




The Contribution of Argumentation to Learning Approach, Inference, and Interpretation: The Case of Seminary Education at the Islamic Propagation Office (IPO)

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ABSTRACT

This study examined the impact of argumentation on learning approach and critical thinking (inference and interpretation) in English for Specific Purposes (ESP) classes among Islamic studies or seminary students in Mashhad. It was conducted in two classes: an experimental group and a control group, each with 12 female students. Data for the study were collected using pretest and posttest assessments of the Critical Thinking Appraisal (CTA) and a learning approach questionnaire. The Farsi version of Watson-Glaser's Critical Thinking Appraisal (CTA) was used to measure participants' inference-making and deduction. Bigg's Study Process Questionnaire (SPQ) was employed to assess participants' learning approaches, measuring two broad approaches: deep approach and surface approach, with four subscales: surface strategy (SS), surface motive (SM), deep strategy (DS), and deep motive (DM). The experimental group received instruction based on logical argumentation as the treatment. The results demonstrated the effectiveness of the argumentation method in improving participants' learning approach and critical thinking (inference and interpretation). Specifically, the results of the independent samples t-test indicated a statistically significant difference between the two groups in the degree of their Inference ($t = 2.33$, $p = .03$), Interpretation ($t = 2.25$, $p = .03$), Deep Approach ($t = 2.88$, $p = .01$), and Surface Approach ($t = -2.16$, $p = .04$) after the treatment. The findings of this study can be beneficial for teachers of Islamic propagators in enhancing their students' learning approach and critical thinking through the use of argumentative instruction.

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1. Introduction

English for Specific Purposes (ESP) is an increasingly important approach to teaching English as a foreign language (EFL), starting in the late 1960s (Richards, 1984, as cited in Wang, 2015). Although ESP has had a generally long time to develop, there is still not a clear definition of it (Anthony, 1997). It is mostly used as an umbrella term to denote the teaching of English for all specific purposes, including academic, occupational, and professional purposes (Basturkmen, 2019).

According to Strevens (1988, as cited in Agustina, 2014), ESP courses have four absolute characteristics: “First, they are designed to meet specific needs of the learners; second, they are related to content (i.e. in its themes and topics) to particular disciplines, occupations, and activities; third, they are centered on the language appropriate to those activities, including syntax, lexis, discourse, semantics, etc. and analysis of this discourse; and fourth, they are differentiated from General English.” Later, Dudley-Evans et al. (1998) improved the above-mentioned definition of ESP by removing the last stated absolute characteristic. Moreover, they believe one of the five variable characteristics of ESP is, in specific teaching conditions, it may employ an altered approach from that of General English (Anthony, 1997).

Traditional approaches mostly focus on language form, thus educators have shifted their consideration to a more communicative view in which students’ abilities to communicate in English in professional contexts are highlighted, and eventually, it will better suit students’ interests and needs (Stryker & Leaver, 1997, as cited in Wang, 2014). Unlike in the past, teachers today are well aware of the importance of needs analysis in producing the course materials (Anthony, 1997) and choosing the method based on the goals of learners (Hutchinson & Waters, 1987, as cited in Agustina, 2014).

The target needs of learners are the situations they are supposed to apply their language skills (Sujana, 2005). For instance, English-learner students of the seminary, religious people, or new Muslims need to improve their argumentation power to be able to clarify, defend, and prove their beliefs and Islamic knowledge in international environments. Argumentation, as a part of critical thinking, is an attempt to persuade somebody else by presenting fine reasons (Ghanizadeh et al., 2020).

Although the practice of argumentation is basically a natural human competence, it is truly possible to improve and increase human capacity for reasonableness (Jackson, 2015). A claim needs to be framed within an argumentation structure in order to be cogent and responsive to aware questioning. This questioning awareness is an evident indicator of critical thinking (CT) ability (Ghanizadeh, 2011).

CT is an attempt to ensure that we have sound reasons to believe or do what others try to persuade us about (Ghanizadeh et al., 2020) and has an increasing mutual effect with argumentation power. To achieve CT, one needs the mastery of a group of skills like knowledge, comprehension, application, analysis, synthesis, evaluation, and applying the best when an individual faces a novel situation; furthermore, the three higher levels, i.e. analysis, synthesis, and evaluation, are often reported to reflect critical thinking (Bloom, 1956, as cited in Bagheri & Ghanizadeh, 2016a).

Critical thinking, as a cognitive skill, is based on six main cores: interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione et al., 1996). Facione et al. (1996) in his article, *Critical Thinking: What It Is and Why It Counts*, defines interpretation

as “to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria”. He also describes the inference as “to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to reduce the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation.”

The approach that a learner adopts during learning is one of the many factors which can influence good learning (Ghanizadeh & Allahdadi, 2015). According to Marton and Säljö (1976, as cited in Allahdadi & Ghanizadeh, 2015), learning approach is divided into two categories of deep and surface. Usually, students choose an approach for their learning according to the understood goals of the lesson they are studying and the quality and quantity of their learning can be determined through them (Ghanizadeh & Allahdadi, 2015).

According to Shelly (2009), in deep approach, students attempt broad reading and try to integrate new material into previous knowledge because their motivation is meaning-oriented and innate. While in surface approach the emphasis is on remembering the important component of content through rote learning due to the instrumental nature of its motivation. Furthermore, the main purpose of students is to meet the minimum requirements for evaluation. In other words, deep learners mostly keep searching for meaning while, surface learners usually focus on memorizing the parts that might be questioned (Ghanizadeh & Allahdadi, 2015).

The major purpose of the present study is to experimentally inspect the impact of the argumentation method on learning approach and two components of critical thinking (inference making and interpretation). It should be noted that ESP classes of seminary education at the Islamic Propagation Office (IPO) are the context of this work. To fulfill the objectives of the present research, the following research questions were examined in this study:

1. Does argumentation influence seminary students' learning approach in ESP classes?
2. Does argumentation influence seminary students' inference making in ESP classes?
3. Does argumentation influence seminary students' interpretation in ESP classes?

In this paper, the key concepts and components of the study are presented. The definitions, historical background, and implications of ESP, argumentation, CT, and learning approach are elaborated on. Moreover, the effect and interaction of argumentation on CT and learning approach were explained.

2. Review of the related literature

2.1 Critical thinking (CT)

Critical thinking (CT), analysis, and synthesis are certain types of thinking skills that need more cognitive or deeper processing, though for others recognition and remembrance might suffice. Bloom (1956) proposed one of the most commonly used taxonomies to hypothesize and foster higher forms of thinking in learning, including analyzing and assessing, in addition to memorizing and recalling facts (rote learning).

The applicability of Bloom's Taxonomy in the development and evaluation of textbooks has also been investigated. HOTS (Higher Order Thinking Skills) need to be consciously developed, which requires planning and experimentation. To cultivate HOTS, textbooks are one of the primary tools available to both students and teachers. Research has confirmed the effect of textbooks on the development of thinking skills. As the volume of HOTS-inspired content and methodology increase, students' thinking skills and effective learning will eventually develop. Hence, the foundation of studies related to Bloom's Taxonomy lies in the analysis of tasks and activities in textbooks to determine the level of cognitive abilities represented (Ghanizadeh et al., 2020).

Argumentation and CT have an increasing mutual effect on each other. The latter is defined as an attempt to ensure that we have sound reasons to believe or do what others try to persuade us about (Ghanizadeh et al., 2020). Critical thinking, as a cognitive skill, is based on six core elements: interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione et al., 1996).

According to the studies that confirm the important role of higher-order thinking skills and metacognitive abilities, Bagheri and Ghanizadeh (2016a) in their study investigated the connection between the two subcomponents of critical thinking, inference-making and deduction, and one subcomponent of self-regulation, self-monitoring, as well as the role of gender in each of these constructs. The study indicated that there were significant interrelationships among all variables. Moreover, gender did not play a significant role in students' inference making, deduction, and self-monitoring.

Armstrong (2004) discussed the role of critical thinking in the assessment of arguments based on three criteria: the first is deductive validity, that is, the provision that if the premises were true, the conclusion would definitely be right, based on the laws of logic; the second criterion is deductive soundness, that is, whether the premises are truly valid. Yet, it is not possible to distinguish correctness if some premises are probable statements. CT evaluates arguments based on the criterion of inductive force, which refers to the probability of the premises being true.

The relationship between Iranian EFL teachers' critical thinking and their self-regulation ability in language institutes was investigated by Ghanizadeh (2011). She also examined how teachers' self-regulation can be affected by their length of teaching experience, as well as their age. Among the six components of CT, 'evaluation of arguments' and 'interpretation' had the most correlations with teachers' self-regulation. Moreover, data analysis revealed that there are significant correlations between teachers' self-regulation, their teaching experience, and their age. In continuation of this study, the factors contributing to the enhancement of CT can be compared and evaluated.

2.2 Argumentation

Many investigators have recently turned to the cognitive aspect of learning. Argumentation as a part of critical thinking is an attempt to persuade somebody else by presenting sound reasons (Ghanizadeh et al., 2020). Although the practice of argumentation is basically a natural human competence, it can be significantly improved and can increase the human capacity for reasonableness (Jackson, 2015). Thus, in recent years, argumentation has become a cornerstone of some studies in different aspects, such as the importance of design in argumentation (Jackson, 2015), teaching how to establish claims, offer supportive arguments, and provide evidence for each one (Lin & Mintzes, 2010), and argumentation

skills in relation to socio-scientific issues (Khishfe, 2012). Additionally, some studies focus on the recognition of argumentation and its elements as well as different types of reasoning and posing an argument (Ghanizadeh et al., 2020).

As explained in the CT section, argumentation is one of the HOTS-enhancing techniques. Although it might be appealing to jump into HOTS-enhancing techniques without understanding theoretical views, this may result in an outward and hasty grasp of them. Teachers and teacher educators need to understand the implications and basis of HOTS and become aware of the different dimensions of HOTS before they can effectively nurture these skills in their students (Ghanizadeh et al., 2020). Two specific sides of HOTS are critical thinking and reflective thinking.

Bowell and Kemp (2005) presented a series of activities to develop argumentation in a classroom context. First, the definition, limits, and elements of argumentation should be stated. Then some necessary steps for teaching it in the classroom are discussed, which include detecting conclusions, identifying and numbering premises, distinguishing arguments from explanations and descriptions, and identifying ambiguity. Finally, five types of reasoning, an important aspect of meaning, are defined to foster students' ability to construct arguments. They are causal reasoning, reasoning from generalization, reasoning from specific cases, reasoning from analogy, and reasoning from term. The techniques of argumentation which inspired the present research were mainly derived from this framework.

A design perspective on argumentation was proposed by Jackson (2015), intended as complementary to empirical and critical scholarship. The key advantage of his perspective was clarifying that humans' talent for reason and reasonableness can be developed through tasks that improve on unaided human intellect. Those three tasks can be categorized in three main groups: logical systems, scientific methods, and disputation frameworks. According to this study, a "design hypothesis" supports each of tasks: an answer to the question, how can we reduce mistakes and enhance the quality of our reasoning results? This paper has focused on theorizing design tasks and evaluating design hypotheses, but the methods and practical aspects of it are not considered.

A study was conducted on the argumentation skills of Taiwanese sixth-grade students through training of socio-scientific topics by Lin and Mintzes (2010). A practiced elementary school teacher who had received specific instruction on argumentation skills and socio-scientific issues carried out a 17-h classroom unit. Establishing claims and warrants, constructing counterarguments, offering supportive arguments, and providing evidence for them were the outcomes of that course for students. According to this study, there is a significant relationship between students' ability levels and success in learning argumentation skills. High-ability students were significantly able to generate complete arguments. Consequently, the remaining question is how we can specifically improve the argumentation skills in low-ability students? In another survey by Khishfe (2012), the relationship between high school students' perception about the nature of science (NOS) and argumentation skills, regarding two dialectic socio-scientific issues, were investigated. A survey made of two scenarios concerning the controversial socio-scientific issues had been done in five schools from different areas of Beirut, Lebanon. This study highlights the role of counterarguments and the importance of considering contextual factors that involve issue exposure and familiarity, prior content knowledge, and personal relevance are two central implications for the teaching of NOS and argumentation skills. In this study, there is a lack

of necessary prerequisite materials for teachers and how these argumentative issues were presented in the classroom.

2.3 Learning approach

The approach that learners follow during learning can influence their good learning (Ghanizadeh & Allahdadi, 2015). According to Marton and Säljö (1976, as cited in Allahdadi & Ghanizadeh, 2015), learning approach is divided into two categories of deep and surface. Usually, students choose an approach for their learning according to the understood goals of the lesson they are studying and the quality and quantity of their learning can be determined through them (Ghanizadeh & Allahdadi, 2015). Researchers have investigated learning approaches from different points of view.

In a comprehensive study, Newble and Entwistle (1986) reviewed the literature on learning styles and approaches to learning. According to this study, two distinct streams of research have been identified; one initiated from majority cognitive and psychometric psychology and one from research commenced within the everyday learning situation. The latter is dealt with in larger detail as it seems to have more direct practical relevance. Student's learning method which are attributable to their preferred learning style and partly to the context in which the learning takes place, is presented in a simple model of the teaching-learning process. Accordingly, three basic approaches have been identified: surface, deep, and strategic, each resulting in a different learning outcome. The most needed and fruitful is the deep approach. The work reviewed here proposes that the treatment will require not only extensive changes in the teaching, curriculum and, mainly, assessment, but also a new approach based on recognising and supporting individual students whose methods of study are not those expected of a competent university-educated doctor.

Ghanizadeh and Allahdadi (2015) have investigated the validity of the Persian versions of two explored scales among Iranian EFL learners: second language tolerance of ambiguity (SLTA) and revised study process questionnaire (R-SPQ-2F). The latter estimates learning approach and includes two scales: deep and surface learning approach. Each scale contains two subscales: strategies and motive. The outcomes of confirmatory factor analysis (CFA) confirmed the validity and reliability of the translated versions of scales in Iranian context. It was also revealed that there is a considerable correlation between EFL learners' ambiguity tolerance and learning approach. In particular, it was found that ambiguity tolerance is positively associated with deep learning approach and negatively with surface learning approach.

About the relationship between the motivation level of students and their learning approach two studies present noticeable results. According to Bernardo (2003), a relationship between deep approach of learning and students' motivation and levels of anxiety were found. Students with deep approaches of learning are more essentially motivated while students who choose surface approaches have more extrinsic motivation encouraged by the fear of failure. The other research was conducted by Tickle (2001). He reported that students with surface strategies are motivated by pass-only goals and have a minimum degree of exertion for learning, and typically choose rote learning. On the other hand, students who take a deep approach are motivated by the subject material. Therefore, this type of approach will benefit learners to recall the details more successfully while those who take surface approach just are afraid of failure.

In a study by Phan (2007), the causal and mediating relations between students' learning approaches, self-efficacy beliefs, stages of reflective thinking, and academic performance were attended. According to this latent variable analysis, habitual actions are associated with the surface learning approach, and the same for understanding and self-efficacy through the deep learning approach. This study also shows that reflective thinking, except for critical thinking, can be directly predicted by self-efficacy and the same for academic performance that can be predicted by understanding negatively. Finally, there is a causal relationship among the stages of reflective thinking (except critical thinking) in a unidimensional manner. An investigation, based on the work by Leung and Kember (2003), was conducted to examine the association between students' approaches to learning and stages of reflective thinking. This work with Hong Kong students, in particular, has been notable in exploring SAL according to the four stages of reflective thinking. Researchers found a positive correlation between habitual action and a surface approach to learning, as well as a correlation between understanding, reflection, and critical reflection with a deep learning approach, via confirmatory factor analysis (CFA). Consequently, a surface approach to learning is associated with habitual action, whereas a deep approach to learning aligns more closely with the other three types of reflective thinking.

Suhartini and Rahayu Kariadinata (2022) have offered a study to examine and define students' learning motivation in Islamic religious learning through the Mastery Learning approach. The present study employed an experimental design with mixed methods. Through random sampling from two classes in SMP Negeri 51 Bandung, participants were selected. The mastery Learning Approach was the treatment in the experimental class; meanwhile, the expository method was applied in the control class. The motivation questionnaire used in this study included six aspects: 1) desire to succeed, 2) encouragement and need to learn, 3) hope and future aspirations, 4) awards in learning, 5) interesting activities in learning, and 6) the existence of a conducive learning environment. Data analysis in this study was conducted quantitatively at the first stage and qualitatively at the second stage. Data analysis shows that students' learning motivation in the Mastery Learning class is higher than that of students in the Expository class. In the Mastery Learning class, the percentage of student motivation is 83,85%, while it is 78,80% in the Expository class. Consequently, students' learning motivation can be effectively developed by the Mastery Learning approach.

As implied by the above literature, we can safely conclude that effective learning is largely shaped by deep approaches to learning and higher-order thinking skills. In this study, it is presumed that argumentation can be an effective, influential, and engaging technique in this regard for seminary students in different branches of Islamic studies, fields that are typically logic-driven.

3. Methodology

3.1 Participants

This study was conducted in two classes, with a convenience sample of 12 female students with an intermediate level of English and a background in Islamic studies or seminary education in Mashhad, a religious city in northeastern Iran. The age of participants ranged from 21 to 29. The Islamic Propagation Office (IPO) was selected as the center for hosting the courses, given its strong affiliation with students interested in the religious ESP context. The eligible participants were selected from a pool of 45 available students. One of

these classes was the experimental group, and the other was the control group. The participants were assigned to the two groups randomly.

3.2 Instruments

In this experimental study, the data for the project were collected by pretest and posttest of the Critical Thinking Appraisal (CTA) and Learning Approach questionnaire.

3.2.1 The Farsi Version of the Watson-Glaser's Critical Thinking Appraisal (CTA)

To evaluate students' inference and interpretation skills, two subtests of the Watson-Glaser Critical Thinking Appraisal (WGCTA) were employed. Over the past few years, various general tests of critical thinking (CT) have been used by several researchers. For the current study, the WGCTA was used because it has been widely employed by CT researchers (e.g. Bagheri & Ghanizadeh, 2016b; Fahim et al., 2010; Ghanizadeh & Moafian, 2011).

In the present study, the Persian version of the Watson-Glaser test was used. According to Mohammadyari (2002), this test and its subcomponents are highly reliable and valid within the context of Iranian culture. To determine the reliability of the questionnaire, she conducted a split-half reliability evaluation. Moreover, with the adapted version used in Iran, the reliability was found to be 0.98, and the results of the factor analysis provided support for the inventory's hypothesized structure (Mohammadyari, 2002).

Table 1. The subtests of CTA used in this research along with the corresponding descriptions

Subtest	Description
Test 1. Inference	Discriminating among degrees of truth or falsity of inference drawn from given data.
Test 2. Interpretation	To judge if a conclusion logically follows beyond a reasonable doubt.

3.2.2 Learning Approach Questionnaire

This study used Biggs's Study Process Questionnaire (SPQ) (1987a, 1987b) to detect the learning approaches of students. The SPQ is a self-report survey consisting of 42 items across six subscales. Each subscale contains seven items. The six subscales are surface strategy (SS), surface motive (SM), deep strategy (DS), deep motive (DM), achieving strategy (AS), and achieving motive (AM). Three different learning approaches are calculated by summing the strategy and motive of a given approach. For example, the surface approach score is calculated by adding the surface strategy and surface motive scores (Table 2). Each item on the SPQ uses a five-point scale, ranging from (1) 'this item is never or only rarely true of me' to (5) 'this item is always or almost always true of me'.

Table 2. Motive and strategy in approaches to learning and studying (Biggs, 1987)

Learning Approach	Learning Motive	Learning Strategy
Surface Approach (SA)	Surface motive (SM) is to meet requirements minimally; a balancing act between failing and working no more than it is necessary.	Surface strategy (SS) is to limit target to bare essentials and reproduce them through rote learning.
Deep Approach (DA)	Deep motive (DM) is intrinsic interest in what is being learned: to develop competence in particular academic subjects.	Deep strategy (DS) is to discover meaning by reading widely, inter-relating with previous relevant knowledge.
Achieving Approach (AA)	Achieving motive (AM) is to enhance ego and self-esteem through competition; to obtain highest grades, whether or not material is interesting.	Achieving strategy (AS) is to organize one's time and working space; to follow up all suggested readings, schedule time, behave as "model student".

3.3 Procedure of data collection

3.3.1 Data collection

On an Iranian-based platform, Eitaa, two groups were set up to inform the participants about the details of the course. They were directly in touch with one of the researchers, who was also the course instructor, and could ask any potential questions. All participants in both the experimental and control groups were asked to respond to three different questionnaires on inference, interpretation, and learning approach twice: once as a pretest before the treatment and once as a posttest at the end of the course after the treatment. They sent their answers to the researchers through private messages on Eitaa. To ensure reliable data, the purpose of completing the questionnaire was explained to the participants before they responded. All participants were assured that their responses would remain anonymous and confidential. They were also asked to provide their age and educational background.

3.3.2 Pretest

In this experimental study within a religious ESP context, argumentation techniques were used as the treatment for the experimental group. All participants volunteered to participate in the study. To assess the students' background knowledge, a session was held before the start of the course to check their levels. Among the 45 individuals who volunteered for the study, 24 were at the intermediate level of English and were randomly divided into two groups: experimental and control. At the start of the course, the students in both groups were given the CTA and Learning Approach questionnaire as a pre-test. The students in the experimental group then participated in classroom activities focused on argumentation techniques, while the control group received standard instruction without any argumentation techniques.

Students received a corresponding PPT and PDF for each session, which included details such as the full text of the selected rulings of Ahkam for the control group. The same text was supplemented with argumentation techniques and exercises for the experimental group.

TAQLID;

In this lesson we will read:

- Is it a must to be a follower?
- Who is a Mujtahid?
- What does Taqlid mean?
- Ways of identifying a Mujtahid

Argumentation

Philosophy of Wudu from the physical point of view

In terms of hygiene, washing the face and hands five times or at least three times a day has a significant effect on body hygiene. E.g. Water in touch of the skin stops the anaerobic microorganisms. Other important point is that these two parts (face and hands) are completely related to eating and drinking.

Wiping the head and the back of the legs with the condition that the water reaches the hair or the skin of the body makes us keep these organs clean, and the contact of water with the skin of the body has a special effect on the balance of sympathetic and parasympathetic nerves.

Philosophy of Wudu from the spiritual point of view

A recommended act: We pick a hand of water and wash our mouth with it.

Prophet Muhammad (pbuh). As soon as he touches the water, the devil moves away from him, and when he turns the water in his mouth, God illuminates his heart and tongue with wisdom. [Thawab al-A'mal, p. 35]

Premises:

- When you are not in the state of Taharah devil is near you.
- To be near the devil is an obstacle in the path of spirituality.
- Wudu moves the devil away.
- + Wudu paves the way of spirituality.

Students in the control group attended the live meeting while having the instructional text with them. The teacher discussed the issues one by one without specifically focusing on the reasoning behind them. Even when students were asked 'why' questions, they did not receive detailed answers grounded in argumentation. On the other hand, students in the experimental group were expected to study the issues before class. After a quick review in class, the teacher led the discussion toward establishing premises and ultimately reaching a reliable conclusion.

The argumentation phase in the experimental group focused on answering 'why' questions using deductive reasoning. In Islamic sciences, this is known as the philosophy [Ḥikmah] of Ahkam, which refers to a partial, not complete, cause of Ahkam. It is difficult to identify a specific philosophy for every issue in Islamic rulings. This is primarily because divine rulings are based on the 'Expediency and Harm' of human beings. As the Creator and Ruler, Allah Almighty has full knowledge of human growth and destruction and is not required to reveal the philosophy behind every ruling. Furthermore, Muslims should not follow divine rules solely for personal benefit, but as an act of worship and servitude. Although understanding the philosophy behind rulings may encourage a person to follow them, the primary motivation should be to draw closer to God.

Therefore, the only context in which this issue can be addressed is when a trace of philosophy can be found in the Sunnah or verses of the Holy Quran, or where contemporary science supports it through scientific methods (Makarem Shirazi & Subhani, 2002). Based on this, after a quick review of the rulings, a related Hadith, Quranic verse, or scientifically proven finding was presented as a key step in establishing premises and supporting logical argumentation.

A sample of argumentation applied in the experimental group. Under the topic of Purity (Ṭahārah), some of the rulings regarding Wuḍū (Minor Ablution) as a type of spiritual purity were discussed, such as the conditions for the validity of Wuḍū and the situations in which Wuḍū is obligatory. Regarding the obligation of Wuḍū, there are many rational explanations (philosophy or Ḥikmah) that include narrations (Aḥādīth) and scientific findings. Some of

these confirm the positive effect of Wuḍū on one's body, while others highlight its spiritual advantages. Two examples are presented below.

One of the arguments of Wuḍū that proves its positive physical effect on the body based on scientific findings:

In terms of hygiene, washing the face and hands five times or at least three times a day has a significant effect on body hygiene. E.g. Water in touch with the skin stops the anaerobic microorganisms. Another important point is that these two parts (face and hands) are completely related to eating and drinking.

Wiping the head and the back of the legs with the condition that the water reaches the hair or the skin of the body makes us keep these organs clean, and the contact of water with the skin of the body has a special effect on the balance of sympathetic and parasympathetic nerves.

Premises:

Water in touch with the skin stops the anaerobic microorganisms.

The contact of water with the skin of the body has a special effect on the balance of sympathetic and parasympathetic nerves.

To make Wuḍū one needs clean and pure water.

Result:

+ Wuḍū stops the anaerobic microorganisms and has a special effect on the balance of sympathetic and parasympathetic nerves.

One of the arguments of Wuḍū that proves its positive spiritual effect based on a narration:

Prophet Muhammad (pbuh) says, "As soon as one touches the water, the devil moves away from him, and when he turns the water in his mouth, God illuminates his heart and tongue with wisdom".

Premises:

When one is not in the state of Ṭahārah devil may get close to them.

Being close to the devil is an obstacle in the path of spiritual improvement.

Wuḍū moves the devil away.

Result:

+ Wuḍū paves the way for spiritual improvement.

3.3.4 Posttest

To collect data for this experimental study in a religious ESP context, we used argumentation techniques as activities in the experimental class. These techniques were primarily based on argument reconstruction and drew from the following tenets: detecting

conclusions, numbering premises, distinguishing arguments from explanations or descriptions, identifying ambiguity, and applying five types of reasoning (causal reasoning, generalization, reasoning from specific cases, analogy, and term reasoning) (Ghanizadeh et al., 2020).

4. Results

To ensure that the two groups were homogeneous in terms of inference, interpretation, deep approach, and surface approach, independent samples t-tests were conducted. The results confirmed the homogeneity of participants in both groups prior to the study: inference ($t = 1.12$, $p = .88$), interpretation ($t = .46$, $p = .65$), deep approach ($t = .44$, $p = .66$), and surface approach proficiency ($t = -.37$, $p = .71$). To examine whether argumentation had a significant impact on inference, an independent samples t-test was conducted. Table 3 summarizes the descriptive results for inference in the two groups. As shown, the mean inference scores of participants in the control and experimental groups differ: control ($M = 5.58$, $SD = 1.62$), experimental ($M = 7.00$, $SD = 1.35$).

Table 3. Descriptive statistics of post-test on inference across control and experimental groups

	Exp/Cnt	N	Mean	Std. Deviation	Std. Error Mean
Inference (post) 1	Control	12	5.58	1.62	.47
	Experimental	12	7.00	1.35	.39

To see whether this observed difference is statistically significant, an independent samples t-test was run. Table 4 presents the results of t-test run on Inference. As can be seen, there is a statistically significant difference between the two groups regarding the degree of their Inference ($t = 2.33$, $p = .03$). In other words, the treatment implemented in experimental group was influential in seminary students' Inference.

Table 4. independent samples *t*-test showing the results of posttest on inference

Levene's Test for Equality of Variances								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Inference (post)	Equal variances assumed	.45	.51	2.33	22	.03	1.42	.61
	Equal variances not assumed			2.33	21.29	.03	1.42	.61

To examine whether argumentation had a significant impact on interpretation, an independent samples t-test was conducted. Table 5 summarizes the descriptive results for interpretation in the two groups. As the table shows, the mean interpretation scores of participants in the control and experimental groups differ: control ($M = 10.95$, $SD = 2.81$), experimental ($M = 13.00$, $SD = 1.54$).

Table 5. Descriptive statistics of post-test on interpretation across control and experimental groups

	Exp/Cnt	N	Mean	Std. Deviation	Std. Error Mean
Interpretation (post) 1	Control	12	10.95	2.81	.81
	Experimental	12	13.00	1.54	.44

To determine whether this observed difference is statistically significant, an independent samples t-test was conducted. Table 6 presents the results of the t-test on interpretation. As shown, there is a statistically significant difference between the two groups in the degree of their interpretation ($t = 2.25$, $p = .03$). In other words, the treatment implemented in the experimental group had a significant influence on seminary students' interpretation.

Table 6. Independent samples t-test showing the results of posttest on interpretation

Levene's Test for Equality of Variances										
		F	Sig.	t	df	Sig.	Mean	Std. Error	95% confidence	
									Lower	Upper
Interpretation (post) 1	Equal variances assumed	1.64	.21	2.25	22	.03	2.08	.92	.16	4.00
	Equal variances not assumed			2.25	17.04	.04	2.08	.92	.13	4.03

The same analysis was conducted to examine if Argumentation has any significant impact on Deep Approach. Table 7 below summarizes the descriptive results of Deep Approach in two groups. As the table shows, the mean scores of Deep Approach across participants in control and experimental groups are different: control ($M = 31.33$, $SD = 6.27$), experimental ($M = 37.42$, $SD = 3.78$).

Table 7. Descriptive statistics of post-test on deep approach across control and experimental groups

	Exp/Cnt	N	Mean	Std. Deviation	Std. Error Mean
Deep Approach (post)	Control	12	31.33	6.27	1.81
	Experimental	12	37.42	3.78	1.09

To see whether this observed difference is statistically significant, an independent samples t-test was run. Table 8 presents the results of t-test run on Deep Approach. As can be seen, there is a statistically significant difference between the two groups regarding the degree of their Deep Approach ($t = 2.88$, $p = .01$). In other words, the treatment implemented in experimental group was influential in seminary students' Deep Approach.

Table 8. Independent samples t-test showing the results of posttest on deep approach

Levene's Test for Equality of Variances										
		F	Sig.	t	df	Sig.	Mean	Std. Error	95% Confidence	
									Lower	Upper
Deep Approach	Equal variances assumed	9.89	.00	2.88	22	.01	6.08	2.11	1.70	10.47
	Equal variances not assumed			2.88	18.05	.01	6.08	2.11	1.64	10.52

To examine whether argumentation has any significant impact on surface approach, an independent samples t-test was conducted. Table 9 summarizes the descriptive results for surface approach in the two groups. As the table shows, the mean surface approach scores of participants in the control and experimental groups differ: control ($M = 21.67$, $SD = 4.75$) and experimental ($M = 18.33$, $SD = 2.42$).

Table 9. Descriptive statistics of post-test on surface approach across control and experimental groups

	Exp/Cnt	N	Mean	Std. Deviation	Std. Error Mean
Surface Approach (post)	Control	12	21.67	4.75	1.37
	Experimental	12	18.33	2.42	.70

To see whether this observed difference is statistically significant, an independent samples t-test was run. Table 10 presents the results of t-test run on Surface Approach.

Table 10. Independent samples t-test showing the results of posttest on surface approach

Levene's Test for Equality of Variances										
		F	Sig.	t	df	Sig.	Mean	Std. Error	95% Confidence	
									Lower	Upper
Surface Approach (post)	Equal variances assumed	1.78	.20	-2.16	22	.04	-3.33	1.54	-6.53	-.14
	Equal variances not assumed			-2.16	16.36	.05	-3.33	1.54	-6.59	-.07

As can be seen, there is a statistically significant difference between the two groups regarding the degree of their Surface Approach ($t = -2.16$, $p = .04$) in favour of the control group. In other words, the treatment implemented in the experimental group was effective in reducing the seminary students' Surface Approach

5. Discussion

In this study, the researchers hypothesized that the argumentation method deepens the learning approach, increases inference-making, and positively affects interpretation in seminary ESP Classes. The results attested to the hypothesized contentions. In other words, the learners in the experimental group, who were provided with argumentative materials and methods, demonstrated a deeper learning approach and could improve critical thinking (inference and interpretation).

Regarding the first research question about whether the argumentation method deepened learners' learning approach, the results indicated using argumentative materials and techniques in the experimental group positively influenced students' learning approach. Argumentation involves presenting and defending a position or claim through evidence and reasoning (Ghanizadeh et al., 2020). This approach encourages students to think critically, evaluate information, and develop their own opinions. When students engage in argumentation, they are more likely to be actively involved in their learning. They are encouraged to ask questions, seek out information, and consider different perspectives. This can lead to a deeper understanding of the subject matter and a more meaningful learning experience.

In addition, the argumentation method can help students develop important skills such as communication, critical thinking, and problem-solving (Boyd & Fales, 1983). These skills are valuable not only in academic settings but also in everyday life and future careers. However, the effectiveness of the argumentation method may depend on how it is implemented. Teachers need to provide clear guidelines and support for students so they can engage in productive argumentation. They also need to create a safe and respectful classroom environment where students feel comfortable expressing their opinions and challenging others' ideas.

Regarding the second research question asking whether the argumentation method influences learners' inference-making, the results demonstrated that argumentative instruction enhanced students' inference-making. When students engage in argumentation, they are required to critically evaluate evidence, consider different perspectives, and construct logical and coherent arguments to support their claims (Jiménez-Aleixandre & Puig, 2012). This process helps students develop the skills needed to make informed inferences based on evidence and reasoning.

Through argumentation, students are encouraged to analyze and evaluate the strength of evidence, identify underlying assumptions and consider alternative explanations. This can help them become more adept at making inferences that are grounded in evidence and logical reasoning, rather than relying on intuition or unsupported assumptions (Brookfield, 2011). Furthermore, argumentation can help students develop a deeper understanding of complex concepts and topics, which can in turn enhance their ability to make accurate inferences. By engaging in discussions and debates with their peers, students can gain new perspectives that broaden their knowledge and improve their inference-making abilities (Ghanizadeh & Moafian, 2011).

Regarding the third research question about whether the argumentation method influences learners' interpretation, the results indicated that argumentative materials had a positive effect. In other words, when students engage in argumentation, they can develop the skills necessary to interpret information effectively and make informed judgments based on evidence and reasoning. By engaging in argumentation, students are encouraged to carefully consider the meaning and implications of the evidence, and critically evaluate the validity and relevance of different perspectives. This can help them become more adept at interpreting information in a nuanced and comprehensive manner, rather than relying on surface-level understanding or biased interpretations (McNeill et al., 2016).

Furthermore, argumentation helps students develop a deeper understanding of complex concepts and topics, enhancing their ability to interpret information accurately. By engaging

in discussions and debates with their peers, students can gain new insights and perspectives that can broaden their knowledge and improve their interpretation abilities.

6. Conclusions

The present study aimed to assess the impact of applying the argumentation method on the learning approach and critical thinking of a group of Iranian EFL students in ESP classes. It was concluded that, based on the significant difference between the mean scores of the two groups, the treatment had been a successful one in deepening the learning approach as well as enhancing critical thinking (inference-making and interpretation).

These findings can have valuable implications for seminary ESP courses, as the argumentation method can positively affect the learning approach and critical thinking (inference-making and interpretation). Teachers of ESP classes can use this method of teaching to transfer monotonous classes to challenging ones with ample discussion. This can increase the level of motivation and achievement in all stages of learning. Furthermore, if it continues successfully, it can enhance the self-confidence of the propagators and prepare them for real-world situations (Lin & Mintzes, 2010).

The argumentation method is one of the most effective ways to help students heighten their learning of both Islamic concepts and the language. Based on the findings of this study, the learning approach is deepened due to applying this method. This means learners meditate on the lessons and try to find the answer to the question ‘why’ without needing to be prompted by the teacher. Therefore, the teacher can instead spend the class time for more discussions and motivating students to participate in discussions and consequently improve their speaking skills.

There is an implication for the authorities of the Islamic seminaries, especially those who are in charge of training the linguist students and have the right to make decisions for the material of ESP classes. They can change those materials in an argumentative way to let the students to engage in discussions based on more flexible materials that are prepared according to the students’ careers and needs.

Considering that one of the main sources for the premises of logical reasoning is the scientific findings of the day, an essential tip should be pointed out here to the teachers of this method. It is very necessary that teachers use new and up-to-date teaching resources and continually update them with new findings. This aspect of logical reasoning is as important as the mastery of the teacher on the verses of the Qur’an and Ahādīth.

Generally speaking, students and teachers of Islamic propagation courses must be proficient in the latest technology for collecting and analyzing data, be aware of the latest events and trends worldwide, and make the maximum use of social media to achieve their propagation goals. They should connect with Islamic activists worldwide to exchange ideas and adapt to the evolving questions of curious minds.

The current research was limited in a number of aspects. First, largely due to the feasibility concerns, the participants were selected according to convenience sampling, among female learners in the office of Islamic Propagation who had learned English as a foreign language in Mashhad. Therefore, the replication of this study with other samples from different gender and other centers in different parts of the country with greater number of participants would be suggested. This investigation was limited to non-native speakers of

English; hence, future research could focus on native or non-Iranian students, or on students of different age groups. Third, the dependent variables in this study were assessed via self-report questionnaires and tests, and no qualitative technique was employed.

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