnius, 2019. pp. 57-62. https://ebooks.mruni.eu/product/iinternational-security-in-frame-modern-global-challenges-2019

6. Masoodi, M. (2018). Importance of Promoting Metacognitive Awareness at University. *Vocational training: research and reality,* 29 (1), pp. 3-18. https://doi.org/10.2478/vtrr-2018-0002

7. Gulbinskienė, D. , Masoodi, M. & Šliogerienė, J. (2017). Moodle as Virtual Learning Environment in Developing Language Skills, Fostering Metacognitive Awareness and Promoting Learner Autonomy. *Pedagogika, 127(3), pp. 176–185.* DOI: http://dx.doi.org/10.15823/p.2017.47file:///C:/Users/marja/Desktop/Articles%20and%20conferences/5.pdf

8. Masoodi, M. (2017). A Comparative Analysis of Two Qualitative Methods: Deciding Between Grounded Theory and Phenomenology for Your Research. *Vocational training: research and reality,* 28 (1), pp. 23-40. DOI 10.2478/vtrr-2018-0003. https://www.vdu.lt/cris/bitstream/20.500.12259/36060/1/ISSN2029-8447_2017_N_28.PG_23-40.pdf

9. Šliogerienė, J., Masoodi, M. & Gulbinskienė, D. (2016). Facebook as a Tool in University English Language Education. *ACTA PAEDAGOGICA VILNENSIA, 36, pp.34-41.* https://doi.org/10.15388/ActPaed.2016.36.10070 file:///C:/Users/marja/Desktop/7.pdf

Presentation in conferences:

1. The 8th international scientific conference for young researchers "Social Transformations in Contemporary Society (STICS 2020)", Mykolas Romeris University, Vilnius, Lithuania, 4-5 June 2020. Presentation "Exploring Lecturers' Attitudes towards the Concept of Metacognitive Awareness: A Qualitative Comparative Case".

2. The 8th international scientific conference "Social Innovation: Inclusiveness and Civic

Mindedness (SOCIN 2019)", Mykolas Romeris University, Vilnius' Lithuania, 14-15 October 2019. Presentation "Research on Exploring Metacognitive Awareness Level in University Studies: A Cross-Cultural Quantitative Study".

3. The 2nd international scientific and practical conference "International Security in the Frame of Modern Global Challenges", Mykolas Romeris University, Vilnius, Lithuania, 10 June 2019. Presentation "Confronting Metacognitive Awareness in University Studies".

4. The 7th international scientific conference for young researchers "Social Transformations in Contemporary Society (STICS 2019)", Mykolas Romeris University, Vilnius, Lithuania, 6-7 June 2019. Presentation "Crossing Metacognitive Awareness in University Studies: An Emphasis on Beliefs".

5. International conference "Innovation and Technology" Universidade Aberta, Lisbon, Portugal. Presentation "Relationships among Regulation and Knowledge of Cognition and Various Variables: A case of Lithuanian University Study", the abstract is available p. 19 https://eventos.uab.pt/itel/en/livro-de-resumos/

6. The 3rd International Scientific Conference "Speciality Language Studies in the Common European Higher Education Area: Theory and Practice", Vilnius Gediminas Technical University (VGTU), Vilnius, Lithuania, 24 November 2017. Presentation "The Regulation of Cognition in Fostering Metacognitive Awareness".

7. The 3rd Paper Development Workshop for PhD Students and Early Career Scholars in Central and Eastern Europe (CEE) "Managing and Organizing in Challenging Times", Transilvania University of Brasov, Romania, 2-4 November 2017. Presentation "Helping Learners Develop Metacognitive Awareness at Universities".

8. The 1st International Scientific and the 6th VDU, MRU, KU , VU Consortiums of Doctoral Studies in Education, Klaipeda University, Klaipeda, Lithuania, 14 Oct 2017. Presentation "Fostering Metacognitive Awareness in Autonomous University Study".

9. The 4th Vytautas Magnus University Institute of Foreign Language and the 11th Language Teachers' Association of Lithuania, International Scientific Conference "Sustainable Multilingualism 2017", Kaunas, Lithuania, 26-27 May 2017. Presentation "Investigating the Role of Metacognitive Awareness in University Studies", the abstract is available p. 23 http://uki.vdu.lt/wp-content/uploads/doc/konferencijos/04/26-27MAY2017Abstracts.pdf

10. The 5th VDU, MRU, KU , VU Consortiums of Doctoral Studies in Education, Klaipeda University, Klaipeda, Lithuania, 7 October 2016. Presentation "Fostering Metacognitive Awareness in Autonomous University Study".

Research traineeship during the preparation of the dissertation:
September-December 2018, Department of Education and Psychology, University of Aveiro, Aveiro, Portugal. Consultant of traineeship and Personal Consultant during the preparation of the dissertation: Prof. Dr. Mónica Sofia Marques Lourenço

Seminars:
Presentation of the dissertation framework "Metacognitive awareness at university: A two country study" to Department of Education and Psychology, Aveiro University, 25 October 2018, Aveiro, Portugal.

Doctoral summer school:

Participated at European Educational Studies Research Summer School (EERSS): Methods and Methodology in Educational Research, which took place at the Johnnes Kepler University of Linz, Austria, 11-15 July 2016 and included 40 hours of lectures, workshops and tutorials and acquired ECTS. Moreover, the student presented her paper "Fostering metacognitive awareness in autonomous university studies" to the audience.

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Work experience

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2009-2014   Roudhen Azad University, Tehran, Faculty of Persian Literature and Foreign Languages, Department of English Language Teaching, Lecturer.

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Scientific interests

Teaching and testing foreign language skills, translation, ESP in university studies, innovative study methods and autonomous lifelong learning.

MYKOLO ROMERIO UNIVERSITETAS

Marjan Masoodi

METAKOGNITYVUS SĄMONINGUMAS UNIVERSITETINĖSE STUDIJOSE: LYGINAMOJI LIETUVOS IR IRANO STUDIJA

Mokslo daktaro disertacija rengta 2015–2020 metais, ginama Mykolo Romerio universitete pagal Vytauto Didžiojo universitetui su Klaipėdos universitetu, Mykolo Romerio universitetu ir Vilniaus universitetu Lietuvos Respublikos švietimo, mokslo ir sporto ministro 2019 m. vasario 22 d. įsakymu Nr. V-160 suteiktą doktorantūros teisę.

Moksliniai vadovai:
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Disertacija ginama Klaipėdos universiteto, Mykolo Romerio universiteto, Vilniaus universiteto, Vytauto Didžiojo universiteto edukologijos mokslo krypties taryboje.

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Daktaro disertacija bus ginama viešame edukologijos mokslo krypties tarybos posėdyje 2020 m. spalio 30 d. 11:00 val., Mykolo Romerio universitete, I-414 aud.
Adresas: Ateities g. 20, 08303 Vilnius.

Daktaro disertacijos santrauka išsiųsta 2020 m. rugsėjo 30 d.

Daktaro disertaciją galima peržiūrėti Lietuvos Martyno Mažvydo nacionalinėje bibliotekoje bei Klaipėdos universiteto, Mykolo Romerio universiteto, Vilniaus universiteto ir Vytauto Didžiojo universiteto bibliotekose.

Marjan Masoodi
METAKOGNITYVUS SĄMONINGUMAS UNIVERSITETINĖSE STUDIJOSE: LYGINAMOJI LIETUVOS IR IRANO STUDIJA

Daktaro disertacijos santrauka

Įvadas

Tyrimo aktualumas. Per pastaruosius kelis dešimtmečius metakognicija tapo viena reikšmingiausių sąvokų, aptinkamų edukacinės psichologijos teorijose (Flavell, 1976; Zhang, 2010), prisidėjusių prie pokyčių mokymo procese atsiradimo ir pedagogikos krypties, orientuotos iš mokymo į mokymąsi pasikeitimo. Metakognicija siejama su proto teorija. Tai gebėjimas suprasti savo ir kitų psichinę būseną. Tiesą sakant, mūsų psichinių būsenų mentalizacija įvyksta anksčiau negu kitų žmonių mentalizacija. Nežinomybių tikrinimas mus skatina ieškoti naujos informacijos (Metcalfe ir Finn, 2008) ir dalintis neaiškumais su kitais, o tai ne tik atveria mokymosi visą gyvenimą duris, bet ir padeda nukreipti mūsų būsimą mokymąsi (Bahrami et al. 2010).

Kadangi naujausiose studijose atskleista nepaprasta metakognicijos reikšmė senų sąvokų, problemų sprendimo (Ghorbani Nejad & Farvardin, 2018), kritinio ir kūrybinio mąstymo (Gok, 2010; Tolutienė, 2010; Valiukienė, 2014) ir mokymosi pasiekimų (Cheng, 2011; Mačiulienė, 2019) transformacijos procesuose, atsirado didėjantis geresnio supratimo ir šio neaiškaus konstrukto konceptualizacijos poreikis. Labiausiai paplitusi ne vienmatė, o sudėtinė šios sąvokos apibrėžtis. Flavelas (1976), apibrėžęs šią sąvoką, pristatė ją kaip „žinias apie savo kognityvinius procesus ir produktus" (p. 232), o Schraw ir Dennison (1994), daugiau dėmesio telkdami pedagoginei reikšmei, apibūdino ją kaip žinias ir kognicijos reguliavimą.

Manoma, kad metakognicija taip pat atlieka pagrindinį vaidmenį savireguliacijos (Šliogerienė, 2013; Zimmerman & Schunks, 2011), reflektyvaus mąstymo skatinimo (Ansarin, Farrokhi & Rahmani, 2015; Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008), saviveiksmingumo (Schunk, 2008), pasitikėjimo savimi stiprinimo (Ghahari & Basanjideh, 2015; Tolutienė, 2010) procesuose, siekiant priimti greitus sprendimus ir emocinius-motyvacinius konstruktus (Doğan, 2016). Pavyzdžiui, savireguliacija suvokiama kaip lemiamas mokymosi proceso aspektas, naudingas sprendžiant problemas, apimančias informacijos valdymą ir samprotavimą (Kramarski ir Michalsky, 2009). Savireguliacija pasižymintis studentas gali reguliuoti savo pažinimą ir turėti išugdytą metakognityvų sąmoningumą (Efklides, 2009; Kramarski & Michalsky, 2009; Pucheu, 2008).

Saviveiksmingumas, proto ir savo efektyvumo refleksija yra emocinis-motyvacinis studentų metakognicijos konstruktas, kuris buvo tirtas panašiose studijose (Flavell, 1976; Tavakoli & Koosha, 2016; Schraw, Olafson, Weibel & Sewing, 2012; Schunk, 2008). Studentas, turintis aukštesnį saviveiksmingumą, kuris susijęs su studijų aplinka, nori labiau taikyti veiksmingas ir gausias metakognityves strategijas. Studentų motyvacijos lygis, kuris daro tiesioginę įtaką jų rezultatams, atitinka jų požiūrį.

Studentas, kuriam būdingas metakognityvus sąmoningumas, yra visuomeniškas asmuo. Iš tiesų metakognityvaus sąmoningumo ugdymas nėra individualus mokymas,

suteikiantis visišką laisvę studentams. Tai yra socialinis procesas, kurio metu į mokymosi veiklas auditorijoje įtraukiami visi esantys žmonės, ir dėstytojai dalijasi mokymosi atsakomybe su studentais, nebijodami prarasti savo autoriteto. Ši sociologinė perspektyva pabrėžia studijų aplinkos poveikį. Todėl globaliame, glaudžiai susietame pasaulyje geras metakognityvaus sąmoningumo lygis leidžia studentams dalyvauti modernioje daugiakalbėje visuomenėje.

Metakognityvus sąmoningumas nėra įgimtas ir turi būti mokomas formaliuoju būdu. Studento ir dėstytojo metakognityvus sąmoningumas yra vienas su kitu susiję (Garmabi & Zareian, 2016). Dėstytojai, norintys ugdyti metakognityvų sąmoningumą auditorijoje, turėtų pradėti nuo savęs ir apmąstyti savo požiūrį, praktinę patirtį ir perspektyvas (Atai, Babaii ir Taherkhani, 2017; Masouleh & Jooneghani, 2012; Nazari, 2018). Anot Willis (2011), labai svarbu susieti dėstytojų požiūrį su studentų metakognityvaus sąmoningumo lygiu ir jų atliekamomis praktinėmis veikomis auditorijoje.

Vis dėlto metakognityvų sąmoningumą ne visada lengva integruoti į studijų procesą auditorijoje. Viena vertus, dėstytojai gali turėti studentų su įvairaus lygio metakognityviais įgūdžiais ir, kita vertus, dabartinės mokymo programos yra dažniausiai tradicinės, neįprastai ilgos ir jose nuvertintas metakognityvaus sąmoningumo vaidmuo gerų rezultatų siekimo kontekste. Iš tiesų pratybos, kurios vedamos universitetuose, siekiant į mokymosi procesą įtraukti dalyvius mažų ir didelių grupių diskusijomis, atliekamomis veiklomis ir pratimais, ne dažnai telkiamos į metakognityvaus sąmoningumo ugdymą auditorijoje (Pucheu, 2008). Nuo tada, kai kilo idėja skatinti metakognityvaus sąmoningumo mokymus Lietuvoje ir Irane, ji dar nebuvo įsiskverbusi į universitetų studijų planus. Būtinos efektyvios programos, kurios padėtų dėstytojams suprasti studentų mokymosi poreikius šioje srityje (Prytula, 2012; Pucheu, 2008).

Metakognicijos išmokstama (Al-Jarrah ir Obeidat, 2011; Cheng, 2011; Coutinho, 2007; Sperling, Howard, Staley ir DuBois, 2004; Young & Fry, 2008). Kadangi dėstytojai atlieka svarbų vaidmenį, padėdami studentams ugdyti metakognityvų sąmoningumą (Pucheu, 2008), būtina ugdyti jų pačių metakognityvius įgūdžius, kad jie galėtų padėti savo studentams (Prytula, 2012; Pucheu, 2008). Todėl efektyvus mokymas ir mokymasis priklauso ir nuo studentų, ir nuo dėstytojų metakognityvaus sąmoningumo lygio (Pucheu, 2008).

Metakognityvaus sąmoningumo, kaip esminio universitetinių studijų veiksnio, reikšmingumas identifikuojamas būtinybe suprasti studentų prigimtį ir dėstytojų požiūrį. Nepaisant šios sąvokos miglotumo, sudėtingos konceptualizacijos ir įgyvendinimo, pristatyti požiūriai yra svarbūs bei susiję su metakognityvaus sąmoningumo strategijų naudojimu (Bullock, 2010), naujos informacijos prėmimu, atmetimu ir žinių įdarbinimu (Borg, 2009, 2015, 2018; Mansour, 2013; Pajares, 1992).

Manoma, kad dėstytojų požiūrį į mokymą formuoja jų edukacinė ar pedagoginė patirtis (Borg, 2009, 2018; Pajares, 1992). Sėkminga mokymo patirtis teigiamai veikia efektyvumo jausmą ir skatina dėstytoją tą patį elgesio modelį taikyti mokymo procese (Bandura, 2008; Bullock, 2010). Net jei universitete vykdoma sisteminga metakognityvaus sąmoningumo programa, dėstytojai priims galutinį sprendimą, ją įgyvendindami arba atmesdami, remdamiesi savo patirtimi. Dėstytojų veiksmus įprastai ar spontaniškai lemia jų požiūris, o ne iš anksto numatyta metodika ar pratimų tipologija, kuria jie turi vadovautis.

Nepaisant painaus, sudėtingo ir dinamiško mokymosi ir mokymo proceso, tarp dėstytojų ir studentų požiūrių pastebėtas akivaizdus ryšys. Dėstytojų lūkesčiai ir požiūris į studentus yra glaudžiai susiję, todėl daugelis studentų elgiasi taip, kaip dėstytojai nejučia ir neverbaliai iš jų tikisi (Hornstra ir kt., 2010; Klehm, 2013; Rosenthal, 1997). Šie požiūriai sietini su lūkesčių, keliamų mokymui ir mokymuisi (Bernat, 2008), lygiu ir praktine veikla auditorijoje (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013). Jie taip pat susiję su socialine sistema, ekonomine ir politine situacija, auditorijos stebėjimu ir patirtimi, tikslų auditorijoje kėlimu, dėstytojų ir studentų mąstymo kalba, tikėjimu, veikimu ir sąmoningumo lygiu (Bullock, 2010). Studentų metakognityvaus sąmoningumo analizė gali padėti dėstytojams ne tik reflektuoti savo mokymą ir jį kūrybiškai modifikuoti, atsižvelgus į studentų reikalavimus bei lūkesčius, tačiau taip pat padėti studentams atsikratyti žalingų mokymosi sampratų (Bernat, 2008; Eliss, 2008).

Ankstesnėse studijose buvo akcentuota studentų metakognityvaus sąmoningumo skatinimo ir mokymo nauda. Tačiau labai svarbu, prieš pradedant metakognityvaus sąmoningumo mokymus bet kurioje studijų aplinkoje, nustatyti studentų metakognityvus sąmoningumo lygį, įvertinus dėstytojų ir studentų požiūrį. Mano turimomis žiniomis, jokių nuodugnių studijų, kuriose būtų lyginamas dviejų skirtingų valstybių, Irano ir Lietuvos, studentų metakognityvaus sąmoningumo lygis, pritaikius 1994 metais Schraw ir Dennison sukurtą metakognityvaus sąmoningumo duomenų rinkimo priemonę (MAI), nėra alikta. Tik keliuose moksliniuose tyrimuose analizuoti Irano ir Lietuvos universitetuose studentų metakognityvaus sąmoningumo įgūdžiai ir subįgūdžiai tam tikrais aspektais, tokiais kaip skaitymas, rašymas, klausymas, kalbėjimas, gramatika, žodynas ar kalbos mokėjimas. Dėl šios priežasties panašaus pobūdžio tyrimų trūkumas abejose studijų aplinkose apsunkina tyrėjų, norinčių dabartinių tyrimų rezultatus palyginti su atitinkama tarptautine moksline literatūra, misiją. Tokiu būdu Lietuvos ir Irano studentų bendro metakognityvaus sąmoningumo lygio identifikavimas ir sugretinimas, atsižvelgus į dvi dimensijas – žinias ir kognicijos reguliavimą, ir su jomis susijusius subkomponentus bei metakognityvaus sąmoningumo duomenų rinkimo elementus, gali padėti išryškinti kiekvieno komponento trūkumus ir privalumus bei pagilinti žinias šios srities kontekste.

Atliekamas tyrimas svarbus ne tik dėl asmeninių priežasčių, kadangi tyrėja Irano pilietė, studijuojanti Lietuvoje bei besidominti šia tema, bet ir dėl kontekstinių aplinkybių, darančių įtaką tyrimams visame pasaulyje. Globaliame ir glaudžiais tarpusavio ryšiais susietame pasaulyje, kuris leidžia mums gauti naujausią informaciją, įvairius ugdymo ir mokymosi klausimus galima kelti ir efektyviai spręsti tarptautiniu-lyginamuoju būdu. Irano ir Lietuvos studentai skiriasi savo vartojamomis kalbomis (nors abi kalbos kilusios iš indoeuropiečių prokalbės), kultūra, socialine aplinka, pomėgiais, ankstesne mokymosi patirtimi ir mokymo programomis. Šie veiksniai daro didelę įtaką jų mokymuisi (Zohar ir Dori, 2012). Tad panašumų ir skirtumų tyrimas dviejų valstybių metakognityvaus sąmoningumo lauke gali suteikti vertingos informacijos mokymosi procesui ne tik šių, bet ir kitų šalių akademinėms aplinkoms.

Mokslinio tyrimo naujumas ir svarba. Nepaisant fakto, jog studentų metakognityvaus sąmoningumo tyrimas universitetinėse studijose įgauna pagreitį kaip edukacinis fenomenas,

pasaulyje nėra atlikta vienalaikių ir išsamių mokslinių tyrimų, kurių tikslas būtų nustatyti studentų metakognityvaus sąmoningumo lygį, ištyrus studentų ir dėstytojų požiūrius. Todėl tyrimo laukas yra mokslinis, plėtojantis ir apimantis daugybę neatsakytų klausimų bei pasižymintis vyraujančiomis pragmatiško požiūro taikymo tendencijomis, ieškant metakognityvaus sąmoningumo analizės universitetinėse studijose būdų. Be to, pažymėtina, jog tyrimas yra naujas ir unikalus, nes iki šiol nėra atlikta sudijų, kuriose būtų lyginami bei gretinami metakognityvaus sąmoningumo lygiai Lietuvos ir Irano universitetų aplinkose.

Metakognityvus sąmoningumas analizuotas tarptautinių studijų švietimo kontekste, daugiausia tyrinėjant studentų metakognityvų sąmoningumą (Adiguzel & Orhan, 2017; Aljaberi & Gheith, 2015; Costabile ir kt., 2013; Kallay, 2012), dėstytojų požiūrį į metakognityvų sąmoningumą, (Bidabedian & Tabatabaei, 2015), dėstytojų požiūrį ir žinias (Borg 2015, 2018; Mansour, 2013), dėstytojų požiūrį, pedagogines žinias ir praktines veiklas (Desautel, 2009; Ozturk, 2017; eglė ir Bol, 2015; Wilson ir Bai, 2010). Vis dėlto būtina nuodugniau išanalizuoti šią sudėtingą sąvoką iš studentų ir dėstytojų požiūrių perspektyvos. Ši studija yra reikšminga, nes joje pateikiama konceptuali informacija, susijusi su metakognityvaus sąmoningumo analize, besiremiančia studentų ir dėstytojų požiūriu, pedagoginėmis dėstytojų žiniomis (taikomomis metakognityvaus sąmoningumo strategijomis), aprašytomis praktinėmis veiklomis ir pasidalinta patirtimi, ką reiškia mokyti studentus būti metakognityviškai sąmoningais. Kadangi ankstesnėse susijusiose studijose daugiausia dėmesio buvo skiriama kiekybinių ar kiekybinių metodų naudojimui, šis tyrimas papildo esamus metodus, įtraukdamas mišraus metodo modelį, kuris gali padėti geriau suprasti, sistemingiau, efektyviau ir nuodugniau tirti šį fenomeną.

Dėstytojų požiūris į studentų metakognityvų sąmoningumą, atliekant metakognityvaus sąmoningumo analizę, turi lemiamą reikšmę, nes jie tyčia ar netyčia gali trukdyti vystyti studento metakognityvų sąmoningumą arba suteikti galimybę studentams reflektuoti įvairius jų metakognityvaus sąmoningumo ugdymo būdus. Borgas (2009, 2015, 2018) pažymėjo, kad dėstytojo kognicija ir praktinė veikla yra susijusios viena su kita, o tai reiškia, kad požiūris įtakoja praktiką, o praktika taip pat gali sąlygoti pokyčius požiūryje. Be pateiktų įžvalgų apie dėstytojų požiūrį, studentų metakognityvaus suvokimo analizė gali būti nevisiškai suprantama.

Dar daugiau, efektyvus mokymas ir mokymasis priklauso nuo studentų ir dėstytojų metakognityvaus sąmoningumo (Pucheu, 2008). Jei studentų metakognityvaus sąmoningumo tobulinimas ir toliau bus svarbi švietimo reformos dalis, dėstytojų metakognityvaus sąmoningumo ugdymas taip pat bus neatsiejamas švietimo sistemos siekis. Be to, mokymasis, kaip mokytis, ugdant kognityvinio proceso žinias ir tobulinant mokymosi įgūdžius, yra svarbus veiksnys, kuris gali pasitarnauti žmonėms, ypač studijuojantiems universitete.

Teorinė tyrimo svarba – gauti rezultatai papildys mokslinę literatūrą studentų ir dėstytojų požiūrių sinergijos klausimu ir skatins supratimą, kaip dėstytojų požiūris į studentų metakognityvų sąmoningumą atsiskleidžia praktinėse mokymo veiklose, mokymo ir mokymosi situacijose. Taigi dabartiniame tyrime pateikta nauja informacija apie metakognityvų sąmoningumą papildys gausią, tačiau ribotą mokslinę literatūrą.

Praktinė šio tyrimo svarba yra ta, kad jis ne tik padės ugdyti dėstytojų ir studentų metakognityvų sąmoningumą, bet ir paskatins rengti bei įgyvendinti būsimas dėstytojų

metakognityvaus sąmoningumo programas. Gauti rezultatai gali pagilinti dėstytojų pedagogikos, susijusias su jų mokymo praktika, žinias. Jie gali ne tik pakoreguoti taikomą metodiką, bet ir padėti, planuojant būsimus pokyčius, siekiant pakeisti požiūrį į studentų metakognityvų sąmoningumą ir padidinti dėstytojų mokymo gebėjimus, ugdant tinkamų ir būtinų metakognityvaus sąmoningumo strategijų naudojimą ir atsisakymą tų, kurios trukdo mokytis, ypač Lietuvos ir Irano universitetinėse studijose. Rezultatai, padedantys geriau suprasti šį fenomeną, taip pat bus naudingi mokymo programų rengėjams, švietimo politikos formuotojams ir edukologijos specialistams.

Mokslinė problema ir disertacijos tyrimo klausimai. Daugelis studentų, pradėję studijuoti universitete, turi ribotus studijų įgūdžius, per didelę mokymosi priklausomybę nuo dėstytojo, motyvacijos trūkumą ir lūkesčius patvirtintai mokymo programai. Todėl susiduriama su problema, kaip nustatyti studentų metakognityvaus sąmoningumo lygį ir jų pasirenkamas metakognityvias strategijas. Daugelyje šios srities tyrimų siekiama nustatyti studentų metakognityvaus sąmoningumo lygį ir pateikti rekomendacijas, kaip padėti mažiau sėkmingiems studentams įgyti daugiau kompetencijų mokantis. Pavyzdžiui, aukštesnius metakognicijos įvertinimo balus turintys studentai, lyginant su mažiau kompetentingais studentais, kurių metakognityvaus sąmoniningumo balai yra žemesni, yra išmintingesni, geriau numato mokymosi proceso eigą, geba kontroliuoti pažinimo procesą, turi aukštesnius akademinius įvertinimus, sėkmingiau reflektuoja savo klaidas bei pomėgius ir žino, ką ir kaip daryti, iškilus abejonėms (Whitebread ir Pino Pasternak, 2010; Schraw & Dennison, 1994). Anot mokslininkų Hacker et al. (2009) ir Jansiewicz (2008), norintys tapti įgudusiais studentais, metakognityvias strategijas naudoja kaip įrankius. Tyrėjai pažymi, kad visada išlieka tikimybė, jog mažiau kompetentingi studentai taikys tas pačias metakognityvias strategijas, nebūdami sėkmingi. McMullen (2009) ir Lee ir Oxford (2008) teigia, kad ta pati, tinkama metakognityvi strategija neužtikrina, jog negabūs studentai taps sėkmingais studijų proceso dalyviais. Šios problemos daro įtaką studijų procesui ir studentų pasiekimams universitetinių studijų eigoje.

Ankstesniuose tyrimuose buvo pritarta studentų metakognityvaus sąmoningumo ugdymo ir mokymo naudingumui. Tačiau metakognityvaus sąmoningumo ugdymas Lietuvos ir Irano universitetinėse studijose nebuvo pakankamai skatinamas. Taigi labai svarbu, prieš pradedant mokyti metakognityvaus sąmoningumo bet kokioje universitetinių studijų aplinkoje, nuodugniai ištirti studentų metakognityvaus sąmoningumo pobūdį, jų privalumus ir trūkumus konkrečioje studijų aplinkoje.

Metakognityvus sąmoningumas nėra įgimtas, jo išmokstama, dėstytojui dalinantis atsakomybe su kitais (Masouleh ir Jooneghani, 2012) ir nebijant prarasti autoriteto auditorijoje (Madjar et al., 2013). Tačiau tokio pobūdžio tyrimų, kuriuose būtų analizuojami dėstytojų pateikti duomenys, nėra atlikta ir mažai žinoma apie tai, ką dėstytojams reiškia studentų metakognityvus sąmoningumas. Ši didelė spraga įtakoja dėstytojų požiūrį į metakognityvaus sąmoningumo mokymą (Borg, 2011). Mokslinės literatūros kiekis apie studentų metakognityvaus sąmoningumo lygio nustatymą prieinamas tarptautinėje erdvėje (Adiguzel ir Orhan, 2017; Aljaberi & Gheith, 2015; Costabile ir kt., 2013; Kallay, 2012), tačiau vis dar trūksta vieningo dėstytojų požiūrio į šį konceptą. Taigi tokio požiūrio nustatymas yra

esminis tikslas, siekiant suprasti ir skatinti pokyčius, susijusius su dėstytojų metakognityvaus sąmoningumo ugdymu studentams skirtose praktinėse veiklose. Štai kodėl labai svarbu susipažinti su studentų požiūriais į savo ir dėstytojų metakognityvaus sąmoningumo lygį bet kurioje konkrečioje universitetinių studijų aplinkoje.

Mokymas ir mokymasis nėra dvi, viena nuo kitos nepriklausomos, monetos pusės. Metakognityvios pedagoginės žinios šiame tyrime apibrėžiamos kaip dėstytojų žinios, susijusios su veiksmingų metakognityvių strategijų mokymu, skirtu padėti studentams tapti metakognityviai sąmoningiems. Nepaisant dėstytojų pedagoginių žinių vaidmens pripažinimo, nustatant studentų metakognityvaus sąmoningumo lygį (Desautel, 2009; Ozturk, 2017; Wilson & Bai, 2010), nedaug tyrimų atlikta, siekiant apibrėžti dėstytojų metakognityvių pedagoginių žinių sąsają su jų metakognityvėmis praktinėmis veiklomis auditorijoje. Nuo dešimtojo dešimtmečio pradžios skirtingos studijos (Perry, Hutchinson ir Thauberger, 2008; Curwen 2010) papildė šią problemą pastebėjimais, kad dėstytojų mokymui trūksta metakognicijos pedagogikos. Dėstytojai privalo turėti aukštą metakognityvaus sąmoningumo lygį, o tai yra svarbiausia jų mokymo priemonė, padedanti skatinti studentų mokymąsi (Kramarski ir Michalsky, 2009; Pucheu, 2008; Schraw, Olafsan, Weibel & Siuvimas, 2012; ir Young, 2010). Vis dėlto dėstytojų metakognityvaus sąmoningumo stoka siejama su studentų metakognityvaus sąmoningumo stoka ir nesėkme, ugdant studentų metakognityvų sąmoningumą (Pucheu, 2008; Schraw et al., 2012).

Taigi ši edukacinė problema išlieka, įvertinus tai, jog kai kuriems dėstytojams vis dar nesiseka mokyti metakognityvaus sąnoningumo dėl žinių apie metakogniciją, išskyrus teorines studijas, stokos (Veenman, 2012). Kerndlo ir Aberšeko (2012) aprašyta problema rodo, kad dėstytojai gali suprasti metakognityvaus sąmoningumo svarbą, tačiau jiems vis dar sunku to mokyti kitus. Didelis specifikacijos neatitikimas, kuris atskleidžia metakognicijos pedagogikos trūkumą, nustatytas metokognicijos mokymo procese.

Dar daugiau, atsižvelgus į globalizaciją ir aukštojo mokslo tarptautiškumą, lyginamasis metakognityvaus sąmoningumo ir susijusių strategijų tarpkultūrinis tyrimas gali ne tik padėti suprasti skirtingas žmogaus mokymosi procesų problemas, bet ir neleisti būti monokultūriškai šališkiems daugiakultūrės auditorijos ir visuomenės veiklose.

Todėl, viena vertus, atskirtis tarp studijų, kurios identifikuoja studentų požiūrį į savo lygį ir taikomus metakognityvaus sąmoningumo komponentus, dėstytojų požiūrį į studentus, metakognityvaus sąmoningumo sąvoką, jų pačių metakognityvias pedagogines žinias, taip pat šių požiūrių ir mokymosi proceso priklausmybę, kita vertus, svarbių bei išsamių mokslinių tyrimų Lietuvos ir Irano universitetinėse studijose, lyginamosios dviejų kontekstų analizės, kuri mokymosi procesui gali suteikti vertingos informacijos ne tik šioms dviems, bet ir kitoms akademinėms aplinkoms, trūkumas paskatino tyrėją analizuoti šiuos reiškinius, kartu ieškant atsakymų į tyrimo klausimus: (i) Kuo Lietuvos universitetų studentų metakognityvaus sąmoningumo lygis, taikomi subkomponentai ir metakognityvaus sąmoningumo klausimyno teiginiai skiriasi/yra panašūs nuo Irano universitetų studentų? (ii) Ar tarp dviejų pagrindinių metakognityvaus sąmoningumo komponentų žinių ir kognicijos reguliavimo yra ryšys? (iii) Koks yra Lietuvos ir Irano dėstytojų požiūris į studentų lygį, taikomus metakognityvaus sąmoningumo subkomponentus, metakognityvaus sąmoningumo sąvoką ir jų pačių taikomas pedagogines žinias universitetinėse studijose? (iv)

Kaip Irano universitetinių studijų tendencijos, požiūrių įvairovė ir sąvokos sudėtingumas panašūs /yra skiriasi nuo Lietuvos universitetinių studijų tendencijų?

Dvi nulinės hipotezės kiekybiniams tyrimo metodams, naudotiems studentų duomenims analizuoti, buvo iškeltos: (i) nėra skirtumo, vertinant Irano ir Lietuvos universitetų studentų bendrą metakognityvaus sąmoningumo ir bet kurių aštuonių jo sudedamųjų dalių (deklaratyvaus, procedūrinio, sąlyginio, planavimo, supratimo stebėjimo, informacijos valdymo, vertinimo ir klaidos radimo bei taisymo) balų skaičių. (ii) Nėra ryšio tarp dviejų pagrindinių metakognityvaus sąmoningumo, žinių ir kognicijos reguliavimo komponentų, lyginant Irano bei Lietuvos universitetų studentus.

Tyrimo objektas. Dėstytojų ir studentų požiūriai, vertinant metakognityvų sąmoningumą Lietuvos ir Irano universitetinėse studijose, bei šių požiūrių priklausomybė nuo mokymosi procesų.

Tyrimo tikslas ir uždaviniai. *Tyrimo tikslas* – palyginti studentų ir dėstytojų požiūrius į metakognityvų sąmoningumą universitetinėse studijose, remiantis Lietuvos ir Irano atvejais, ir aprašyti šių požiūrių priklausomybę nuo mokymosi procesų.

Tyrimo uždaviniai:
1. Palyginti studentų požiūrį į metakognityvaus sąmoningumo lygį, taikomus subkomponentus ir metakognityvaus sąmoningumo klausimyno teiginius Irano ir Lietuvos universitetinėse studijose.
2. Nustatyti ryšį tarp dviejų pagrindinių metakognityvaus sąmoningumo komponentų, žinių ir kognicijos reguliavimo.
3. Išanalizuoti dėstytojų požiūrį į studentų metakognityvaus sąmoningumo lygį, jų taikomus komponentus, metakognityvaus sąmoningumo sąvoką ir su ja susijusias pedagogines žinias Irano ir Lietuvos universitetinėse studijose.
4. Apibrėžti metakognityvaus sąmoningumo diskurso dėmenis, kad būtų galima atskleisti tendencijas, požiūrių įvairovę ir sąvokos sudėtingumą Irano ir Lietuvos universitetinėse studijose.

Tyrimo metodologija. Atsižvelgus į pragmatinės paradigmos struktūrą, telkiančią dėmesį į tai, kas, praktinėje veikloje padeda geriausiai atsakyti į tyrimo klausimus, šioje disertacijoje buvo taikoma metodologija, sudaryta iš mišrių tyrimo metodų, apimančią kiekybinių ir kokybinių duomenų rinkimą, analizę ir integravimą (Creswell, 2014). Tikima, kad metodologijos derinys yra natūralus ir praktiškas, vienintelis ir vertingiausias būdas tirti vis sudėtingesnes problemas, susijusias su metakognityvaus sąmoningumo sąvoka. Manoma, kad taikoma metodologija yra natūrali, kadangi žmonės linkę spręsti problemas, naudodami skaičius ir žodžius vienu metu ir derindami dedukcinį bei indukcinį mąstymą kaip humanistinio mokymo reikalavimą. Neabejojama, kad toks metodologijos derinys yra praktiškas, kadangi tyrėjas gali laisvai naudoti visus įmanomus metodus ir technikas, reaguodamas į tiriamąją problemą (Creswell ir Plano Clark, 2011). Šiai studijai atlikti buvo taikomi mišrių metodų tyrimai, pasirinkti dėl dalyvių sociokultūrinės aplinkos, kurią sudaro įsitikinimai, vertybių sistema ir požiūriai, sudėtingumo. Pažymėtina,

kad metakognityvaus sąmoningumo tyrimo svarba neabejotina dėl keliamų iššūkių analizuojant šį reiškinį (Akturk & Sahin, 2011; Schraw, 2009), kurie leidžia suprasti šį daugialypį sudėtingą subjektą.

Kiekybinis metodas skirtas įvertinti Irano ir Lietuvos studentų bei dėstytojų požiūrį į studentų metakognityvaus sąmoningumo lygį, o kokybinis metodas – suprasti dėstytojų aprašytas praktines veiklas universitetinėse studijose. Atsižvelgiant į šiuos tikslus, atliktas tyrimas rėmėsi atsitiktine 755 studentų ir 20 dėstytojų atranka. Pirmajame etape surinkti duomenys iš Lietuvos ir Irano studentų (Lietuvos grupė = 296, Irano grupė = 459) ir atlikta kiekybinė duomenų analizė, naudojant Schraw & Dennison klausimyną (1994). Antrajame Lietuvos ir Irano dėstytojų (Lietuvos grupė = 10, Irano grupė = 10) duomenų rinkimo etape buvo naudotasi tyrėjos sukurtu klausimynu. Kokybinis metodas šiame etape buvo integruotas į kiekybinį, tačiau svarbu pažymėti, kad labiau remtasi kiekybine, o ne kokybine duomenų analize. Tačiau kokybinis metodas leido „nuodugniai ištirti dėstytojų elgesį, perspektyvas ir patirtį" (Vilelas, 2009, p. 105). Remiantis Creswell et al. (2003) pateiktomis įžvalgomis, dabartinis tyrimo dizainas, tuo pat metu įtraukiant praktinę poziciją, gali būti klasifikuojamas kaip mišrus metodas, atitinkantis trikampio tyrimo dizainą.

Apklausos metu gauti duomenys buvo pateikti statistinei deskriptyvinei ir inferencinei analizei. Kita vertus, duomenys, surinkti tyrėjos parengto klausimyno atviro pobūdžio klausimais, buvo pateikti indukcinei ar dedukcinei kokybinei Krippendof (2013) turinio analizei. Šio rekursinio proceso metu duomenys, trims pagrindinėms temoms nustatyti, buvo peržiūrėti tyrėjos ir trijų vertintojų. Paskutinį studijos etapą sudarė duomenų, gautų dviem atskirais kiekybiniais ir kokybiniais metodais, kurie papildo vienas kitą (Creswell & Plano Clark, 2011) aptarimas, rezultatų integravimas ir jų interpretacija.

Tyrimo apribojimai. Pagrindinis šios studijos apribojimas yra savianalizės klausimyno dėstytojams ir studentams naudojimas. Metakognityviam sąmoningumui analizuoti gali būti naudojami keli metodai, pavyzdžiui, mąstymas garsiai ir interviu, kuris suteikia tyrėjui galimybę palaikyti akių kontaktą su pašnekovais ir pasižymėti labiau dominančias pastabas, leidžiančias gauti išsamesnius duomenis. Kitas apribojimas būtų tikro studentų ir dėstytojų metakognityvių strategijų taikymo mokymo ir mokymosi procesų metu tyrimo stoka. Iš tiesų reikalingas ilgesnis ir nuodugnesnis auditorijų stebėjimas ir duomenų, surinktų iš įvairių šaltinių, naudojant įvairių tipų matavimo priemones, trianguliacija. Tyrėja norėtų šią spragą, susijusią su tiksliu studentų veiklų auditorijoje vertinimu, palikti būsimoms studijoms. Dar vienas šio tyrimo apribojimas yra studentų iš dviejų sostinių, Teherano ir Vilniaus, imties dydžio abejoms lietuvių ir iraniečių grupėms atsitiktinis parinkimas, todėl šiek tiek sunku apibendrintus rezultatus taikyti kitiems miestams. Dar vienas apribojimas yra ribotas dėstytojų skaičius, kuris gali turėti įtakos išvadų apibendrinimui. Tyrimas atliktas, apsiribojant abiejų bakalauro studijų grupių studentais.

Disertacijos struktūra. Tiriamąjį darbą sudaro įvadas, keturi skyriai, išvados, literatūros sąrašas ir priedai. Įvadiniame skyriuje pristatomas tyrimo aktualumas, naujumas, originalumas ir reikšmingumas, suformuluojama mokslinė problema, apibrėžianti tyrimo tikslą, objektą ir uždavinius bei įrėminančius šią studiją tyrimo klausimus.

Pirmajame skyriuje pateikiami būtinieji apibrėžimai ir sąvokos, susijusios su metakognityviu sąmoningumu bei požiūriais, aptariamas tyrimas ir jo aktualumas. Be to, palyginami ir supriešinami ankstesni metakognityvaus sąmoningumo tyrimai Lietuvos ir Irano unviersitetinėse studijose. Antrajame skyriuje pristatoma tyrimo metodika ir dizainas, apimantys tyrimo planavimo ir atlikimo etapus. Šiame skyriuje taip pat pagrindžiami duomenų rinkimo ir analizės procedūros bei metodai. Trečiajame skyriuje nagrinėjami duomenų analizės rezultatai, pristatomi gauti studentų ir dėstytojų apklausos rezultatai, analizuojami ir pateikiami studentų ir dėstytojų požiūriai. Ketvirtajame skyriuje aptariamos reikšmingiausios tyrimo išvados ir rezultatai, gauti išanalizavus tarptautinę, lietuvių ir iraniečių mokslinę literatūrą. Papildomai pateikiamos rekomendacijos ir keletas galimų praktinių pritaikymo atvejų ateičiai.

Disertacija baigiama išvadomis, bibliografija ir priedais.

1 skyrius. Diskursas apie metakognityvų sąmoningumą universitetinėse studijose

Šio skyriaus trijuose poskyriuose, pateikiama išsami literatūros šaltinių apžvalga. Pirmas poskyris skirtas metakognityvaus sąmoningumo universitetinėse studijose kompleksiškumui ir taikymo sričiai. Antrame poskyryje apžvelgiami dėstytojų ir studentų požiūriai į žinių apie metakognityvų sąmoningumą ir jų taikymo praktikoje konceptą. Paskutinėje, trečiame, poskyryje apžvelgiami, palyginami ir supriešinami ankstesni metakognityvaus sąmoningumo tyrimai Lietuvos ir Irano universitetinėse studijose.

Metakognityvus sąmoningumas ir jo komponentai. Šiame poskyryje pristatoma teorinė ir konceptualioji šio tyrimo struktūra, kurioje daug remiamasi Schraw ir Dennisonʼo teorija (1994). *Metakognityvus sąmoningumas* reiškia, kad jūs kaip besimokantysis suvokiate save kaip kitą asmenį, stebintį mokymosi procesą. Ši sąvoka apima mokymosi proceso įsisąmoninimą, mokymosi vertinimą, metakognityvių strategijų kūrimą ir jų taikymą. Šis terminas susideda iš dviejų skirtingų, tačiau tarpusavyje susijusių elementų: *žinių kognicijos* ir *kognicijos reguliavimo* (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012). *Žinių kognicija* žymi pačių asmenų turimas žinias apie savo kogniciją. Šis komponentas susideda iš trijų smulkesnių subkomponentų: deklaratyvių, procedūrinių ir sąlyginių žinių (Harris, Santangelo & Graham, 2010; Ma & Baranovich, 2015; Schraw & Dennison, 1994; Schraw & Moshman, 1995; Young & Fry, 2008). Asmens kognityvios žinios, kurios apima ir jo (-s) požiūrį į savo gebėjimus, yra laikomi *deklaratyviomis žiniomis*. Taigi, galima teigti, kad požiūris yra deklaratyvių žinių subkategorija. *Procedūrinės žinios* žymi asmens sąmoningumą svarstant, kaip pasitelkti strategijas problemoms spręsti. *Sąlyginės žinios* reiškia, kad asmuo žino, kada ir kodėl pritaikyti deklaratyvias ir procedūrines žinias. Veikla, kuri padeda studentams reguliuoti savo mokymąsi, susidedanti iš penkių subkomponentų (planavimo, stebėjimo, vertinimo, klaidų taisymo ir informacijos valdymo), yra laikomi *kognicijos reguliavimu* (Schraw & Dennison, 1994; Schraw et al., 2006; Schraw et al., 2012). Tinkamų strategijų ir kognityvių įgūdžių geram rezultatui pasiekti pasirinkimas vadinamas *planavimu*, kuris apima tikslų nusistatymą, turimų ankstesnių žinių pritaikymą, išteklių paskirstymą ir laiko valdymą. Viena iš organizavimo subkategorijų

yra *informacijos valdymas*. Šiuo etapu, norėdami tinkamai apdoroti informaciją, studentai pritaiko strategijų seką. *Stebėjimas* yra supratimas, kada kažkas atliekant užduotį nevyksta kaip turėtų, gebėjimas nustatyti klaidas ir jas ištaisyti prieš prasidedant vertinimo etapui. *Vertinimas* – tai paties studento savarankiško mokymosi proceso įsivertinimas. Bet kokios strategijos pasitelkimas klaidoms ištaisyti arba pagalbos prašymas susidūrus su sunkumais vadinamas **klaidų taisymu**.

Kitos metakognityvaus sąmoningumo sritys. Metakognityvaus sąmoningumo konstruktas nebūtų visavertis be studentų savireguliacios mokantis, padedančios asmeniui valdyti savo paties elgseną ir susiejantis kogniciją su metakognicija (Hacker, Dunlosky & Graesser, 2009; Schraw et al., 2006; Zimmerman & Schunk, 2011). Studentų savireguliacija mokantis (Sperling et al., 2004) apima pamatinį saviveiksmingumo jausmą, motyvacinius ir emocinius konstruktus ir yra veiksminga priemonė pasitikėjimui savimi keisti (Tanner, 2012). Tiesą sakant, šie veiksniai, įtakodami metakognityvų sąmoningumą, tuo pačiu ir patys yra jo veikiami (Clark, 2014). Papaleontiou-Louca (2008) ir Flavell (1976) nuomone metakognityvus sąmoningumas yra labiau psichologinis ir emocinis, o ne kognityvus.

Studentų ir dėstytojų požiūriai. Požiūriai kaip paini ir nepatogi sąvoka lemia mūsų pasaulio suvokimą, naujos informacijos supratimą, priėmimą ir atmetimą bei žinių pritaikymo būdus (Borg, 2009, 2015, 2018; Mansour, 2013; Pajares, 1992). Norint suprasti savo požiūrius, būtina daryti išvadas apie pagrindinę to asmens proto būseną, kaip antai, suprasti asmens teiginius, ketinimus ir sąmoningą bei nesąmoningą elgesį, o tai nėra lengva užduotis, kadangi asmuo gali nepajėgti arba nepanorėti atskleisti savo požiūrius (Borg, 2009; Bullock, 2010; Mansour, 2013). Tai savo ruožtu lemia, kad požiūriai ir praktika nesutampa (Mansour, 2013).

Gebėjimas atpažinti studentų požiūrius gali padėti dėstytojams ne tik reflektuoti apie savo mokymo metodikas ir kūrybiškai jas pakeisti atsižvelgiant į studentų poreikius ir lūkesčius – lygiai taip pat tai gali padėti studentams atsikratyti jiems trukdančių įsitikinimų apie mokymąsi (Bernat, 2008; Eliss, 2008). Dėstytojų požiūriai yra svarbesnis veiksnys nei jų žinios apie tai, kas yra efektyvus mokymas (Xu, 2012). Nepaisant susipynusio sudėtingo ir dinamiško mokymosi ir mokymo proceso, pastebima aiški sąsaja tarp dėstytojų ir studentų požiūrių. Dėstytojų vertybės ir jų nuomonė apie savo studentus yra tampriai tarpusavyje susijusios – dauguma studentų elgiasi taip, kaip tikisi jų dėstytojai, net ir nevalingai ir neverbališkai (Hornstra, et al., 2010; Klehm, 2013; Rosenthal, 1997). Požiūriai taip pat susiję su mokymosi ir mokymo lūkesčiais (Bernat, 2008) ir darbo auditorijose praktika (Borg, 2009; Bullock, 2010; Mansour, 2013; Pajares, 1992; Zheng, 2013).

Diskurso abiejose studijų aplinkose analizė, palyginimas ir skirtumai

Sisteminė literatūros apžvalga. Siekiant įtraukti mokslo darbus, publikuotus nuo 2000 m. iki 2019 m., buvo atlikta sisteminė literatūros apžvalga Scopus ir ERIC duomenų bazėse. Publikacijų lietuvių kalba taip pat buvo rasta „Lituanistikos" ir Lietuvos akademinės elektroninės bibliotekos (eLABa) duomenų bazėse. Vykdant elektroninę paiešką visose duomenų bazėse buvo suvesti tie patys raktiniai žodžiai – „metacognitive awareness", „metacognitive strategies" ir „metacognition". Straipsniai buvo atrinkti tokia seka: straipsnio

pavadinimas, santraukos perskaitymas ir viso straipsnio perskaitymas. Iš pradžių buvo surasta 118 mokslo darbų Lietuvos studijų aplinkoje ir 110 straipsnių Irano studijų aplinkoje. Atidžiai perskaičius straipsnių santraukas, viso teksto analizei buvo atsirinkti 55 mokslo darbai apie Lietuvos studijas ir 50 mokslo darbų iš Irano studijų aplinkos. Galutiniame etape buvo apsistota ties 55 mokslo darbais (33 lietuvių ir 22 iraniečių).

Bendros išvados. Abiejose studijų aplinkose metakognityvus sąmoningumas buvo svarbus sėkmingam mokymuisi. Didelis skaičius mokslinių tyrimų prasidėjo pačios sąvokos ir pagrindinių mokymosi tikslų analize. Be to, daug mokslinių tyrimų buvo empiriniai ir vos keturi buvo pagrįsti konceptualia temos sinopse Lietuvos studijų aplinkoje. Taip pat mūsų atlikta analizė rodo, kad tyrimo studijų aplinka dažniausiai buvo anglų kalbos kaip užsienio kalbos mokymasis. Verta pamąstyti ir apie kitas studijų aplinkas, pavyzdžiui, istoriją, mokslus ir pan. Be to, labai nedaugelyje metakognityvų mokymą nagrinėjusių lietuviu ir iraniečių mokslo darbų metakognityvus mokymas buvo sujungtas su kitais mokymo būdais. Vadinasi, mokymosi tobulinimo negalima paprasčiausiai priskirti metakognityviam mokymui. Be to, šio galimo pasipriešinimo naujai, mūsų atveju – reflektyviai ir konstruktyviai – paradigmai tendenciją galima stebėti ir Irano tyrimuose, tačiau ji gerokai stipresnė Lietuvos moksliniuose tyrimuose.

Pagrindinės temos, siejamos su metakognityviu sąmoningumu. Su metakognityviu sąmoningumu susijusių temų sąrašą (nuo dažniausių iki rečiausių) abiejose studijų aplinkose pradeda įgūdžiai (Lietuvos grupė (LG) = 17,2%, Irano grupė (LG) = 25%), registro formos (LG = 17,2%), perėjimas prie mokymosi visą gyvenimą paradigmos (LG 10,3%), kalbos mokymosi strategijos (LG = 10,3 %, IG = 8,3 %), dėstytojų požiūriai, žinios ir praktika (LG = 10,3 %, IG = 25 %), tarpkultūrė kompetencija (LG = 7%), daugiakultūris palyginimas (IG = 8,3 %), motyvacija (LG = 7 %), efektyvumas (IG = 12,4 %), komponentai ir modelis (LG = 7 %, IG = 4,2 %), technologija (LG = 10,3 %, IG = 4,2 %), kritinis mąstymas (LG = 3,5 %), problemų sprendimas (IG = 4,2 %), charakterio savybės (IG = 4,2 %) ir autentiškumas (IG = 4,2 %). Kaip matyti, abiejų universitetų tyrimų atvejų stebimos gana panašios temos ir panašus procentas (1 pav.).
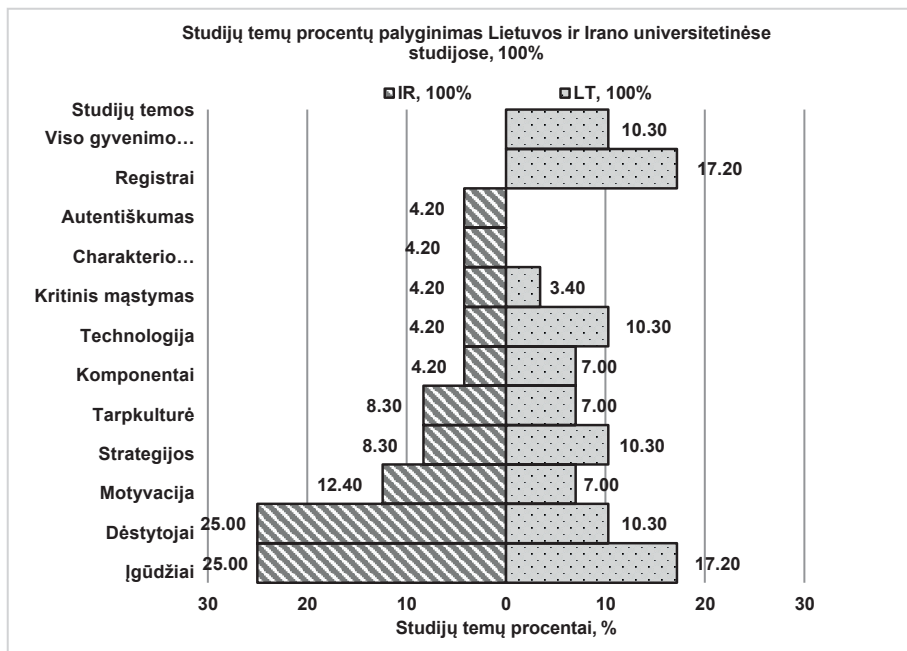
1 pav. *Studijų temų procentų palyginimas Lietuvos ir Irano universitetinėse studijose*

Lietuvos universitetinėse studijose mokslininkai su metakognityviu sąmoningumu dažniausiai siejo skaitymo ir tik po to rašymo mokymosi įgūdžius, tuo tarpu Irano studijų aplinkoje greta šių dviejų įgūdžių taip pat atsidūrė ir klausymosi įgūdžiai. Abejose studijų aplinkose nebuvo minimi kalbėjimo, rišlumo ir tarimo įgūdžiai.

Metakognityvaus sąmoningumo vaidmenys. Panaši tendencija stebima abejų šalių studentų studijų aplinkose, išskiriant tris metakognityvaus sąmoningumo vaidmenis. Dažniausias vaidmuo –kiekybiškai matuojamas metakognityvus sąmoningumas (Lietuvos grupė (LG) = 47,6 %, Irano grupė (LG) = 62,5 %), antras pagal dažnumą – kokybiškai matuojamas metakognityvus sąmoningumas (LG = 35 %, IG = 20,8 %) ir rečiausias – metakognityvus mokymas (LG = 17,4 %, IG = 16,7 %) (2 pav.). Abejose studijų aplinkose akivaizdžiai pabrėžiamas metakognityvaus mokymo poreikis. Kiekybinis ir kokybinis vertinimai turėtų būti atliekami lygiagrečiai taikant trianguliaciją ir demonstruoti studentų strategijas realiose mokymosi situacijose.
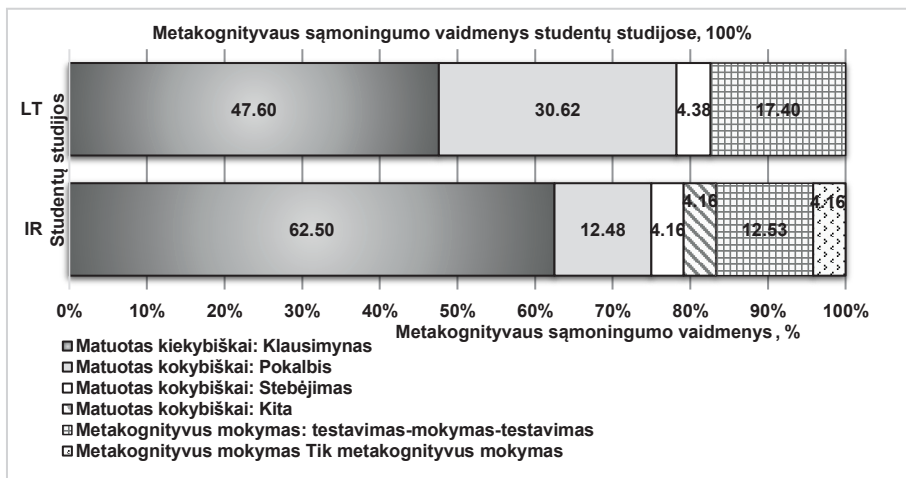
2 pav. *Metakognityvaus sąmoningumo vaidmenų Lietuvos ir Irano studentų studijose palyginimas procentais*

Dėstytojų studijų abejose aplinkose skaičius yra gerokai mažesnis už studentų studijų skaičių, ypač Lietuvoje (3 pav.). Tai rodo gilesnių studijų šiose srityje poreikį.
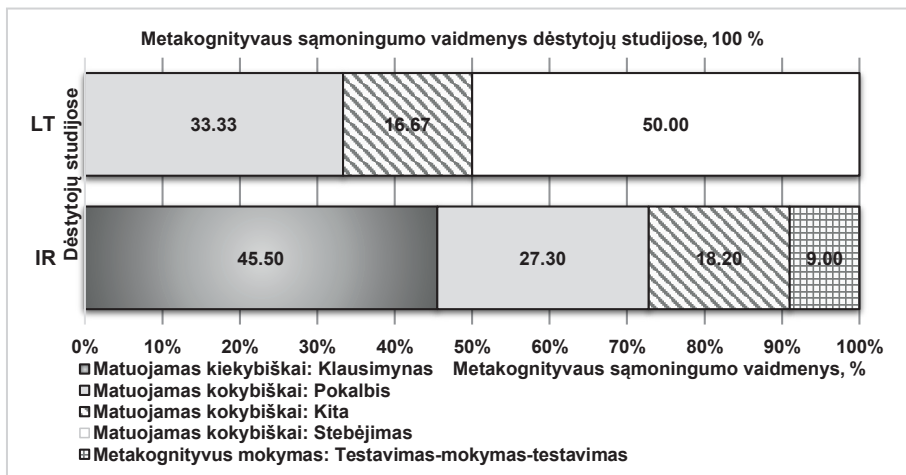
3 pav. *Metakognityvaus sąmoningumo vaidmenų Lietuvos ir Irano dėstytojų studijose palyginimas procentais*

Metakognityvaus sąmoningumo mokymo praktika. Dažniausiai naudojama praktika Irano studentų studijose buvo raginimai (74%), tuo tarpu Lietuvoje – interaktyvi–reflektyvi praktika (60%). Reflektyvus rašymas buvo antroji pagal dažnumą naudota praktika abejose studijų aplinkose (Lietuvos grupė (LG)= 30 %, Irano grupė (LG) = 13 %). Irano

studijų aplinkoje trečia pagal dažnumą naudota praktika buvo interaktyvi–reflektyvi veikla (8,7 %). Rečiausiai naudojama praktika Irano studijų aplinkoje buvo modeliavimas (4,3 %), o Lietuvos studijų aplinkoje – užuominos ir modeliavimas (abiem atvejais po 5 %). Išsamus metakognityvus mokymas buvo taikomas vos vienoje studijoje. Vienoje Irano studijoje ilgą laiką ir pakartotinai naudojami metakognityvūs klausimynai prilyginami metakognityvaus sąmoningumo mokymui. Taikomosios metakognityvios praktikos parodytos 4 paveiksle.
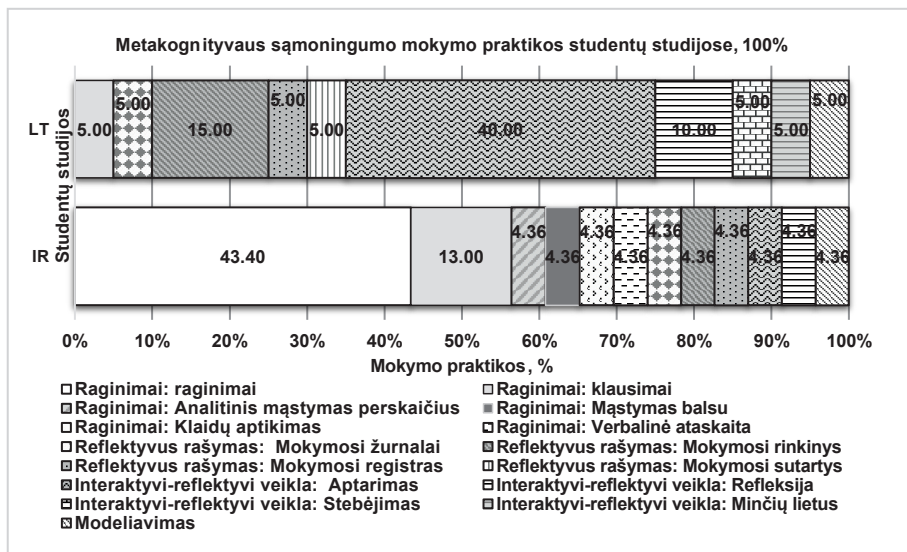
4 pav. *Metakognityvaus sąmoningumo mokymo praktikų* taikymo *Lietuvos ir Irano studentų studijose palyginimas procentais.*

Išnagrinėję ankstesnę mokslinę literatūrą galime pastebėti, kad dauguma studijų skirtos kognicijos subkomponentų reguliavimui. Tai gali būti dėl įvairių priežasčių. Pasak Veenman, 2012, metakognityvios strategijos yra veiksmingos gerinant mokymosi procesą. Dar viena priežastis yra metakognityvių strategijų bendrasis pritaikymas. Metakognityvioms žinioms turi būti parengtas specialus mokymas, tačiau skirtingoms aplinkoms ir temoms taikomos tos pačios strategijos. Metakognityvios žinios suaktyvina ir sukuria metakognityvias (Efklides, 2009; Schraw, 1998; Schraw & Moshman, 1995; Veenman, 2012) ir kognityvias strategijas (Flavell, 1976; Schraw & Moshman, 1995).

2 skyrius. Metodologija

Studentai kaip mokslinio tyrimo dalyviai. Siekiant įrodyti, ar pasirinktas **studentų imties dydis** (296 iš 3 universitetų Vilniuje ir 459 iš 3 universitetų Teherane) buvo pakankamas teisingiems rezultatams gauti, buvo pasinaudota Imties dydžio skaičiuokle. Atsižvelgus į kiekvienos grupės pasikliautinumo intervalą (paklaidą), gauti rezultatai parodė, kad pasirinktas studijų imties dydis tikslinei populiacijai atspindėti buvo pakankamai tikslus. Be to,

siekiant nustatyti *abejų studentų grupių panašumus* pagal lytį, studijų sritį ir amžių, buvo panaudoti klausimyno pildymo metu surinkti duomenys. Kadangi tikimybės, susijusios su t-stebimomis vertėmis (.309, .155, .206) buvo aukštesnės nei .05 reikšmingumo lygmuo, buvo padaryta saugi išvada, kad abi Lietuvos ir Irano studentų grupės reikšmingai nesiskyrė pagal nei vieną surinktų duomenų požymį (5 pav.)

Lietuvos ir Irano studentų aprašomieji statistiniai duomenys, 100%

	Lietuva	Iranas
Universitetas (LT)		
LEU	19.60	
VGTU	29.40	
MRU	51.00	
Universitetas (IR)		
Taikomųjų mokslų ir technologijų universitetas	21.40	
Teherano Azado Universitetas	27.50	
Teherano Universitetas	51.20	
Lytis (LT ir IR)		
Vyras	44.90	41.20
Moteris	55.10	58.80
Studijų sritis (LT ir IR)		
Filosofija	2.00	5.20
Menai	4.10	6.80
Psichologija	2.70	9.80
Teisė	6.80	10.70
Socialiniai mokslai	12.50	10.90
Vadyba	25.70	14.20
Inžinerija	29.40	18.30
Filologija	16.90	24.20
Amžius (LT ir IR)		
29-39	66.10	7.60
26-28	6.80	10.70
23-25	20.90	21.10
20-22	37.80	30.70
≤19	28.40	29.80

Procentas %

5 pav. *Lietuvos ir Irano studentų aprašomieji statistiniai duomenys, 100 %*

Dėstytojai kaip mokslinio tyrimo dalyviai. Kadangi tiek kiekybinės, tiek kokybinės duomenų analizės buvo atliktos su iš dėstytojų gautais duomenimis ir kokybinė mokslinio tyrimo dalis nusvėrė kiekybinę, o klausimas apie imties dydį kokybiniame moksliname tyrime nėra svarbus, 20 dėstytojų (10 iš MRU Vilniuje ir 10 iš Teherano Azado Universiteto) padėjo atsakyti į didžiąją dalį susijusių mokslinio tyrimo klausimų. Lietuvos ir Irano universitetų dėstytojų aprašomieji statistiniai duomenys pateikiami 6 paveiksle.
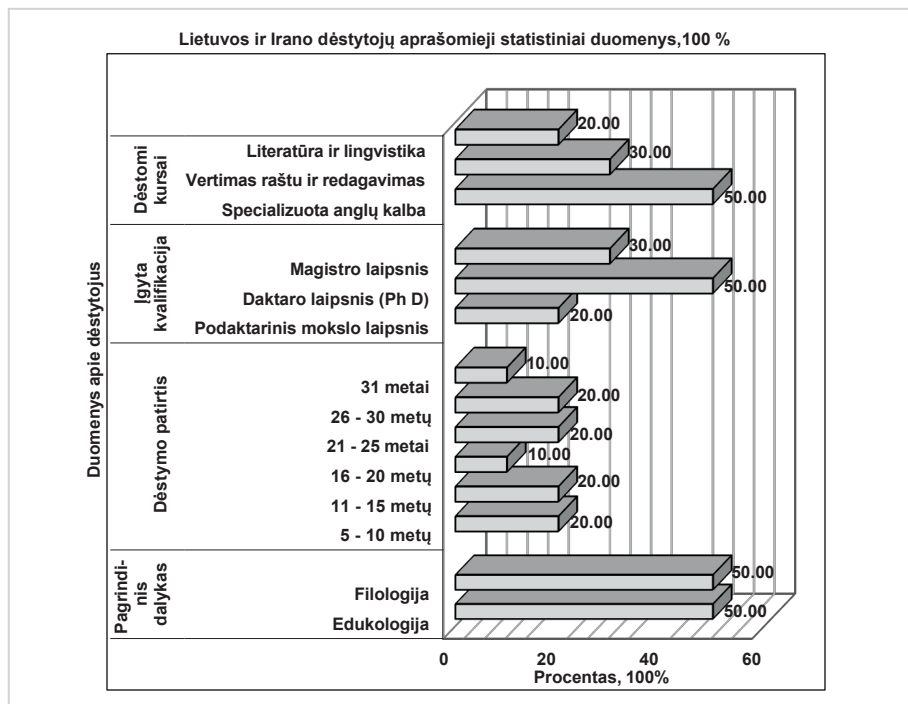
6 pav. *Lietuvos ir Irano dėstytojų aprašomieji statistiniai duomenys, 100 %*

Įrankiai. Matuodami savo metakognityvų sąmoningumą studentai užpildė Schraw ir Dennison'o (1994) parengtą klausimyną. Klausimyną sudarė 52 teiginiai, suskirstyti į aštuonis subkomponentus, sugrupuotus į du platesnius – žinių kognicijos ir kognicijos reguliavimo – komponentus (Appendix 1). Be to, dėstytojų požiūrių į metakognityvų sąmoningumą analizės tikslais duomenys šiai studijai buvo taip pat surinkti iš dėstytojų pasitelkus tyrėjos parengtą priemonę, pagrįstą Schraw ir Dennison'o (1994) sukurtomis strategijomis (Appendix 2).

Bandomasis etapas dėstytojams ir studentams. Šios studijos bandomojo etapo metu studentams skirtas klausimynas buvo išdalintas 833 studentams ir 80 dėstytojų, kurie turėjo užpildyti tyrėjos parengtą klausimyną. Klausimynų tinkamumui ir patikimumui įvertinti bandomojo etapo dalyviai turėjo tuos pačius požymius kaip ir realūs šios studijos dalyviai. Rezultatai, aprašyti metakognityvaus sąmoningumo klausimynų **apskaičiotomis**

Cronbach alpha patikimumo reikšmėmis buvo gana aukšti. Taigi, darytina išvada, kad klausimynai yra patikimi. *Metakognityvaus sąmoningumo klausimynų faktorių analizė ir sąrangos tinkamumas.* Kaiser-Meyer-Olkin laipsniai buvo pasebimai aukštesni nei .60, todėl šios studijos tikslais imties dydžiai buvo pakankami. Su Bartlett'o testu susijusi tikimybė buvo taip pat reikšminga (mažesnė nei .05) ir visos koreliacijos tarp kintamųjų buvo lygios nuliui. Todėl buvo leista taikyti faktorių analizę. Galiausiai, klausimynų klausimų sandarai įvertinti buvo atliktos dvi faktorių analizės pritaikius varimax rotaciją.

Duomenų rinkimo tvarka ir duomenų analizė. Studentų klausimynai ir kai kurios dėstytojų klausimynų dalys buvo vertinamos kiekybiškai naudojant SPSS analizuojant tiek aprašomuosius, tiek inferencinius statistinius duomenis. Demografinių ir atviro tipo dėstytojų klausimyno klausimų turinys buvo analizuojamas indukciniu arba dedukciniu būdu (Krippendorf, 2013). Pagrindinėms temoms nustatyti dėstytojų teiginius perskaitė ir atidžiai analizavo trys vertintojai (Creswell, 2014) ir tyrėja. Siekiant vertintojų vertinimo patikimumo .89, vertintojų sutarimas dėl atsakymų priskyrimo kiekvienai temai buvo apskaičiuotas naudojant vidurkį, kuris buvo lygus kiekvienos vertintojų poros nuomonės sutapimo vidurkiui.

3 skyrius. Išvados

Išvados iš studentų klausimyno

Šiame poskyryje pateikiamos kiekybinio mokslinio tyrimo išvados. Studentų klausimyno rezultatai buvo pristatyti keturiuose skyreliuose.
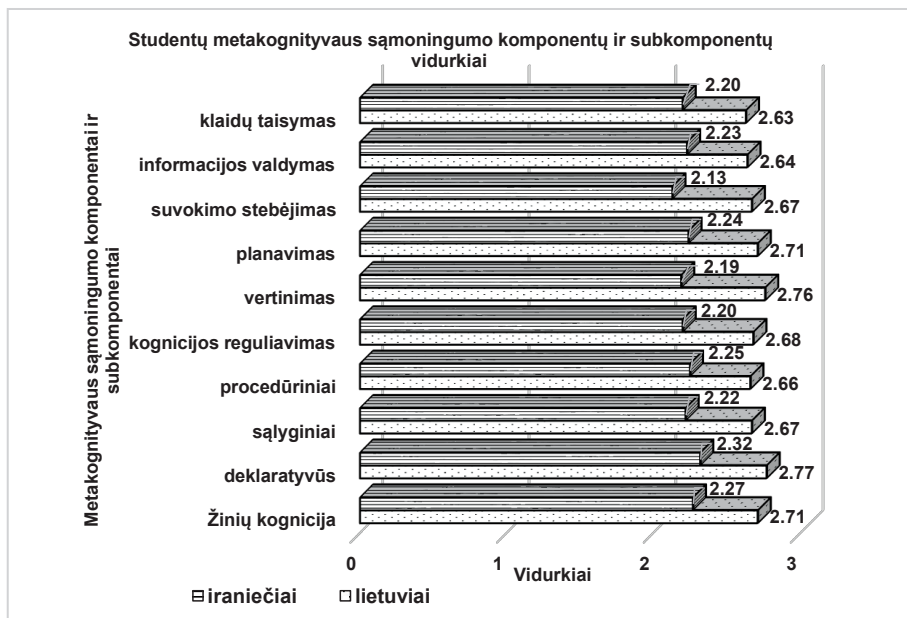
Aukštesnio metakognityvaus sąmoningumo grupė. Pirmame skyrelyje pateiktos statistinės analizės pagal pirmąją nulinę hipotezę. Pasitelkus aštuonis t-testus buvo norima nustatyti, ar yra reikšmingų skirtumų tarp Lietuvos ir Irano universitetų studentų bendro metakognityvaus sąmoningumo arba bet kurio iš aštuonių subkomponentų. Pastebėjus statistiškai reikšmingus skirtumas tarp dviejų grupių vidurkių tai tapo pagrindu atmesti nulinę hipotezę. Todėl darytina išvada, kad Lietuvos studentų metakognityvaus sąmoningumo komponentų ir subkomponentų lygis yra aukštesnis už Irano studentų lygį.

Grupės metakognityvaus sąmoningumo lygis nuo stipriausių iki silpniausių subkomponentų. Antrame skyrelyje buvo vertinamas abejų grupių metakognityvaus sąmoningumo lygis pagal stipriausių ir silpniausių komponentų seką. Kadangi 52 klausimai buvo penkiabalėje Likerto skalėje, kurioje nuomonių amplitudė galėjo būti nuo „niekada" iki „visada", pasirinktiems variantams atitinkamai buvo skiriama nuo 1 iki 5 balo. Tada kiekvienoje grupėje buvo apskaičiuotas kiekvieno klausimo etsakymų vidurkis. Studentų metakognityvaus sąmoningumo kriterijai pateikiami 7 paveiksle.
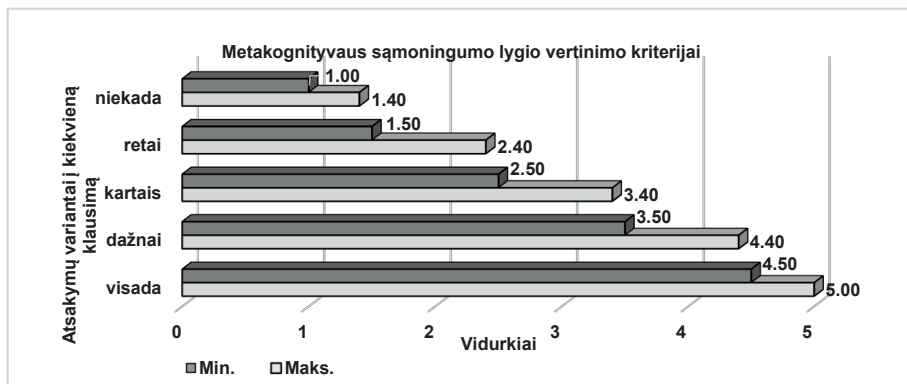
7 pav. *Dėstytojų ir studentų metakognityvaus sąmoningumo lygio vertinimo kriterijai*

Palyginti su Lietuvos studentų vidurkiu, Irano studentų metakognityvaus sąmoningumo lygis buvo žemesnis. Be to, žinių kognicijos nuo silpniausio iki stipriausio subkomponento sekoje dominuoja „deklaratyvūs, sąlyginiai ir procedūriniai" lietuvių grupėje, tuo tarpu iraniečių grupėje – „deklaratyvūs, procedūriniai ir sąlyginiai". Kognizicijos reguliavimo subkomponentų srityje Lietuvos studentai laiko save silpnesniais „informacijos valdymo" ir „klaidų taisymo" srityje. Irano studentai „klaidų taisymo", „įvertinimo" ir „stebėjimo" subkomponentus įvertino kaip silpnesnius (8 pav.).

8 pav. *Lietuvos ir Irano universitetų studentų visų metakognityvaus sąmoningumo komponentų ir subkomponentų vidurkiai*

Metakognityvaus sąmoningumo duomenų rinkimo elementų seka nuo žemiausio iki aukščiausio kiekvienoje grupėje. Trečiame skyrelyje buvo įvertinti 52 metakognityvaus są-moningumo duomenų rinkimo elementai nuo žemiausio iki aukščiausio balo kiekvienoje grupėje (Appendix 3).

Koreliacija tarp žinių kognicijos ir kognicijos reguliavimo abejose grupėse. Ketvirtame skyrelyje buvo pritaikyta Kendall'o tau-b koreliacija antrai nulinei hipotezei, kuria buvo sie-kiama nustatyti galimus statistinius skirtumus tarp Lietuvos ir Irano universitetų studentų dviejų pagrindinių metakognityvaus sąmoningumo komponentų. Nustačius reikšmingus statistinius skirtumus buvo gauti tikslūs kriterijai nulinei hipotezei atmesti pasikliautinu-mo intervale.

Išvados iš dėstytojų klausimyno

Šiame poskyryje pateikiami mišraus tyrimo metodo rezultatai. Dėstytojų klausimyno rezultatai buvo suskirstyti į šešis skyrelius.

Dėstytojų požiūriai į metakognityvaus sąmoningumo sąvoką. Pirmame skyrelyje dės-tytojų požiūriui į metakognityvų sąmoningumą nustatyti indukciniu būdu buvo analizuo-jami dėstytojų pateikti atsakymai į klausimą, kurią iš trijų pagrindinių temų – kognityvią, strateginę ir emocinę – būtų galima nustatyti iš jų žodžių. Abejų grupių nuomone ši sąvoka yra daugiausia kognityvinė ir tik po to strateginė. Vos kelių iraniečių dėstytojų atsakymai buvo priskirti emocijų temai (9 pav.).
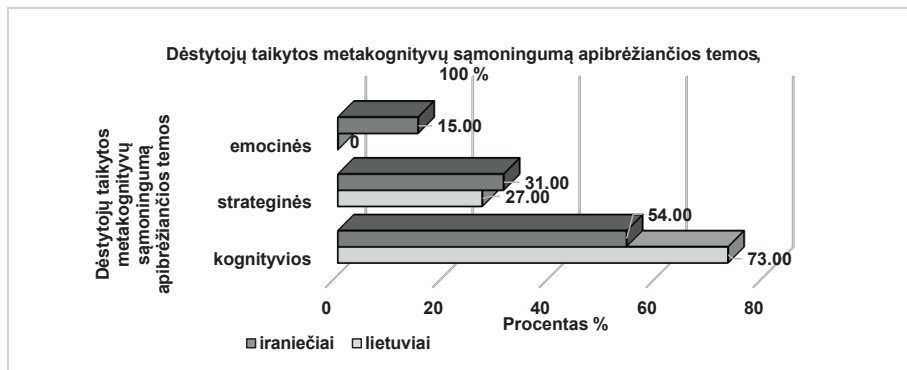
9 pav. *Metakognityvų sąmoningumą apibrėžiančios temos,*
*kurias taikė Lietuvos ir Irano dėstytojai, 100 %*

Be to, buvo atlikta iš dėstytojų gautų atsakymų turinio dedukcinė analizė, kad būtų gali-ma susieti dėstytojų atsakymus su šešiomis dažniausiomis metakognityvaus sąmoningumo apibrėžtimis mokslinėje literatūroje. Gauti rezultatai sutapo su indukcinės turinio analizės rezultatais (10 pav.).

Su mokslininkų apibrėžtimi susijusios temos, kurias taikė Lietuvos ir Irano dėstytojai metakognityviam sąmoningumui apibrėžti, 100%
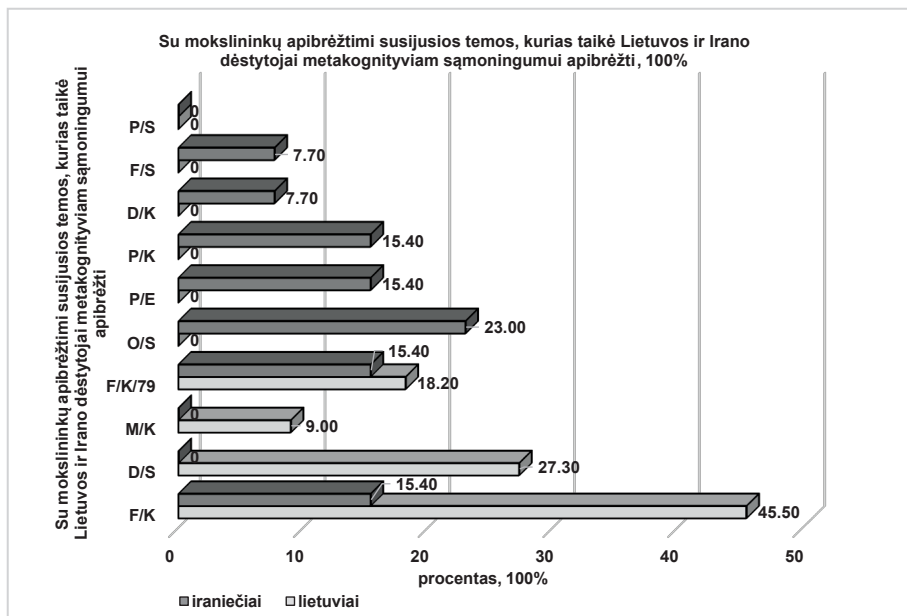
SUTARTINIS ŽYMĖJIMAS: K – kognityvi, S – strateginė ir E – emocinė. Mokslininkai:F – Flavell, D – Dunslosky & Thiede, M – Metcalfe, O – Ormrod, Young & Fry ir P – Papaleontiou-Louca.

10 pav. *Temos, susijusios su Lietuvos ir Irano dėstytojų taikytomis metakognityvaus sąmoningumo apibrėžtimis, 100 %*

Dėstytojų pedagoginės žinios apie metakognityvų sąmoningumą. Antrame skyrelyje buvo analizuojami dėstytojų požiūriai į turimas pedagogines žinias apie metakognityvų sąmoningumą, įskaitant darbo auditorijose metu taikytas metakognityvaus sąmoningumo strategijų rūšis. Dėstytojų taikytos metakognityvaus sąmoningumo strategijos lygis abejose grupėse buvo aukštas ir vienodas žinių kognicijos komponento atžvilgiu. Kognicijos sub-komponentų reguliavimas abejose dėstytojų grupėse pasižymėjo panašiais dėsningumais, tuo tarpu lietuviai dėstytojai gavo žemesnius balus informacijos valdymo ir klaidų taisymo subkomponentų srityje, o iraniečių grupė gavo žemesnį balą stebėjimo ir klaidų taisymo srityje (11 pav.).
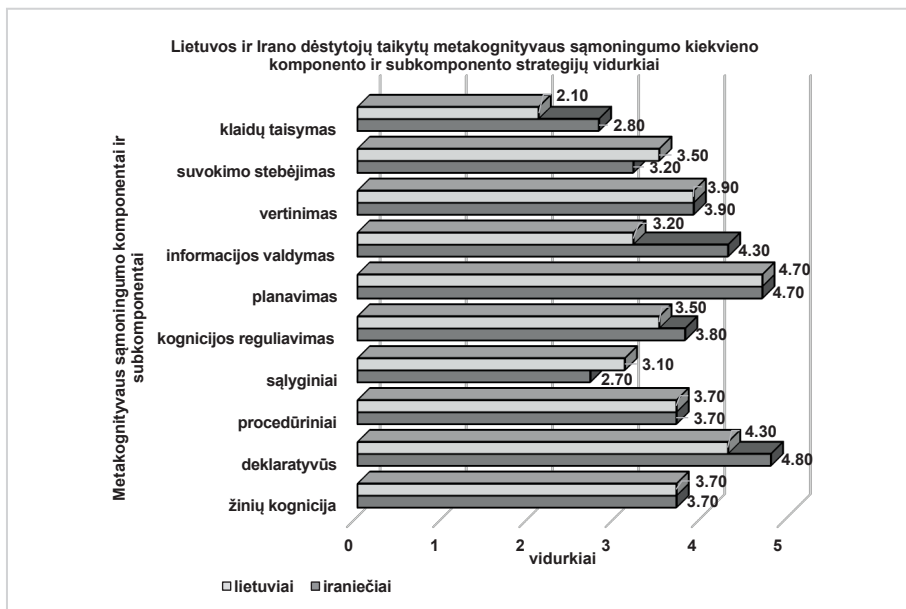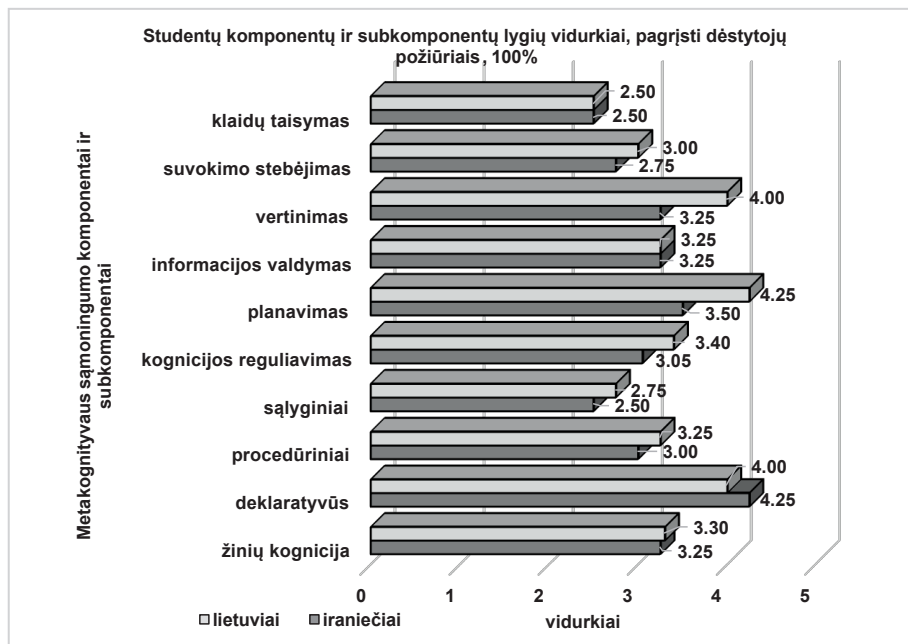
11 pav. *Lietuvos ir Irano dėstytojų taikytų metakognityvaus sąmoningumo kiekvieno komponento ir subkomponento strategijų vidurkiai*

Be to, atlikus dėstytojų teiginių turinio dedukcinę analizę buvo nustatyti keturi metakognityvaus sąmoningumo subkomponentai – planavimas, stebėjimas, vertinimas ir informacijos valdymas – kurios buvo metakognityvaus sąmoningumo strategijų rūšys, taikytos auditorijose. Abi grupės pademonstravo aukščiausią planavimo naudojimą (12 pav.). Iraniečių dėstytojų grupėje nebuvo nustatytas stebėjimo subkomponentas.
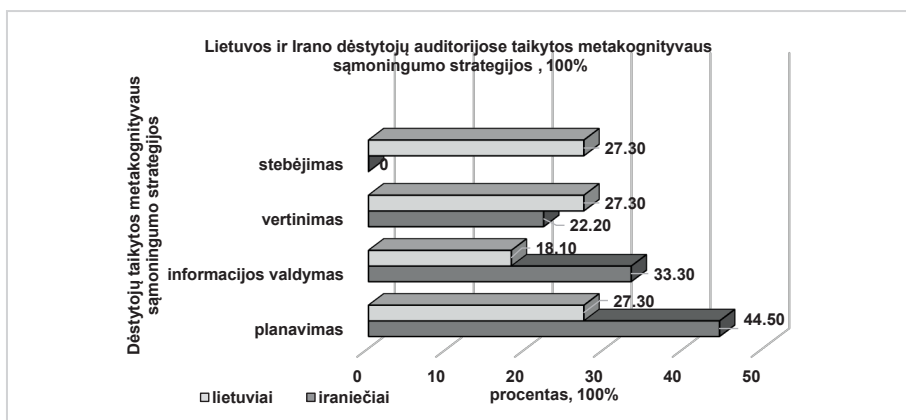
12 pav. *Lietuvos ir Irano dėstytojų auditorijose taikytos metakognityvaus sąmoningumo strategijos, 100 %*

Dėstytojų požiūriai į jų studentų metakognityvaus sąmoningumo lygį. Trečiame skyrelyje nagrinėti dėstytojų požiūrai į jų studentų metakognityvaus sąmoningumo lygį, kuris dėstytojų nuomone yra vidutiniškas. Be to, žinių kognicijos subkomponentų vidurkiai nuo aukščiausio iki žemiausio abejose grupėse išsidėsto tokia tvarka – deklaratyvūs, procedūriniai ir sąlyginiai. Vadovaujantis dėstytojų požiūriu, Lietuvos studentai surinko žemiausią balų skaičių „informacijos valdymo" ir „klaidų taisymo" subkomponentuose, tuo tarpu Irano studentai mažiausią balą gavo „stebėjimo" ir „klaidų taisymo" subkomponentuose. Lietuvos ir Irano studentų komponentų ir subkomponentų lygių vidurkiai, pagrįsti dėstytojų požiūriu, parodyti 13 paveiksle.


13 pav. *Lietuvos ir Irano studentų komponentų ir subkomponentų lygių vidurkiai, pagrįsti dėstytojų požiūriais, 100 %*

Dėstytojų ir studentų požiūrių apie studentų metakognityvų sąmoningumą palyginimas ir skirtumai. Ketvirtame skyrelyje nustatyta, kad tiek Lietuvos, tiek Irano dėstytojai ir Irano studentai turėjo tokius pačius požiūrius apie žinių kognicijos subkomponentų seką, tačiau Lietuvos studentai išsiskyrė kitokiu požiūriu. Palyginus Lietuvos dėstytojų ir Lietuvos studentų požiūrius į kognicijos subkomponentų reguliavimą, abejų grupių nuomone informacijos valdymas, stebėjimas ir klaidų taisymas buvo silpnesni subkomponentai už planavimą ir vertinimą. Lietuvos ir Irano dėstytojai bei Lietuvos studentai vidutiniškai įvertino studentų metakognityvaus sąmoningumo lygį. Kita vertus, Irano studentų nuomone jų turimas metakognityvaus sąmoningumo lygis yra žemas (14 pav.).
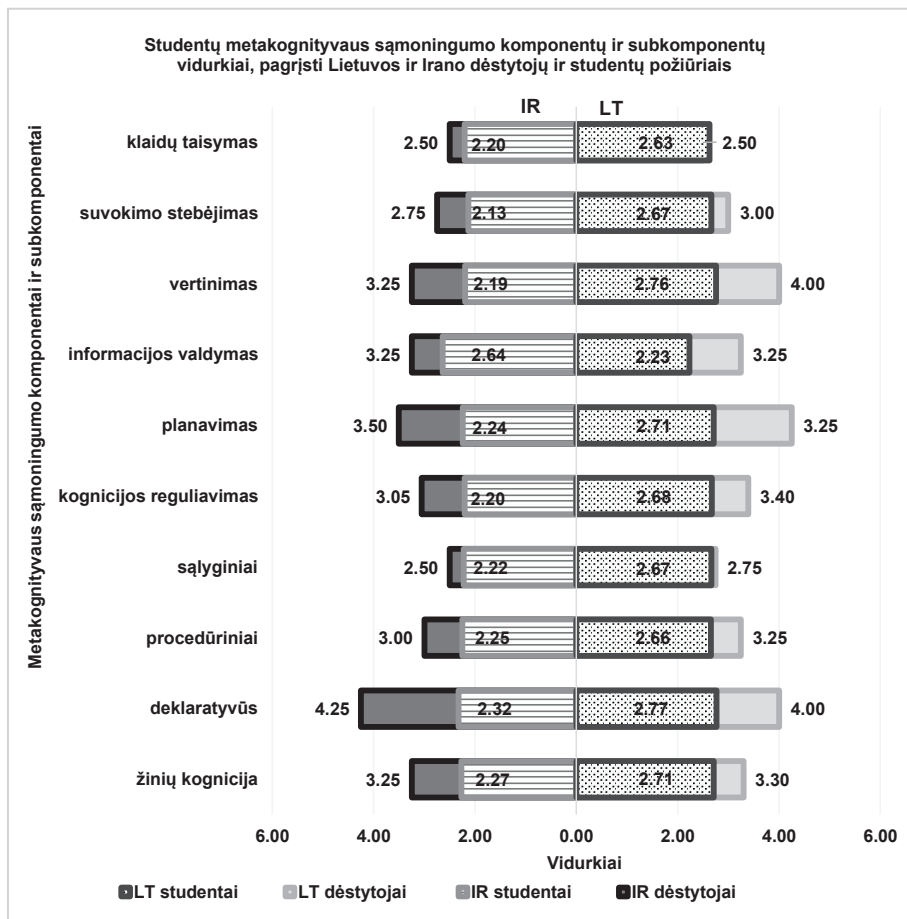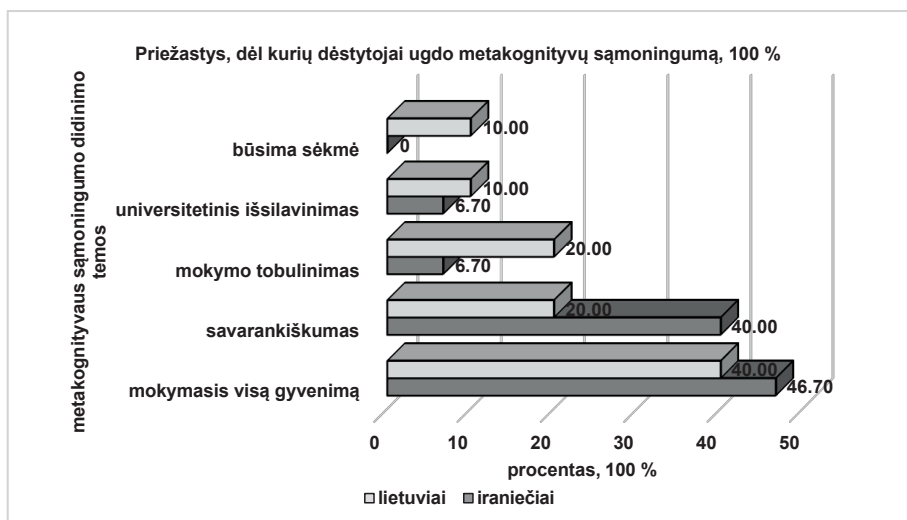
14 pav. *Metakognityvaus sąmoningumo komponentų ir subkomponentų studentų vidurkiai, pagrįsti Lietuvos ir Irano dėstytojų ir studentų požiūriais*

Dėstytojų studentams priskirto metakognityvaus sąmoningumo pagrindimas. Penktame skyrelyje atliekant dėstytojų pateiktų priežasčių, lėmusių studentų priskyrimą metakognityvaus sąmoningumo lygiui, turinio analizę, buvo pastebėta, kad abi grupės kaip pagrindinę priežastį įvardijo „studentų savybes", „dėstytojų savybes" ir „metakognityvaus sąmoningumo proceso savybes" (15 pav).
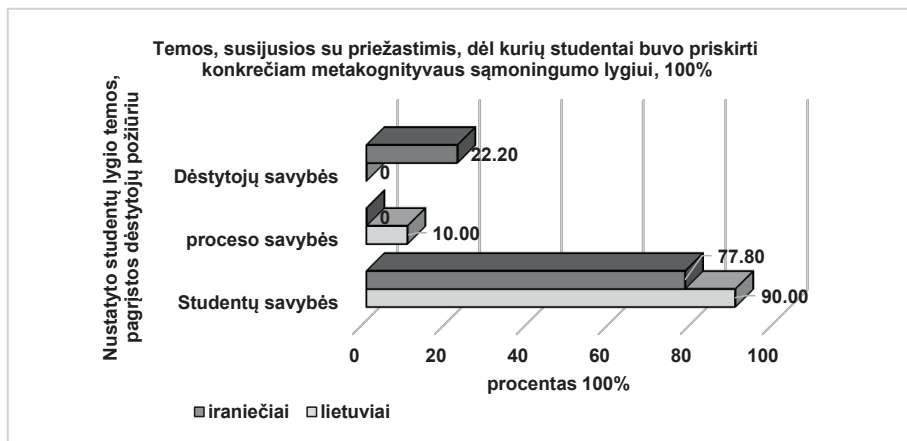
15 pav. *Priežastys, dėl kurių studentai buvo priskirti konkrečiam metakognityvaus sąmoningumo lygiui remiantis Lietuvos ir Irano dėstytojų požiūriais, 100%*

Priežastys, dėl kurių dėstytojai turėtų ugdyti metakognityvų sąmoningumą. Šeštame skyrelyje, atliekant dėstytojų teiginių apie studentų metakognityvaus sąmoningumo ugdymo svarbos turinio analizę, išryškėjo šios penkios pagrindinės temos – mokymasis visą gyvenimą, savarankiškumas, universitetinis išsilavinimas, mokymo tobulinimas ir būsima sėkmė. Mokymosi visą gyvenimą svarba buvo minima dažniausiai, tuo tarpu būsima sėkmė abejose grupėse buvo taikoma rečiausiai. Dėstytojų įvardytų pagrindinių temų, susijusių su studentų metakognityvaus sąmoningumo ugdymo svarba, naudojimo procentas nurodytas 16 paveiksle.

16 pav. *Priežastys, dėl kurių Lietuvos ir Irano dėstytojai ugdo metakognityvų sąmoningumą, 100 %*

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4. Aptarimas

Šiame skyriuje pateikiamas išsamus metakognityvaus sąmoningumo Lietuvos ir Irano universitetinėse studijose aptarimas, suskirstytas į aštuonias kategorijas pagal pagrindines temas.

Studentų požiūris į jų metakognityvų sąmoningumą ir jo taikomus subkomponentus. Išanalizavus surinktus duomenis, galima rasti daug priežasčių, dėl kurių Irano studentai turi žemą metakognityvaus sąmoningumo lygį. (i) Jiems trūksta „susipažinimo su moksliniais argumentais, išskyrus metakognityvaus sąmoningumo duomenų elementų priemonę, kad galėtų tinkamai įvertinti savo metakognityvų sąmoningumą" (Schraw & Moshman, 1995, p. 367). (ii) Daug patyrusių studentų suvokia savo metakognityvias strategijas, tačiau dar nepradėjo automatiškai metakognityviai jų taikyti. iii) Žemas saviveiksmingumo lygis, pasitikėjimas savimi ir motyvacija bei neigiamos emocijos ir požiūriai. iv) Įsivertinimo ataskaitų pobūdis, neleidžiantis patikrinti, kaip studentai jas naudoja autentiškoje mokymosi situacijoje (Aljaberi & Gheith, 2015).

Vadovaujantis kai kurių mokslininkų siūlymais, stebėjimo, vertinimo ir klaidų taisymo problemas galima išspręsti. Kaip pastebėjo Šliogerienė (2006a, 2006b), problemos, susijusios su savarankiško kalbos mokymosi Lietuvos universitetinėse studijose kontrole ir stebėjimu, gali kilti dėl dėstytojų kontrolės stokos, per didelio studentams suteikto savarankiškumo ir būtinybės registruoti ir įrėminti besimokančiųjų pažangą. Mokymosi sutartys, mokymosi žurnalai (Khonamri & Kojidi, 2011; Šliogerienė, 2006a, 2006b), refleksijos puslapiai ir rašymo darbai praverčia studentams atliekant mokymosi refleksiją, savarankiškai įsivertinant daromą pažangą ir atpažįstant savo stipriąsias puses, trūkumus ir poreikius (Šliogerienė, 2013).

Remiantis žemiau nurodytų mokslininkų nuomone, galima rasti keletą galimų pasiūlymų, skirtų pagerinti žinių kognicijos subkomponentus, atsižvelgiant į tai, kad sąlyginės žinios yra labai svarbios norint praktiškai pritaikyti deklaratyvias žinias ir procedūras (Cikrikci & Odaci, 2016). Sąlygines žinias galima plėsti dėstytojų modeliavimu, aiškiai parodant studentams, kaip, kada ir kodėl naudoti tinkamas metakognityvias strategijas. Be to, asmens požiūris apie savo sugebėjimus yra deklaratyvių žinių dalis (Flavell, 1976; Tarricone, 2011), o veiksmingumas ir vidinė motyvacija yra procedūrinių žinių dalis (Ma & Baranovich, 2015), paremta deklaratyviomis žiniomis. Galima teigti, kad stiprindami emocinių strategijų taikymą ir sukurdami motyvuojančią atmosferą auditorijoje, galime pagerinti deklaratyvias ir procedūrines žinias.

Teigiamo santykio tarp žinių ir kognicijos reguliavimo aptarimas. Įdomu pažymėti, kad tiek tarp Lietuvos, tiek tarp Irano universitetų studentų stebimi rezultatai rodo, jog žinių kognicija lyg ir teigiamai koreliuoja su kognicijos reguliavimu. Galima drąsiai teigti, kad sustiprėjus arba susilpnėjus bet kuriam komponentui, tai turi tiesioginį ir poveikį kitam komponentui.

Dėstytojų požiūrių į studentų metakognityvaus sąmoningumo lygį analizė. Abi dėstytojų grupės studentų metakognityvaus sąmoningumo lygį įvertino kaip vidutinį, kuris taip pat atspindėjo ir pačių studentų lūkesčius. Ši išvada sutampa su Hornstra, et al. (2010), Woodrock'o ir Vialle (2011) ir Rosenthal'o (1997) emocijų–poveikio teorija, kuri patvirtino,

kad dėstytojų požiūriai ir lūkesčiai gali būti nevalingai ir neverbališkai perkeliami studentams ir ugdyti jų motyvaciją bei saviveiksmingumą. Be to, kadangi dažniausia tema susijusi su priežastimis, dėl kurių studentai buvo priskirti konkrečiam metakognityvaus sąmoningumo lygiui remiantis abiejų dėstytojų grupių nuomonėmis, buvo siejama su studentų savybėmis, dėstytojai turėtų apsvarstyti savo pasirengimą ir siekti daugiau žinių šioje srityje. Reikėtų pažymėti, kad nepavyko aptikti jokios socialinės perspektyvos dėstytojų teiginiuose, tarsi jie būtų ignoravę darbo bendradarbiaujant vaidmenį ugdant metakognityvų sąmoningumą per socialinį mokymąsi. Nebuvo jokios potemės, kuri būtų atspindėjusi kokius nors Lietuvos ir Irano dėstytojų požiūrių kultūrinius skirtumus.

Dėstytojų požiūriai į metakognityvaus sąmoningumo sąvoką. Dabartinės studijos išvados rodo, kad apibrėžiant metakognityvaus sąmoningumo sąvoką, tiek Lietuvos, tiek Irano dėstytojai mano, kad ji visų pirma yra pažintinė, ir vos keli Irano dėstytojai atsižvelgė į šios sąvokos emocines būsenas. Pagrįstai būtų galima manyti, kad abi grupės turėtų labiau atsižvelgti į šios sąvokos emocinį aspektą. Remiantis Kamalizad (2015) formuluote, Irano studentai yra mažiau linkę pasitelkti emocines strategijas, kadangi auditorija jiems yra vienintelė aplinka, kurioje jie vartoja antrą kalbą ir jos pagrindu kuria savo tapatybę saviraiškos tikslais, patirdami sunkumų valdydami savo emocijas ir baimę suklysti. Be to, dėstytojai savo teiginiuose netiesiogiai išsakė motyvacijos, kaip metakognityvaus sąmoningumo emocinių būklių, svarbą. Viena motyvaciją galinti padidinti savireguliacijos forma – tai Lietuvos dėstytojo paminėtas savęs apdovanojimas. Irano dėstytojo teigimu, studentus motyvuoja motyvuotas dėstytojas. Užduodami įdomius klausimus ir siūlydami papildomus šaltinius bei pasitelkdami įvairius mokymosi kanalus regimuoju, girdimuoju ir kinestetiniu būdu besimokantiems studentams, dėstytojai atsižvelgia į studentų poreikių įvairovę, interesus, mokymosi stilių ir lūkesčius. Dauguma mokslininkų, ypač tikintys konstruktyvizmu (Flavell, 1976), laiko požiūrius besimokančiųjų deklaratyviųjų žinių dalimi. Dėl to bet koks saviveiksmingumo didinimas turi tiesioginį teigiamą poveikį deklaratyvių žinių lygiui. Kai viena dėstytoja iš Lietuvos teigė metakognityvų sąmoningumą esant „intuityviu įgūdžiu", kuris daugiausia susijęs su jausmu, o ne su faktais, ji pabrėžė šios sąvokos emocinį aspektą.

Dėstytojų požiūriai į metakognityvias pedagogines žinias. Net ir palyginti aukštą metakognityvaus sąmoningumo lygį turintys mūsų dėstytojai turėtų peržiūrėti ir papildyti savo žinias novatoriškomis strategijomis, pagrįstomis numatomais švietimo sistemos pokyčiais, kurie padeda jiems įveikti nenumatytas situacijas (Shafiee Nahrkhalaji, 2014). Be to, mūsų išvados rodo, kad nepaisant palyginti didelio dėstytojų pedagoginių žinių ir praktikos suderinamumo, tik keturi Lietuvos kognicijos subkomponentai, t. y., planavimas, vertinimas, stebėjimas ir informacijos valdymas, ir trys iraniečių planavimo, informacijos valdymo ir vertinimo subkomponentai buvo nuosekliai nustatyti jų praktikoje. Darytina įdomi išvada, kad jeigu dėstytojų pedagoginės žinios apie bet kurią metakognityvią strategiją yra vidutinės, labiausiai tikėtina, kad jie netaiko šios strategijos auditorijoje. Kalbant apie dėstytojų pedagoginių žinių kognicijos komponento žinias, jų balai už sąlygines žinias buvo daug mažesni nei už kitus du subkomponentus. Tai galima nustatyti taip pat iš rezultatų, gautų iš jų minėtos praktikos, taikomos auditorijose.

Ugdyti poreikį, mokymosi tendencijas, studentų ypatumus metakognityvaus sąmoningumo srityje. Iš šioje studijoje atliktos mokslinės literatūros apžvalgos matyti, kad prieš

bet kokius metakognityvaus sąmoningumo mokymus dėstytojams labai praverstų susipažinti su studentų metakognityvaus sąmoningumo mokymosi tendencija, dažniausiai pasirenkamomis strategijomis, požiūriais, ypatumų lygiu, stipriosiomis ir silpnosiomis pusėmis ir tokiu būdu atlikti pirminę poreikių analizę. Suvokdami, kokią metakognityvaus skaitymo strategiją jie renkasi, studentai gali sustiprinti pasitikėjimą savo mokymusi, o tai turi tiesioginį poveikį jų pasitikėjimo savimi, saviveiksmingumo, savarankiškumo ir problemų sprendimo įgūdžių lygiui (Ghahari & Basanjideh, 2015).

Konstruktyvizme metakognityvus mokymasis kaip bendras socialinis procesas, pagrįstas turimomis žiniomis autentiškoje aplinkoje. Remiantis konstruktyvizmo teorija, tiek dėstytojai, tiek studentai turi reflektuoti apie savo praktiką ir metakognityviai suvokti, kaip vyksta žinių kaupimo procesas socialiai bendroje autentiškoje aplinkoje remiantis ankstesne patirtimi. Be to, mėginant atskleisti dėstytojų teiginių apie taikytą metakognityvią praktiką auditorijoje tendencijas, mokymasis kartu buvo paminėtas trijuose Lietuvos dėstytojų teiginiuose ir nė viename Irano dėstytojų teiginyje. Be to, žinių, pagrįstų ankstesnėmis žiniomis ir patirtimi, kaupimas randamas tik vieno Irano dėstytojo teiginyje. Tai savo ruožtu pabrėžia, kad yra būtina konsoliduoti išvadas taip dedant pamatus būsimoms studijoms, kuriais remiantis matuojami socialiniai metakognityvaus sąmoningumo apie šias dvi, ypač Irano, studijų aplinkas aspektai.

Metakognityvaus sąmoningumo atsiradimas kaip tarpkultūrės kompetencijos dalis. Kadangi šis tyrimas yra tarpkultūris metakognityvaus sąmoningumo ir susijusių strategijų palyginimas Lietuvos ir Irano universitetinėse studijose su dviem skirtingomis kultūromis ir studijų aplinkomis, gauti rezultatai turi tiesioginį poveikį tarpkultūrės kompetencijos didinimui (Mažeikienė & Virgailaitė-Mečkauskaitė, 2007; Gerulaitė ir Mažeikienė, 2012). Atsakas į globalizaciją aukštajame moksle – tai internacionalizacija ir tarpkultūris universitetų bendradarbiavimas, vedantis švietimą metakognityvaus mokymosi ir mokymo link. Remiantis konstruktyvizmo teorija, galima plėtoti savo tarpkultūrę kompetenciją lyginant savo kultūrą su kita kultūra, kuriant interaktyvią patirtį bendroje socialinėje studijų aplinkoje.

Rekomendacijos. Metakognityvaus sąmoningumo ugdymo aktualumas sėkmingo mokymosi procese (Brown, 1987; Coutinho, 2007) gali būti šios rekomendacijos išeities taškas. Nors, remiantis Bandura (1997), metakognicijos mokoma (Al-Jarrah ir Obeidat, 2011, Cheng, 2011), metakognityvaus sąmoningumo ugdymas negali būti vienintelė priežastis, leidžianti spontaniškai perkelti ir taikyti metakognityvias strategijas. Dėl šios priežasties studentai turi nuolat rodyti metakognityvaus sąmoningumo veiksmingumo rezultatus. Pirmoji rekomendacija skiriama studenų įtraukimui į tiesioginį metakognityvaus sąmoningumo mokymą. Pritardama šio mokymo plėtrai, rekomenduoju atkreipti dėstytojų dėmesį į tai, kur pradėti taikyti metakognityvaus sąmoningumo mokymą, atsižvelgus į gautus tyrimų rezultatus. Sutelkdami dėmesį į silpnąsias vietas, dėstytojai gali pradėti nuo rezultatų pateikimo studentams. Šis sprendimas galėtų padėti jiems pagilinti ne tik žinias, bet ir studentų saviveiksmingumą, motyvaciją bei pasitikėjimą savimi. Be to, dėstytojai, kad studentai galėtų reflektuoti savo mokymosi procesą, gali pakartotinai naudoti metakognityvaus sąmoningumo duomenų rinkimo priemonę kaip sąmoningumą ugdantį mokymo įrankį kiekvieno semestro metu. Metakognicija yra lengai pritaikoma net ir didelėse, virtualiose auditorijose, kuriose dėstytojai turi mažai galimybių individualiai pažinti

savo studentus. Dėstytojai gali naudoti metakognityvaus sąmoningumo duomenų rinkimo priemonę kaip atrankos įrankį, kad iš kiekvieno klausimyno teiginio galėtų tiksliai nustatyti studentų silpnąsias vietas ir metakognityvų mokymą pritaikytų studentams, turintiems specifinių poreikių. Be to, remiantis išvadomis, teigtina, kad dėstytojai dažniausiai nepaiso emocinių metakognityvaus sąmoningumo būsenų, nesuvokdami, kad toks požiūris daro didelę įtaką jų mokymui ir atitinkamai studentų mokymuisi. Todėl rekomenduojama, kad atliekamos metakognotyvaus sąmoningumo veiklos didintų motyvaciją, saviveiksmingumą, pasitikėjimą savimi bei lūkesčius mokantis.

Kadangi metakognityvus sąmoningumas yra socialiniu tarpininkavimu grįstas mokymasis, jis gali būti ugdomas bendradarbiaujant autentiškoje aplinkoje. Studentų savarankiškos prigimties, dėstytojams padedant, lavinimas ir užsiėmimų studentams pagal individualų tempą pasiūla bei tikslo ir vykdomų veiklų auditorijoje pristatymas gali būti įtakojantys veiksniai. Tikimasi, kad dėstytojai nuolat dalyvaus studentų poreikių, jų pomėgių, pageidaujamų veiklų ir mokymosi stilių analizėje. Naujai priimtos informacijos santykis su ankstesne patirtimi daro didelę įtaką žinių įsisavinimui. Mokymosi žurnalų, mokymosi kontraktų ir kalbų mokymosi aplankų pildymas yra ne tik studentų vertinimo, bet ir refleksijos bei mokymosi proceso stebėjimo įrankiai. Be to, metakognityvų mokymąsi galima organizuoti individualioje, interaktyvioje elektroninėje, virtualioje ir socialinių tinklų aplinkoje. Akcentuotinas paskutinis, bet ne mažiau svarbus aspektas – dėstytojai, siekdami padidinti studentų pasitikėjimą savimi ir saviveiksmingumą, turėtų gebėti metakognityvaus sąmoningumo mikroklimatą auditorijoje padaryti palankų, keldami didelius lūkesčius verbaliniu ir neverbaliniu būdu ir bendraudami su studentais šiltu, pozityviu ir motyvuojančiu būdu (Rosenthal, 1997).

Šie patarimai duoti studentams, norintiems įsitraukti į metakognityvaus sąmoningumo mokymus, siekiant ugdyti metakognityvų sąmoningumą šios studijos kontekste: 1. Gauti rezultatai gali padėti pašalinti kliūtis ir išsiaiškinti, kaip naršyti studentų metakognityvaus sąmoningumo ugdymo lauke ir padėti pažvelgti į mokymąsi kaip į problemos sprendimo pratimą, įdiegiant tinkamiausias metakognityvias strategijas. 2. Kadangi metakognityvių strategijų pristatymas ir jų inkorporacija į natūralią mokymosi proceso eigą užima daug laiko, studentams, atvykusiems iš į dėstytoją orientuoto požiūrio auditorijų, suteikiama pakankamai laiko prisitaikymui prie naujos mokymosi aplinkos ir mokymosi požiūrio, orientuoto į studentą, atsisakant ankstesnių mokymosi įpročių. 3. Tikimasi, kad studentai, turintys bet kokio lygio metakognityvų sąmoningumą, galės mėgautis metakognityvaus sąmoningumo mokymais; tačiau studentai, turintys aukštesnio lygio metakognityvų sąmoningumą, labiau ir greičiau tobulės, jei bus galima atlikti teorinius ir praktinius tyrimus, padėsiančius nustatyti veiksmingiausius komponentus, susijusius su jų tobulėjimu. 4. Nepaisant rezultatų, susijusių su metakognityvaus sąmoningumo duomenų rinkimo priemone, paskelbimo, studentai galės išsiaiškinti problemų sprendimo, pasiruošimo egzaminams ir srategijų taikymo prieš mokymąsi ir jo metu klausimus. Tokiu būdu ne tik studentai taps motyvuoti mokytis, taikant į studentą ir mokymąsi orientuotą požiūrį studijų semestro pradžioje, bet ir dėstytojai suvoks studentų emocinius-motyvacinius konstruktus ir gebės paaiškinti pasirinktą strategiją, pagrįsdami jos naudojimą, galiausiai pati strategija taps studentų procedūrinių žinių dalimi.

Nepaisant gausaus dėstytojų metakognityvių žinių šaltinio, ši studija pabrėžia metakognityvių mokymų dėstytojams, norintiems susidoroti su švietimo sistemos pokyčiais, inovatyviai bei kūrybiškai pasidalinti savo ekspertinėmis įžvalgomis auditorijoje ir atnaujinti savo žinias, būtinybę. Todėl antra rekomendacija skirta dėstytojų bendros metakognityvios programos plėtojimui, jų deklaratyvių žinių, turint pakankamai procedūrinių žinių, tobulinimui. Patys tyrimo dalyviai dėstytojai, apibrėždami metakognityvaus sąmoningumo sąvoką, mini tik pažintinius aspektus ir nepaiso emocinių. Gana logiška naudotis metakognityviomis emocinėmis būsenomis, kurios daro tiesioginį poveikį jų mokymo turiniui. Šiose dėstytojams skirtose mokymo programose idėjų socializacija gali būti vykdoma kartu mokant arba kartu analizuojant jų rezultatus, remiantis iš anksto nustatytais kintamaisiais, susijusiais su metakognityviu sąmoningumu.

Remiantis šio tyrimo rezultatais, trečioji rekomendacija skirta mokymo medžiagos rengėjams, kurie turėtų pakoreguoti mokymo programą, pagrįstą išvadomis, atsižvelgdami į studentų bei dėstytojų požiūrius, susijusius su metakognityviu sąmoningumu, ir taikomų praktikų bei veiklų įvairovę, lemiančią metakognityvių strategijų pasirinkimą. Tokiu būdu, renkantis tinkamiausias strategijas, bus atsižvelgta į individualius skirtumus, kurie gali padidinti metakognityvių strategijų taikymą, jų saviveiksmingumo jausmą ir motyvaciją. Ypatingas dėmesys turėtų būti skirtas kuriamos grupės problemų sprendimo veikloms, siekiant sudaryti studentams galimybes mąstyti bendradarbiaujant ir vertinant vienas kito idėjas. Derėtų atkreipti dėmesį ir į atviro pobūdžio veiklas, kurios reikalauja išankstinių žinių, asmeninės patirties, reflektyvaus mąstymo ir apie mąstymo procesą mąstymo.

Būsimi moksliniai tyrimai. Šio tyrimo, vertinant studentų ir dėstytojų požiūrius, susijusius su metakognityviu sąmoningumu, rezultatai rodo būtinybę patyrinėti tam tikras idėjas. Kai kuriems studentams, kurie gali nesugebėti tinkamai parodyti savo metakognityvaus sąmoningumo, turėtų būti suteiktos skirtingos priemonės, kurios padėtų atskleisti jų požiūrį į metakognityvų sąmoningumą. Kaip teigia Schraw ir Dennison (1994), bet kokie kiekybiniai metakognityvaus sąmoningumo duomenų rinkimo priemonės duomenys gali būti laikomi „patikimu pradiniu metakognityvaus sąmoningumo patikrinimu" (p. 472). Reikalingas ilgalaikis ir nuodugnus stebėjimas, apklausa, interviu ir duomenų iš įvairių šaltinių, kurie renkami naudojant įvairių tipų matavimo priemones, trianguliacija. Tuo pat metu būtų labai įdomu nustatyti labiau mėgstamus mokymosi stilius ir strategijas, naudojamas kiekviename užsiėmime, siekiant susidaryti realistiškesnį ir nuodugnesnį vaizdą apie metakognityvaus sąmoningumo mokymąsi Irano ir Lietuvos universitetinėse studijose.

Mokymo programos, skirtos studentams, kuriose pristatomas veiksmingų metakognityvių strategijų taikymas ir naudojimas bei jų poveikis įvairiems kintamiesiems, tokiems kaip atlikimas, tikslai, efektyvumas, emocijos ir motyvacija, yra dar viena, verta dėmesio, idėja.

Kadangi studentų, turinčių aukštą metakognityvų sąmoningumą, mokymas yra pagrindinis bet kurios švietimo sistemos tikslas, o mokymas ir mokymasis yra dvi tos pačios monetos pusės, iškyla neatidėliotinas dėstytojų metakognityvaus ugdymo poreikis (Prytula, 2012).) prieš ir po testavimo, kuris padėtų kontroliuoti įvairius kintamuosius. Iš tiesų studentų metakognityvus sąmoningumas yra dėstytojų metakognityvaus sąmoningumo rezultatas (Wilson ir Bai, 2010). Tačiau dar trūksta tyrimų, kad būtų galima nustatyti ryšį

tarp dėstytojų praktinių veiklų ir studentų mokymosi po jų dalyvavimo metakognityvaus ugdymo programoje.

Tolimesnė studija gali taip pat būti atlikta, siekiant nustatyti ryšį tarp studentų lyties, amžiaus, studijų srities ir metakognityvaus sąmoningumo lygio bei susijusių komponentų. Be šių keturių kintamųjų dėstytojas turėtų pastebėti neįprastą ir naują studentų individualių metakognityvių veiklų pasirinkimą, skirtingą mąstyseną, individualų mąstymo būdą, socialines ir kultūrines aplinkas, sąvokas, asmenines savybes, mokymosi stilių (vaizdinį, girdimąjį ar liečiamąjį) ir asmenybės (ekstraverto ar intraverto) bruožus, kurie gali būti geras būsimų tyrimų pagrindas. Kuo daugiau dėmesio bus skirta šiems atskiriems kintamiesiems, tuo sėkmingiau bus patenkinti studentų poreikiai, lūkesčiai ir pageidavimai bei pasirinktos metakognityvios veiklos rūšys, tinkančios tam tikros grupės studentams. Kitaip tariant, kiekviena grupė skiriasi nuo kitos ir reikalauja nevienodų metakognityvių intervencijų ir praktinių veiklų. Remiantis šiomis išvadomis, dėstytojai turėtų suprojektuoti mokymosi aplinką, parengti ugdymo programą, taikyti mokymo metodus bei naudoti medžiagą, atsižvelgdami į individualius studentų kintamuosius, ir atitinkamai suderinti savo praktines mokymo veiklas, siekdami malonų, gilų ir patvarų mokymąsi, ugdančių užsiėmimų.

Kaip pabrėžia Bandura (1997), saviveiksmingumo klausimynas turėtų būti sudarytas, remiantis konkrečiu tyrimo lauku, kuris, šiuo atveju yra metakognityvus sąmoningumas. Dėl šios priežasties esamas bendrasis saviveiksmingumo skalių klausimynas gali nebūti tinkamas, siekiant pagrįsti žemą iraniečių metakognityvaus sąmoningumo lygį. Be to, kadangi šioje studijoje buvo telkiamasi į metakognityvaus sąmoningumo analizę, studentų motyvacinis požiūris turėtų būti plėtojamas kituose tyrimuose.

Atsiradus poreikiui gilintis į studentų metakognityvaus sąmoningumo lygio panašumus ir skirtumus kituose užsienio universitetuose, būsimuose tyrimuose galėtų būti keliami tie patys uždaviniai, skirti kitoms aplinkoms tyrinėti, atsižvelgus į skirtingas kultūros vertybes, kurios gali atskleisti tarpkultūrės kompetencijos pobūdį ir apsaugoti žmones nuo kultūrinių stereotipų, susidūrus su skirtingų kultūrų sąveika, susiformavimo.

Išvados

1. Studentų požiūrių, susijusių su jų metakognityvaus sąmoningumo lygio nustatymu, duomenų analizė atskleidžia, kad iraniečiai priskiria save žemo metakognityvaus sąmoningumo lygiui, tuo tarpu lietuviai mano, kad jų metakognityvaus sąmoningumo lygis yra vidutinis. Darytina išvada, kad tarp dviejų pagrindinių žinių ir kognicijos reguliavimo komponentų egzistavo reikšmingas teigiamas ryšys. Dar daugiau, žinių kognicijos nuo silpniausio iki stipriausio subkomponento sekoje dominuoja „deklaratyvūs, sąlyginiai ir procedūriniai" lietuvių grupėje, o iraniečių – „deklaratyvūs, procedūriniai ir sąlyginiai" subkomponentai. Lietuvos studentai laiko save silpnesniais „informacijos valdymo" ir „klaidų taisymo" labiau negu kituose „kognicijos reguliavimo" subkomponentuose. Irano studentai „klaidų taisymo", „įvertinimo" ir „stebėjimo" subkomponentus vertina kaip silpnesnius. Be to, atlikus plataus masto metakognityvaus sąmoningumo vertinimą ir nuodugnią kiekvienos grupės analizę, gauta prieiga prie išsamios,

preziumuotos informacijos. Šio tyrimo išvadose pateikta pasiūlymas, kur pradėti tirti studentų problemines metakognityvaus sąmoningumo sritis, ir nustatyta, kokiais metakognityvių žinių ir reguliavimo įgūdžius studentai naudojasi bei kokių stokoja mokydamiesi. Galiausiai, dėstytojai turėtų išsamiai paaiškinti studentams jų metakognityvaus vertinimo rezultatus, telkdami dėmesį į jų trūkumus, leidžiančius atsižvelgti ne į produkto, o į mokymosi proceso kūrimą. Tai teigiamai veikia studentų įsitikinimus ir požiūrį kaip emocinius veiksnius, kurie daro įtaką saviveiksmingumo lygiui bei didina pasitikėjimą savimi. Dėstytojas, kuris gauna daugiau informacijos apie studentų metakognityvaus sąmoningumo lygius, gali, atsižvelgdamas į studentų poreikius, adaptuoti savo mokymą prie nuolat kintančios ugdymo aplinkos, plėtoti ir tinkamai perduoti savo pedagogines žinias auditorijai, ugdyti studentų metakognityvų sąmoningumą ir kurti atvirą aplinką, leidžiančią studentams, turintiems ribotą užsėmimų skaičių, jaustis pozityviems ir gebantiems prisiimti daugiau atsakomybės už jų pačių mokymąsi.

2. Išvados, susijusios su dėstytojų požiūriu, vertinant studentų metakognityvaus sąmoningumo lygį ir taikomus subkomponentus, teikia svarbią informaciją švietimo specialistams ir dėstytojams apie studentų mokymosi kontrolės perėmimo būdus ir įvairių metakognityvių strategijų, kurias studijuojantieji Lietuvos ir Irano universitetuose renkasi arba atmeta, taikymą. Abi dėstytojų grupės pateikia informaciją apie studentų taikomą metakognityvių strategijų vidurkį, kuris užima vidutinį inervalą. Šioje studijoje nustatyta žinių kognicijos subkomponentų nuo silpniausių iki stipriausių seka abejose dėstytojų grupėse yra „deklaratyvi, procedūrinė ir sąlyginė". Remiantis kiekvienos grupės dėstytojų požiūriu, Lietuvos studentai įvertinti mažesniais balais „informacijos valdymo" ir „klaidų taisymo", o kitos grupės nariai iš Irano – „stebėjimo" ir „klaidų taisymo" srityse. Išvados, susijusios su dažniausia tema, įvertinus Lietuvos ir Irano dėstytojų požiūrį, reflektuojantį metakognityvaus sąmoningumo lygio studentams priskirimą, yra „studentų savybės". „Dėstytojų savybės" ir „proceso ypatumai" temų nepaisoma arba jos aptariamos rečiau. Tai reiškia, kad dėstytojai neturėtų vengti savo vaidmens, ugdydami metakognityvų sąmoningumą auditorijoje. Remiantis anksčiau pateiktais duomenimis, darytina išvada, kad abi dėstytojų grupės turėtų skirti daugiau dėmesio sąlyginių žinių mokymui.

Lietuvos dėstytojai, pabrėžiantys praktinės veiklos svarbą, susijusią su „informacijos valdymo" ir „klaidų taisymo" strategijomis, ir Irano dėstytojai, daugiau dėmesio skiriantys „stebėjimo" ir „klaidų taisymo" strategijoms, gali surengti metakognityvaus sąmoningumo strategijų aptarimą kaip kasdienio diskurso dalį auditorijoje. Prielaidos, sąlygojančios dėstytojų metakognityvaus sąmoningumo ugdymą, buvo suskirstytos į penkias temų grupes: „mokymasis visą gyvenimą", „savarankiškumas", „mokymo tobulinimas", „universitetinis išsilavinimas" ir „būsima sėkmė". Pažymėtina, kad dėstytojai gali akcentuoti metakognityvaus sąmoningumo svarbą, naudodami edukacines technologijas, tokias kaip virtualus ir interaktyvus mokymasis, įtraukiant „Moodle", „Facebook" ir kitus socialinius tinklus. Šios dalies rezultatai yra esminiai tam tikru požiūriu. Pirmiausia, šie duomenys sudarė galimybę ištirti dėstytojų požiūrių panašumus ir skirtumus abejose aplinkose. Apibendrinant, galima teigti, jog rezultatai, gauti ištyrus dvi dėstytojų aplinkas, tarpusavyje dera, nes studijų aplinkos, vertinant iš atstumo

ir kultūros perspektyvos, nėra artimos. Pažymėtina, jog gauti rezultatai neprieštarauja mokslinei literatūrai, kurioje pabrėžiama kultūros įtaka mokymuisi ir metakognityvių strategijų taikymui. Gauti rezultatai patvirtino, kad kultūra neapribojo metakognityvaus sąmoningumo. Antra, šioje studijoje tirtos aplinkos, kurios nebuvo analizuotos ankstesnėse studijose, papildo susijusią mokslinę literatūrą. Galiausiai, dėstytojų ir studentų požiūrių rezultatai yra labai svarbūs, nes atrandamas sudėtingas ir dinamiškas mokymosi ir mokymo procesas, kuris yra susijęs. Nepaisant šio sudėtingumo, išryškėja aiškus dėstytojų ir studentų požiūrių sąlytis.

3. Apibendrinus dėstytojų nuostatas, susijusias su metakognityvaus sąmoningumo sąvoka, ir jų pedagogines žinias abejose grupėse, galima teigti, kad dėstytojai nestokoja panašaus pobūdžio pedagoginių žinių. Jie yra gana gerai susipažinę su metakognityvaus sąmoningumo samprata, nors dažniausiai su ja susiję labiau „pažintine", o ne „strategine" ir „emocine" dimensija. Tai reiškia, kad dėstytojams, siekiantiems įvertinti mokymų pranašumus, susitelkus į emocinius ir motyvacinius mokymosi veiksnius, būtini metakognityvaus sąmoningumo teoriniai ir praktiniai mokymai. Jų balai, vertinant sąlyginį subkomponentą, yra mažesni nei kitų dviejų subkomponentų. Šis argumentas grindžiamas oficialiai paskelbtų praktinių veiklų, atliekamų auditorijose, rezultatais, kuriuose nebuvo jokios nuorodos į sąlygines žinias. Pažinimo reguliavimo subkomponentai abejose dėstytojų grupėse įvertinti panašiai, Lietuvos dėstytojai įvertinti mažesniais balais „informacijos valdymo" ir „klaidų taisymo", o jų kolegų grupė turi atitinkamai žemesnius balus „stebėjimo" ir „klaidų taisymo" subkomponentuose. Šios išvados atitinka taikomų asmeninių strategijų rezultatus, kuriuos apklausų dalyviai nustatė savo teiginiuose. Jie rodo, kad abiejų grupių teiginiuose nebuvo jokių „klaidų taisymo" strategijų ir tik kelios iš Lietuvos dėstytojų paminėtų strategijų buvo susijusios su „informacijos valdymu". Be to, Irano dėstytojų teiginiai neatspindėjo „stebėjimo" strategijų. Išryškėja dėstytojų požiūrių, susijusių su jų metakognityvaus sąmoningumo pedagoginėmis žiniomis ir praktinėmis veiklomis, panašumas, o stipriausiųjų ir silpniausiųjų subkomponentų seka turi tą pačią tendenciją. Tačiau mažiausią vidurkį turintys subkomponentai, „klaidų taisymas" abejose grupėse ir „stebėjimas" Irano grupėje, nebuvo pastebėti praktinėse veiklose.

4. Palyginus Lietuvos ir Irano literatūros apžvalgą universitetinių studijų kontekste, buvo nustatyti šie **panašumai**. Metakognityvus sąmoningumas per pastaruosius du dešimtmečius laikomas vienu pagrindiniu, apibrėžiančiu mokymąsi, konceptu. Šis konceptas traktuojamas kaip keletą svarbių sąvokų apimantis fenomenas. Nagrinėjamos gana panašios taikymo dažniu temos, tokios kaip „įgūdži" ai, „kalbų mokymosi strategijos", „dėstytoj" ai, „tarpkultūrė kompetencija", „kultūrų palyginimas", „motyvacija" ir „efektyvumas", „komponentai" ir „modeliai", „technologijos", „kritinis mąstymas" bei „problemų sprendimas". Kai kurios temos, kurių nėra vienoje aplinkoje, tokios kaip „registravimo formos", „perėjimas į visą gyvenimą trunkančią paradigmą", „asmenybės bruožai" ir „autentiškumas", gali būti rastos kitoje aplinkoje. Kai kurios paplitusios potemės, aptariamos abejose studijų aplinkose, pavyzdžiui, „pasitikėjimas savimi", „akademiniai pasiekimai", „savarankiškumas", „dalyvavimas", „kognityvinės strategijos" ir „mokymasis bendradarbiaujant". Taip pat panašios metakognityvios praktikos, kurias sudaro

„paskatinimai", „reflektyvus rašymas", „interaktyvi refleksinė veikla" ir „modeliavimas", pastebimos abejose studijų aplinkose su santykinai skirtingais taikymo dažniais. Pripažintina, kad abejose universiteto studijose galima rasti tris kiekybiškai ir kokybiškai įvertintus metakognityvaus sąmoningumo vaidmenis ir panašaus dažnio mokomąjį vaidmenį. Nustatyti kalbinių įgūdžių skirtumai, būdingi Lietuvos ir Irano universitetinėms studijoms. Skaitymas ir rašymas dažniausiai analizuotas abejose studijų aplinkose, klausymasis daugiausiai tyrinėtas iraniečių universitetinių studijų aplinkoje. Atlikti tik keli kalbėjimo tyrimai. Pastebėtas stipresnis *skirtumas* pereinant nuo besikeičiančios prie reflektyvios paradigmos, lyginant su Irano paradigma. Santykinai trūkstami keli aspektai, kurie galėtų būti tyrimo objektai abejose aplinkose, yra šie: i) Daugelyje studijų metakognityvus sąmoningumas tyrinėtas anglų kalbos kaip užsienio kalbos kontekste, tuo tarpu socialiniai mokslai, meno ir istorijos sritys galėtų būti laikomos plačiu tyrimo lauku. (ii) Kai kurie tyrimai, susiję su metakognityvaus sąmoningumo ugdymu, koreliuoja su kitų dalykų mokymu, darančiu įtaką tiksliam metakognityvaus sąmoningumo vertinimui. (iii) Daugelyje tyrimų atsižvelgiama į studentų metakognityvaus sąmoningumo ugdymą, tuo tarpu nepakankamai dėmesio skiriama poreikiui įvertinti ir ugdyti dėstytojų metakognityvų sąmoningumą. (iv) Didžioji dalis tyrimų, susijusių su kognicijos reguliavimu, tuo tarpu tyrimai, skirti žinių kognicijai, neatliekami. (v) Trūksta metakognityvaus sąmoningumo mokymų ir instruktažo su detaliais paaiškinimais, skirto dėstytojams. Rekomenduojama tobulinti technologijų taikymą metakognityvaus sąmoningumo ugdymo procese. (vi) Didžiojoje dalyje straipsnių analizuojami studentų požiūriai, žinios ir praktinės veiklos, tuo tarpu tik keliose studijose tiriami dėstytojų konteksto kintamieji.

TYRIMO REZULTŲ APROBAVIMAS

Publikacijos disertacijos tema:

1. Masoodi, M. (2020). Exploring Lecturers' Attitudes towards the Concept of Metacognitive Awareness: A Qualitative Comparative Case**.** *Contempaorary Research on Organization Management and Administration,* 8 (2), pp. 58-72. doi.org/10.33605/croma-022020-004. http://journal.avada.lt/images/dokumentai/2020/2/CROMA_2020_8_2_58-72.pdf

2. Masoodi, M. & Butvilas, T. (2020). Metacognitive Awareness in Iranian University Studies: An Overview for Future Direction. *Socialinis Darbas (Social Work)*, 18(1), pp. 5–26. DOI: 10.13165/SD-20-18-1-01. file:///C:/Users/marja/Downloads/5409-12287-1-SM%20(1).pdf

3. Masoodi, M. (2019). An Investigation into Metacognitive Awareness Level: A Comparative Study of Iranian and Lithuanian University Students. *The New Educational Review, 56 (2),* pp. 148-160. DOI: 10.15804/tner.2019.56.2.12. DOI: 10.15804/tner.2019.56.2.12. https://tner.polsl.pl/e56/a12.pdf.

4. Masoodi, M. (2019). Crossing Metacognitive Awareness in University Studies: An Emphasis on Beliefs. *Social Transformations in Contemporary Society,* 2019 (7), pp. 94-104. http://stics.mruni.eu/wp-content/uploads/2019/06/STICS_2019_7_94-104.pdf

5. Masoodi, M. (2019). Confronting Metacognitive Awareness in University Studies. International Security in the Frame of Modern Global Challenges 2019: Collection of research papers. Mykolas Romeris University, Vilnius, 2019. pp. 57-62. https://ebooks.mruni.eu/product/iinternational-security-in-frame-modern-global-challenges-2019

6. Masoodi, M. (2018). Importance of Promoting Metacognitive Awareness at University. *Vocational training: research and reality,* 29 (1), pp. 3-18. https://doi.org/10.2478/vtrr-2018-0002

7. Gulbinskienė, D. , Masoodi, M. & Šliogerienė, J. (2017). Moodle as Virtual Learning Environment in Developing Language Skills, Fostering Metacognitive Awareness and Promoting Learner Autonomy. *Pedagogika, 127(3), pp. 176–185.* DOI: http://dx.doi.org/10.15823/p.2017.47   file:///C:/Users/marja/Desktop/Articles%20and%20conferences/5.pdf

8. Masoodi, M. (2017). A Comparative Analysis of Two Qualitative Methods: Deciding Between Grounded Theory and Phenomenology for Your Research. *Vocational training: research and reality,* 28 (1), pp. 23-40. DOI 10.2478/vtrr-2018-0003. https://www.vdu.lt/cris/bitstream/20.500.12259/36060/1/ISSN2029-8447_2017_N_28.PG_23-40.pdf

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Konferencijose skaityti pranešimai:

1. The 8th international scientific conference for young researchers "Social Transformations in Contemporary Society (STICS 2020)", Mykolas Romeris University, Vilnius, Lithuania, 4-5 June 2020. Presentation "Exploring Lecturers' Attitudes towards the Concept of Metacognitive Awareness: A Qualitative Comparative Case".

2. The 8th international scientific conference "Social Innovation: Inclusiveness and Civic Mindedness (SOCIN 2019)", Mykolas Romeris University, Vilnius' Lithuania, 14-15 October 2019. Presentation "Research on Exploring Metacognitive Awareness Level in University Studies: A Cross-Cultural Quantitative Study".
3. The 2nd international scientific and practical conference "International Security in the Frame of Modern Global Challenges", Mykolas Romeris University, Vilnius, Lithuania, 10 June 2019. Presentation "Confronting Metacognitive Awareness in University Studies".
4. The 7th international scientific conference for young researchers "Social Transformations in Contemporary Society (STICS 2019)", Mykolas Romeris University, Vilnius, Lithuania, 6-7 June 2019. Presentation "Crossing Metacognitive Awareness in University Studies: An Emphasis on Beliefs".
5. International conference "Innovation and Technology" Universidade Aberta, Lisbon, Portugal. Presentation "Relationships among Regulation and Knowledge of Cognition and Various Variables: A Case of Lithuanian University Study", the abstract is available p. 19 https://eventos.uab.pt/itel/en/livro-de-resumos/
6. The 3rd International Scientific Conference "Speciality Language Studies in the Common European Higher Education Area: Theory and Practice", Vilnius Gediminas Technical University (VGTU), Vilnius, Lithuania, 24 November 2017. Presentation "The Regulation of Cognition in Fostering Metacognitive Awareness".
7. The 3rd Paper Development Workshop for PhD Students and Early Career Scholars in Central and Eastern Europe (CEE) "Managing and Organizing in Challenging Times", Transilvania University of Brasov, Romania, 2-4 November 2017. Presentation "Helping Learners Develop Metacognitive Awareness at Universities".
8. The 1st International Scientific and the 6th VDU, MRU, KU , VU Consortiums of Doctoral Studies in Education, Klaipeda University, Klaipeda, Lithuania, 14 Oct 2017. Presentation "Fostering Metacognitive Awareness in Autonomous University Study".
9. The 4th Vytautas Magnus University Institute of Foreign Language and the 11th Language Teachers' Association of Lithuania, International Scientific Conference "Sustainable Multilingualism 2017", Kaunas, Lithuania, 26-27 May 2017. Presentation "Investigating the Role of Metacognitive Awareness in University Studies", the abstract is available p. 23 http://uki.vdu.lt/wp-content/uploads/doc/konferencijos/04/26-27MAY2017Abstracts.pdf
10. The 5th VDU, MRU, KU , VU Consortiums of Doctoral Studies in Education, Klaipeda University, Klaipeda, Lithuania, 7 October 2016. Presentation "Fostering Metacognitive Awareness in Autonomous University Study".

Stažuotė:
2018 m. rugsėjo-gruodžio mėn. Edukologijos ir psichologijos fakultetas, Aveiro universitetas, Portugalija.

Asmeninės konsultacijos:
Prof. dr. Mónica Sofia Marques Lourenço, Aveiro universitetas, Portugalija (2018-2020).

Seminarai:

2018 m. spalio 25 d. Edukologijos ir psichologijos fakultetas, Aveiro universitetas, Portugalija. Disertacijos pagrindu pristatytas pranešimas "Metakognityvus sąmoningumas universitete: dviejų šalių studija".

Doktorantų vasaros stovykla:

2016 m. liepos 11-15 d. Linco Johno Keplero universitetas, Austrija.

Dalyvauta Europos edukologinių tyrimų vasaros mokykloje (EERSS) „Edukacinių tyrimų metodai ir metodika", išklausyta 40 valandų paskaitų, praktinių užsiėmimų, įgyti ECTS kreditai. Akademinei auditorijai pristatytas mokslinio tyrimo projektas „Metakognityvaus sąmoningumo skatinimas savarankiškose universitetinėse studijose

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Išsilavinimas

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Mykolo Romerio universitetas

1997-2001 Anglų kalbos filologijos magistro laipsnis (TEFL)
Azado universiteto Centrinis Teherano padalinys, Iranas

1992-1997 Vertimo studijų bakalauro laipsnis
Azado universiteto Šiaurinis Teherano padalinys, Iranas

Profesinė patirtis

2012-2018 Ritmus, Ltd., direktorė.
Anglų kalbos mokymo ir vertimo paslaugų teikimas kalbų institutams, kalbų mokykloms ir vertimo biurams Vilniuje.

2014-2017 Mykolo Romerio universitetas, Humanitarinių mokslų institutas. Lektorė. Profesinės anglų kalbos dalyko dėstymas Verslo informatikos, Interneto vadybos ir komunikacijos, Laisvalaikio ir pramogų edukacijos, Komunikacijos ir kūrybinių industrijų, Informatikos ir skaitmeninio turinio bakalauro programų studentams; programų, dalyko aprašų, užsiėmimų medžiagos, egzaminų užduočių ir testų rengimas, baigiamųjų darbų vertinimas, mokslinių tyrimų atlikimas, mokslinių straipsnių rengimas ir publikavimas.

2009-2014 Roudheno Azado universitetas (Teheranas), Persų literatūros ir užsienio kalbų fakultetas, Anglų kalbos katedra. Lektorė.

2008-2014 Taikomųjų mokslų ir technologijų universitetas (Teheranas). Lektorė.

2009-2010 Payame Nooro universitetas (Teheranas), Lingvistikos ir užsienio kalbų katedra. Lektorė.
Profesinės anglų kalbos dėstymas įvairių pakopų ir kursų studentams, pasirinkusiems Anglų kalbos vertimo ir Anglų kalbos filologijos programas. Taip pat dėstyti dalykai: Gramatika, Pokalbis, Testai ir vertinimas, Vertimas, Mokymo metodika, Bendroji kalbotyra ir kt. Bendrasis ir specialusis anglų kalbos kursas vestas Inžinerijos, Teisės, Apskaitos, Komercijos ir rinkodaros vadybos, Turizmo ir svetingumo vadybos ir kt. programų studentams. Rengti

vadovėliai, skirti studijų kursams universitete, vesti seminarai ir laboratoriniai užsiėmimai, rengtos užduotys bei vertinti rašto darbai, teiktos akademinės konsultacijos studentams, dalyvauta fakulteto veiklose, sprendžiant kursų rengimo, biudžeto, mokymo programų ir politikos klausimus.

Moksliniai interesai

Mokymas ir užsienio kalbos įgūdžių tikrinimas, vertimas, ESP (specializuota anglų kalba) universitetinėse studijose, inovatyvūs studijų metodai ir savarankiškas, visą gyvenimą trunkantis, mokymasis.

Masoodi, Marjan

The aim of the research is to compare both students' and lecturers' attitudes towards the metacognitive awareness in university studies on the basis of Lithuanian and Iranian cases and describe the dependency between those attitudes and learning processes. Mixed methods research was applied in this study. The research results according to lecturers' attitudes toward their students' metacognitive awareness level and their own pedagogical knowledge indicated that the sequence of weakest to strongest knowledge of cognition subcomponents was "conditional", "procedural" and "declarative". The regulation of cognition subcomponents of both groups had a similar pattern, with the Lithuanian group having had lower scores in "information management" and "debugging", the Iranian group having had lower scores in "monitoring" and "debugging" respectively. The metacognitive awareness levels of both student groups based on lecturers' attitudes were medium. Moreover, it can be confirmed that both lecturer groups had rich pedagogical knowledge, though they mostly related the concept of metacognitive awareness with its "cognitive" dimension rather than the "strategic" and "affective" one. Furthermore, a clear connection between lecturers' and students' attitudes emerged. Comparisons were made across the systematic review of literature of both Lithuanian and Iranian published papers within the last two decades in university contexts which a number of similar findings emerged.

Šio disertacinio darbo tikslas – palyginti studentų ir dėstytojų požiūrius į metakognityvų sąmoningumą Lietuvos ir Irano universitetinėse studijose ir apibūdinti šių požiūrių priklausomybę nuo mokymosi procesų. Taikyti mišrūs tyrimo metodai. Tyrimų rezultatai, remiantis dėstytojų požiūriu į jų studentų metakognityvaus sąmoningumo lygį ir jų pačių pedagogines žinias, parodė, kad žinių kognicijos seka nuo silpniausių iki stipriausių subkomponentų buvo „sąlyginė", „procedūrinė" ir „deklaratyvi". Panašus kognicijos subkomponentų reguliavimas abejose grupėse – lietuviai įvertinti žemesniais „informacijos valdymo" ir „klaidų taisymo", o iraniečiai – „stebėjimo" ir „klaidų taisymo" subkomponentų balais. Dėstytojų požiūriu pagrįsti abejų studentų grupių metakognityvaus sąmoningumo lygiai buvo vidutiniai nepaisant gausių pedagoginių žinių, nors metakognityvaus sąmoningumo sąvoka dažniausiai buvo siejama su „pažintine", o ne „strategine" ir „emocine" dimensija. Kognicijos žinių ir dėstytojų pedagoginių žinių kognicijos komponentų reguliavimo srityje subkomponentų nuo stipriausio iki silpniausio seka abiejose grupėse buvo labai panaši: Lietuvos dėstytojai įvertinti mažesniais balais pagal „informacijos valdymo" ir „klaidų taisymo", o Irano – „stebėjimo" ir „klaidų taisymo" subkomponentus. Išryškėjo akivaizdus ryšys tarp dėstytojų ir studentų požiūrių. Dviejų dešimtmečių mokslinės literatūros Lietuvos ir Irano universitetinėse studijose apžvalga leido padaryti panašaus pobūdžio išvadas.