Beliefs about Critical Thinking among English Teachers
in Qasabet Al- Mafraq, Jordan

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Abstract: This study aimed to investigate the relationships between teachers' knowledge, beliefs and activities about critical thinking. . The study followed the descriptive approach. This research was based on a questionnaire designed to investigate English teachers' points of view about critical thinking for primary and secondary schools in Qasabet Al Mafraq which is a city in the north of Jordan The population of the study is 280 female and male teachers distributed through 160 primary and secondary school. The study sample was randomly selected and it represents 46% of all English teachers in Qasbet Al Mafraq. They are 40 male and 88 female teachers during the second semester 2018/2019.

The results of the study indicate that most of the teachers know the higher and lower −order of critical thinking skills. Also, they are inclined to use the critical thinking strategy to achieve certain outcomes in the curriculum. According to the teachers' beliefs, they think critical thinking is an important and effective strategy for problem solving and decision making. On one hand, there is a positive correlation between teacher's knowledge, teachers' belief and critical thinking activities such as role- playing, asking questions, problem- solving, conceptual maps, debate and game playing. But on the other hand, there are no statistically significant differences at ($\alpha = 0.05$) due to the variables of gender, experience, number of students, and the stage they are teaching. The researcher recommends that more research should be done on the effect of critical thinking on the four skills reading, writing, speaking and listening.

Keywords: critical thinking, knowledge, beliefs.

معتقدات عن التفكير الناقد بين معلمي اللغة الانجليزية في قصبة المفرق، الأردن

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وزارة التربية والتعليم || الأردن

الملخص: هدفت هذه الدراسة إلى استكشاف العلاقة بين معارف المعلمين ومعتقداتهم وأنشطة التفكير الناقد. اتبعت الدراسة المنهج الوصفي. واستند البحث إلى استبانة تم تصميمها لبحث وجهة نظر مدرسي اللغة الإنجليزية حول التفكير الناقد للمدارس الابتدائية والثانوية في قصبة المفرق وهي مدينة في شمال الأردن. يبلغ عدد مجتمع الدراسة 280 معلم ومعلمة موزعة على 160 مدرسة ابتدائية وثانوية. تم اختيار عينة الدراسة بشكل عشوائي والتي تمثل 46 % من مجموع مدرسي اللغة الإنجليزية في القصبة المفرق و هم 40 معلما و 88 معلمة خلال الفصل الدراسي الثاني 2018/2019.

تشير نتائج الدراسة إلى أن معظم المعلمين يمتلكون مهارات التفكير الناقد الاعلى والادنى. ويميلون الى استخدام استراتيجية التفكير الناقد لتحقيق بعض النتائج في المناهج الدراسية. وفقًا لمعتقداتهم، يعتقد المعلمون أن التفكير الناقد مهم، وانه استراتيجية فعالة لحل المشكلات واتخاذ القرارات. من ناحية، هناك علاقة إيجابية بين معرفة المعلم ومعتقدات المعلمين وأنشطة التفكير الناقد مثل لعب الأدوار وطرح الأسئلة وحل المشكلات والخرائط المفاهيمية والنقاش ولعب الألعاب. لكن من ناحية أخرى، لا توجد فروق ذات دلالة

إحصائية عند (0.05 = α) بسبب متغيرات الجنس والخبرة وعدد الطلاب والمرحلة التي يقومون بتدريسها. ويوصي الباحث بإجراء المزيد من الأبحاث حول تأثير التفكير الناقد على المهارات الأربع وهي القراءة والكتابة والمحادثة والاستماع.

الكلمات المفتاحية: التفكير الناقد، المعرفة، المعتقدات.

Introduction

Research on teachers' knowledge and beliefs has grown rapidly so this new line of research has generated a considerable area of inquiry on the nature of teaching. Since the 1980s, research on teachers' thinking has aimed to describe teachers' beliefs and to understand and explain how and why professional teachers' practices arise and develop. Research has examined how teachers' behaviour influences students' behaviour and their achievement scores. Pajares (1992) cites several sources in support of the assumption that beliefs are the best indicators of the decisions that individuals make throughout their lives and he (ibid) suggested a strong relationship between teachers' educational beliefs and their planning, instructional decisions, and classroom practices. The findings about the relationship between teacher beliefs and practices of teaching could be used by teachers themselves as well as teacher educators, school administrators, policymakers, and curriculum designers. There are different views about the concept of beliefs. These depend on the point of view of theorists or researchers. Since the 1970s, research has tried to classify the concept through a multi- dimensional system. For example, Wehiling, & Charters (1969) discuss beliefs in terms of complex organizations consisting of discrete sets of inter-related concepts. They include beliefs in the category of representations, or cognitive maps of the external world which serve as mediators for experiencing and responding to reality. This conception of beliefs fits with the notion of beliefs as personal knowledge, personal pedagogies and implicit theories. Pajares (1992) refers to beliefs as a "messy construct", one that has not always been accorded much precision. However, research indicates that teachers' behaviours are not always consistent with their beliefs.

A growing number of researches assert that teachers' beliefs should be studied through a framework that concerns the influence of culture, so are constantly situated in a physical setting such as the school, the classroom, the community, or curriculum (Mansour, 2008). According to Richardson (1996) and Guyton (2000), one common conclusion in the literature about teachers' beliefs is that change is a complex, perhaps even mysterious, process where powerful teacher education programs are needed to impact beliefs.

Teachers' beliefs appear to be static (Nespor, 1987), resistant to change (Brousseau, et al., 1988), and are generally not affected by reading and applying the findings of educational research (Hall, & Loucks, 1982). However, some researchers have noted that reflecting on practice can change beliefs. Critical thinking, as the ability to involve in meaningful, self- regulatory judgment, is generally recognized as an essential skill for knowledge; and most educators would agree that learning to think critically is one

of the most desirable goals of formal schooling. This means not only thinking about important problems concerning disciplinary areas but thinking about the political, ethical and social challenges in everyday life.

Working to increase critical thinking by students has shown some promising results for both students and educators. Kokkidou (2013) documented increases in creativity, performance, and literacy within the confines of music, as well as an increased awareness of the musical environment in which students and educators live. Her findings were that by challenging students to think critically, educators were finding themselves thinking more critically about their subject of expertise. Arend's (2009) findings were very supportive of the use of online discussion boards to develop and enhance critical thinking, as well as to enable students to have a better understanding of the initial information and content presented to them in class.

According to McCollister and Sayler (2010) in their article lift ceiling they have mentioned that the optimal school learning environment for gifted students is one where scholastic rigor is the standard. This rigor is needed both to stimulate the students intellectually and to enhance their academic growth. The integration of critical thinking skills into the daily content and lessons is essential for achieving this rigor. This infusion, along with also taking into account student interest, readiness, and learning styles, provide the foundation and walls for raising the ceiling of students' scholastic growth and intellectual stimulation. Infusing good critical thinking activities in the classroom also helps the brightest students on the normal developmental trajectory as they interrelate ideas within and among the disciplines leading to increased academic rigor and greater depth of understanding for them. Critical thinking enhances academic growth; the more it is integrated into content instruction, the more students will analyze the concepts they are learning. This article discusses four useful ways to integrate critical thinking into the curriculum. These include: (1) the inclusion of problem solving; (2) asking questions that require critical analysis; (3) evaluating sources; and (4) decision making (McCollister and Sayler, 2010)

Critical thinking can be infused in lessons throughout all disciplines by utilizing in depth questioning and evaluation of both data and sources (McCollister &Sayler, 2010). Having students track patterns in information forces them to look at the information as a process instead of simply information to be memorized and helps them develop skills of recognition and prediction. Evaluation of information and sources helps students to learn appropriate procedures for finding and utilizing credible information, as well as helping students learn acceptable and appropriate ways to use discretion (McCollister & Sayler, 2010). These are skills that will help with reading comprehension and problem- solving skills, both of which play an important role in standardized assessments (VanTassel- Baska, et al, 2009; McCollister & Sayler, 2010; Tsai and Men 2013). These types of activities could be worked into the normal instructional time, with little additional time needed, simply by utilizing things such as online discussion boards, in-class discussions, or alternative modes of assessment in classroom settings (Snodgrass, 2011). It is also important that any changes to the curriculum be met with training about the new activities and how to

utilize them to their full effect. The establishment of professional learning communities allows educators to think critically about the methods they are using to teach, and is a good starting point for ideas about inclusion of critical thinking skills in the classroom (Smith & Szymanski, 2013).

Hammouri and Al- Awhar, (1998) mention that the ability to think critically is an important requirement for all segments of society. So, an individual with such a capacity is independent in his thinking, an observer, capable of making the right decisions in his life, and aware of the social, economic and political systems of his country.

Background of the study

1- Aims of the study

This paper aims are to find out what do English teachers in Qasabet Almafraq belief about critical thinking strategy. Also, this paper tries to determine the critical thinking activities used by English teachers in the classroom.

2- Justification

Most teachers ask students to memorize instead of encouraging them to think and to make decisions. So critical thinking is very important for our students in both primary and secondary schools, because according to an incremental theory, people can learn new skills which may increase their intelligence. When teachers interact with students in the classroom, they make judgements concerning student's intelligence and abilities (Georgiou, 2008). Teachers' judgments, in accordance with their implicit views of intelligence and ability, can influence their classroom practice, their relationship with students, and students' self- perceptions e.g. Watanabe (2006). Additionally, a school's culture can be influenced by these conceptions of intelligence and ability. Oakes et al (1997), noted several aspects of conventional views of intelligence which may contribute to trace and influence teachers' classroom practice, including that intelligence is an innate, fixed entity; intelligence is unidimensional; intelligence can be explained by racial and cultural difference. They argued that teachers who embraced these conceptions of intelligence and ability will reduce their perceived responsibility for student's learning.

In order to engage students in critical thinking, the educator needs to act as a facilitator to allow for discussion and encourage a freer thought process, as well as to encourage understanding that thinking critically does not always end with a right answer, but instead sometimes ends in more questions or differing evaluations of the topic (Haix& Reybold, 2005; Arend, 2009). The educator's role as facilitator also encourages a peer review process, even in the youngest of children, and helps students to learn appropriate responses to conflicting evaluations and opinions (Hurley & Hurley, 2013; Tsai & Men., 2013).

Activities such as writing essays and utilizing questions that adhere to Bloom's Taxonomy higher order thinking are examples of ways to engage students in critical thinking in the classroom(Smith & Szymanski, 2013). Another option for an activity that helps to enhance critical thinking is the use of wikis in education. This activity can be utilized by having students create a wiki about the subject content they are studying or by having them analyze the information currently available in existing wikis (Snodgrass, 2011).

3- Sources of study

The sources are articles, books and a questionnaire.

Questions of the study:

1- What do English teachers know about critical thinking?
2- What do English teachers' believe about implementing critical thinking strategy?
3- What kind of critical thinking activities are they using in their classrooms?
4- Are there any statistical relationship between teacher's knowledge, teachers' belief and critical thinking activities?
5- Are there statistical differences on teachers' Knowledge, teachers' belief and critical thinking activities due to gender, teaching experience, number of students and stage?

4- Literature review

According to Hall& Loucks (1982) and Lipman(1991), critical thinking is a complex and controversial notion and there are widely contrasting views about it. The origin of literature on critical thinking can be traced in two academic disciplines: philosophy and psychology. Sternberg (1986) has also referred a third critical thinking area within the field of education. The philosophical approach according to Facione(1990) focuses on the hypothetical critical thinker as someone who is e.g. inquisitive in nature, open- minded, flexible, understands diverse viewpoints. Lipman(1991) states that the cognitive psychological approach focus on how people actually think versus how they could or should think under ideal conditions and to define critical thinking by the types of actions of behaviours critical thinkers can do and shows a list of skills and procedures performed by critical thinkers such as Lewis, & Smith(1993). Bloom and his colleagues (1956) are included in the educational approach. Their taxonomy (ibid) for information processing skills, especially the three highest levels (analysis, synthesis and evaluation) are frequently considered as representation of critical thinking. According to Sternbeg (1986) the educational approach is based on years of classroom experience and observation of student learning but the frameworks in this field have not been tested as firmly within either philosophy or psychology. Many researchers working in the area of critical thinking lament the poor state of critical thinking in most educated adult and children. Early research in the Piagetian tradition tended to view the cognitive processes of young children as insufficient in relation to those of older individuals. Following the Piaget's

stages of development, young children are incapable of formal operations which are required for critical thought. In spite of more recent research has found that young children engage in many of the same cognitive processes that adults do, that means that there is a place for critical thinking in the lower elementary curriculum. Kennedy et al (1991) mentioned that although critical thinking ability appears to improve with age, even young children can benefit from critical thinking instruction. Bailin et al (1999) argue that critical thinking instruction at the primary school can include teaching student to for example value reason and truth; be open- minded; respect others during discussion; be willing to see thinks from another's perspective. A large number of critical thinking researchers confirm that critical thinking skills and abilities can be taught. Halpern (1998) offers evidence of two instructional programs. Kennedy et al (1991) concluded that instructional interventions improving critical thinking skills generally shows positive results. Although critical thinking skills and abilities are part of the context to be learned, according to some authors they are not the focus of direct and explicit instruction. Ennis (1989) suggests that students are expected to acquire these skills as a natural consequence of engaging with the subject matter. A second way to teach thinking skills involves direct and explicit instruction in critical thinking skills as a separate course, where critical thinking skills and abilities are bring out outside the context of specific subject matter and this approach is the most common in the Italian context. A third approach combines elements of both the general and subject specific approaches and in their meta- analysis of 117 empirical studies, Abrami et al(2008) found that the mixed approach had the largest effect- sizes on student's skills and dispositions. The authors also found that if educators receive special training in teaching critical thinking the course curricula have the largest effect. Successful interventions may require professional development for teachers specifically focused on teaching critical thinking.

Mok (2010) concludes that to facilitate critical thinking education, like other curriculum innovations, I believe that we have to start with teachers (Carless, 1997, 1998), for example, to listen to their voice and concern regarding the innovation and its implementation. An important problem raised by all five teachers in the study was that frontline teachers were not consulted about the critical thinking syllabus before it was used. In terms of critical thinking, it is important to help teachers see the central importance of critical thinking and to assist them as they explore and experiment with different learning arrangements that may facilitate students' critical thinking, for example, through collaborative action research.

Lu (2013) summarizes that teaching language involving a Critical Thinking approach cannot be introduced spontaneously without planning and organization. An EFL course integrating an intercultural syllabus provides a space for students to encounter the other, and in doing so, provides a good place to interpret the text, find the problem, locate difference, and evaluate thinking. Also, Yang (2005) mentioned that successful learners used a wider range of strategies than unsuccessful learners.

The results of their study's survey (Tuzlukova, et al., 2017) suggest that 96% of participated teachers in the study recognize the central role played by critical thinking in effective language pedagogy. The results also indicate teachers' preference for aligning their teaching methods with the functional-communicative approach, related to Ennis' (2011) critical thinking categories. They also suggest a favor for employing practical aspects of critical thinking teaching methodologies in the English language classroom to more comprehensive preparation of students for further academic studies and their future careers in the workplace.

Course designers should take critical thinking strategy in their consideration and make a connection between what the students will learn with the best methodology teachers can use in their classrooms. Planning, organization and evaluation are important for the teacher so they need training on such strategy. Also, the importance of this strategy for the students' future should be discussed.

5- Methodology

In terms of the method, a questionnaire was employed for this study. Questionnaires, in Nunan's words (1992), are more amenable to quantification, cheap and easy to answer. They are good ways for collecting information (Cohen & Manion 1989, Weir & Roberts 1994). Moreover, questionnaires are considered more reliable ways since they are anonymous and this encourages greater honesty (Cohen et al 2000:269).

Questionnaire included closed ended questions. The purpose of closed ended responses is easier to collate and analyze. The participants consist of 88 female English teachers and 40 male teachers. They are from Mafraq public schools.

The reliability of the study was calculated by Cronbach Alphas as shown below in Table 1. These values of Cronbach's alpha were considered enough for the purpose of this study.

Table (1) Reliability of the Study

	Cronbach alpha
Knowledge	0.79
Teachers' belief	0.84
Activities	0.79
Total Score	0.90

FREQUENCIES

VARIABLES=gender exper avg stage

/ORDER= ANALYSIS.

Table (2) Frequencies and Statistics

		Frequency	Percent
Gender	Male	40	31.3

		Frequency	Percent
	Female	88	68.8
Teaching experience	1- 5	35	27.3
	6- 10	35	27.3
	11 or more years	58	45.3
Average number of students in your classroom	15- 20	45	35.2
	20- 30	54	42.2
	30- 40	21	16.4
	More	8	6.3
the stage you are teaching now	Primary stage	90	70.3
	Secondary stage	12	9.4
	Both	26	20.3
	Total	128	100.0

Forty male and eighty eight female teachers participated in answering the questionnaire. Thirty five of them are teaching English for one to five years, thirty five of them are teaching English between six to ten years and forty eight of them are teaching English for eleven years and more. Forty five teachers have between fifteen to twenty students in their classes, fifty four teachers have between twenty to thirty students in their classes, twenty one teachers have between thirty to forty students and only eight teachers have more than 40 students in their classes.

6- Critical thinking definition

Many of the theories related to higher thinking are based on various taxonomies of education, including Bloom's taxonomy. There are two thinking levels: the lower- order levels of critical thinking and higher- order levels of critical thinking skills. The Lower levels of thinking are rooted in the memorization of facts or the comprehension of materials. Individuals who can recite multiplication tables or identify the main idea of a story are said to be functioning at the lower levels of thinking. As one progresses, though, they can begin to apply their Knowledge, marking their entry into higher levels of thinking. When students can employ their learning in practical situations, they are progressing upward. Even higher is the concept of analysis; when students can understand why something is the way it is, or why something happens, they are said to have analyzed the situation, using higher levels of thinking in the process. The highest levels, though, are rooted in synthesis and evaluation. Those who engage in the process of producing something new based on what they know are working at the highest levels of thinking; when they can evaluate a source or determine whether or not an appropriate decision was made, they are also engaging the highest orders of thinking. One can easily see the progression from lower levels of thinking to higher levels by looking at these various categories, each essential to educational growth and development.

Cognitive learning concerns comprehension and critical thinking skills, and is frequently used to master lower- level skills. The cognitive domain can be further divided into six subsections:

1- Knowledge 2- Comprehension 3- Application 4- Analysis 5- Synthesis 6- Evaluation

The affective domain refers to how students react emotionally and target learning in areas of student attitudes towards a subject. This area is further subdivided into five categories: 1- Receiving 2- Responding 3- Valuing 4- Organizing 5- Characterizing

Higher- order critical thinking skills are necessary for students preparing for and/or enrolled in professional programs, especially the ability to evaluate and synthesize information, which are vital for problem- solving. Essentially, critical thinking is learning to think independently and to develop one's own opinions supported by existing evidence. In learning scenarios that promote and foster problem- solving and critical thinking skills, it is much more difficult for the student to simply adhere to the role of the passive student; rather, this type of learning prompts the student to assume the role of a self- reliant thinker and researcher.

When a student thinks critically, he examines experience, appreciates knowledge and ideas, and balances the parties to arguments before reaching undiminished knowledge. And, who practices critical thinking is characterized by certain trends towards interpretation, reasoning, acceptance of challenge and desire for truth (Essar, 1999). Since critical thinking relies on research and comparison to try to find out what is right, the individual must be guided to know what is right, by guiding them to identify discrepancies and differences between things. Teacher preparation programs should be concerned with methods that develop students' critical thinking, questioning the development of critical thinking (Murad, 1994).

Findings and discussions

1- What do English teachers know about critical thinking?

To answer this question, Means and Standard deviation of English teachers' knowledge about critical thinking were computed as shown in Table 3 below.

Table (3) Means and standard deviation of English teachers' knowledge about critical thinking ranked in descending order.

No		Mean	Std. Deviation	rank
8	I realize that critical thinking is a matter of practice where students develop their thinking abilities	4.12	.790	1
6	I know where this strategy should be used in the curriculum that I am teaching	4.09	.753	2

No		Mean	Std. Deviation	rank
1	I know the lower- order thinking skills: understanding and remembering	3.98	.693	3
5	I use critical thinking to achieve certain outcomes in the curriculum	3.98	.878	4
3	"I know the higher—order thinking skills for example Application, Analysis,	3.97	.904	5
4	I use the higher- order thinking skill	3.84	.768	6
2	I use the lower- order thinking skill	3.81	.821	7
7	I have received a training course on critical thinking and how it relates to my course curricula	3.20	1.186	8
	Knowledge	3.87	.550	

This table shows that most English teachers think that critical thinking is a matter of practice where students develop their thinking abilities. This result correlates with what Elder and Paul (2009) included in their definition of critical thinking, not only information, belief generating and processing skills, but also added the importance of developing a habit of using those skills to guide behavior. In a similar way, Van Gelder (2005) concurred that learning the skills was not enough and that students must practice using them. According to him (ibid.), to develop critical thinking, there must be full concentration on improvement, that is, exercises to improve performance that are graduated and including repetition and guidance with timely feedback. This strategy also is used in the curriculum so they should know where to use it but the least in this ordering is training, not all teachers have received training to use this methodology.

2- What do English teachers' believe about implementing critical thinking strategy?

To answer this question, Means and Standard deviation of English teachers' knowledge about critical thinking were computed as shown in Table 4 below.

Table (4) Means and standard deviation of English teachers' beliefs about critical thinking ranked in descending order.

No		Mean	Std. Deviation	rank
1	I think critical thinking strategy is important	4.25	.794	1
5	Critical thinking gives students a chance to evaluate alternatives and then to give reasons behind the choice	4.09	.704	2
7	Students need to cooperate to reach a decision	4.05	.746	3
4	Critical thinking is used for decision making	4.01	.768	4

No		Mean	Std. Deviation	rank
6	Critical thinking is a good opportunity to develop verbal activities	3.99	.768	5
3	Critical thinking is a good, effective strategy for problem solving	3.98	.869	6
2	Students are more dependent when I use this strategy	3.80	.842	7
	Teachers' belief	4.03	.565	

According to most responses, the idea of critical thinking is important and necessary in language teaching, because it provides opportunities for students to evaluate alternatives, to give reasons behind their choice, to cooperate to reach a decision, to have a good opportunity to develop verbal activities and they become more independent when teachers use this strategy. This will facilitate language learning in an autonomous atmosphere.

3- What kind of critical thinking activities they use in their classrooms?

To answer this question, Means and Standard deviation of English teachers' knowledge about critical thinking were computed as shown in Table 5 below.

Table (5) Means and standard deviation of the critical thinking activities that are used in the Classroom ranked in descending order.

No		Mean	Std. Deviation	Rank
6	Whenever I have a reading text, I ask my students some critical thinking questions	4.15	.722	1
3	I use role- playing for critical thinking	3.87	.763	2
1	I use critical thinking as a warm- up activity, such as conceptual maps to teach new vocabulary or to connect new ideas with previous ones	3.82	.817	3
5	I use debate in this strategy. Where a debate is a structured contest over an issue or policy. There are two sides- one supporting, one opposing.	3.78	.860	4
4	I use problem- solving activities such as puzzles	3.77	.880	5
2	I use games to present this strategy	3.63	.877	6
	Activities	3.84	.580	

According to most teachers whenever they have a reading text, they ask their students some critical thinking questions. This goes with Cooper's work (2013) which focusses on the importance of

questioning. Another advocate of the importance of questioning techniques to aid engaging in critical thinking is Yilin Sun, of the TESOL International Association in 1997, whose blog explains her use of the acronym FIRE to stand for four areas of critical thinking: factual, insightful, rational and evaluative. The least used activity is games since it is not used a lot in the curriculum.

4- Are there any statistical relationship between teacher' knowledge, teachers' belief and activities?

To answer this question, Means and Standard deviation of English teachers' knowledge about critical thinking were computed as shown in Table 6 below.

Table (6) Pearson Correlation between teachers' knowledge, belief and activities

	Correlation	Knowledge	Teachers' belief	Activities
Knowledge	Pearson Correlation	1		
	Sig. (2- tailed)	.		
	N	128		
Teachers' belief	Pearson Correlation	.590(**)	1	
	Sig. (2- tailed)	.000	.	
	N	128	128	
Activities	Pearson Correlation	.640(**)	.592(**)	1
	Sig. (2- tailed)	.000	.000	.
	N	128	128	128

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

The above table shows that there are positive correlations between teacher's knowledge, teachers' belief and critical thinking activities. What teachers belief in is reflected in their method of teaching because most of them belief in the importance of critical thinking and they know this strategy leads to the use of different critical thinking activities. This result correlates with Kabilan's (2000), who believed that teachers are the primary element needed to produce critical thinkers in language classrooms. Similarly, Lipman (2003) argued that it is a teacher's responsibility to promote students' critical thinking. Therefore, according to Lipman (2003), teachers should change their attitudes towards their students, pedagogy and themselves as teachers. They should respect learners' individuality, listen to their opinions and build mutual relationships with them. In addition, he proposed engaging learners in problem- solving situations and decision- making processes. More importantly, he purported that teachers need to act as facilitators and guides and to lead their students to be critical thinkers.

5- Are there statistical differences on teachers' Knowledge, teachers' belief and critical thinking activities related to gender, teaching experience, number of students, stage?

To answer this question of the study means and standard deviations of teachers' knowledge, teachers' belief and critical thinking activities related to gender, teaching experience, number of students, and stage were computed as presented in Tables 7&8- .

Table (7)Means and standard deviations of teachers' knowledge, teachers' belief and critical thinking activities due to gender, teaching experience, number of students and the stage they are teaching.

			Knowledge	Teachers' belief	Activities
Gender	Male	Mean	3.93	3.97	3.75
		Std. Deviation	.613	.623	.668
	Female	Mean	3.85	4.05	3.88
		Std. Deviation	.521	.539	.534
Teaching experience	1- 5	Mean	3.88	4.08	3.87
		Std. Deviation	.594	.576	.545
	6- 10	Mean	3.87	3.95	3.84
		Std. Deviation	.515	.558	.597
	11 or more years	Mean	3.87	4.04	3.82
		Std. Deviation	.553	.568	.598
Average number of students in your classroom	15- 20	Mean	3.95	4.11	3.93
		Std. Deviation	.569	.509	.443
	20- 30	Mean	3.88	3.96	3.83
		Std. Deviation	.435	.486	.526
	30- 40	Mean	3.80	4.05	3.67
		Std. Deviation	.717	.849	.898
	More	Mean	3.63	3.89	3.83
		Std. Deviation	.665	.457	.584
* the stage you are teaching now	Primary stage	Mean	3.84	4.02	3.86
		Std. Deviation	.482	.503	.517
	Secondary stage	Mean	4.00	4.15	3.71
		Std. Deviation	.556	.611	.686
	Both	Mean	3.93	3.99	3.83
		Std. Deviation	.747	.741	.736

Table7- shows a slight variance in teachers' knowledge, teachers' belief and critical thinking activities related to gender, teaching experience, number of students, stage, to find out whether there are statistical significant differences in these means, one way ANOVA was conducted and the results are shown in Table8.

Table (8)One way 3 way ANOVA results of teachers' knowledge, teachers' belief and critical thinking activities due to gender, teaching experience, number of students, stage

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Knowledge	.045	1	.045	.144	.705
	Teachers' belief	.262	1	.262	.800	.373
	Activities	.497	1	.497	1.440	.232
EXPER	Knowledge	.026	2	.013	.041	.959
	Teachers' belief	.227	2	.114	.347	.708
	Activities	.001	2	.000	.001	.999
AVG Average number of students	Knowledge	.985	3	.328	1.056	.370
	Teachers' belief	.780	3	.260	.793	.500
	Activities	.984	3	.328	.950	.419
STAGE	Knowledge	.518	2	.259	.833	.437
	Teachers' belief	.381	2	.191	.581	.561
	Activities	.109	2	.055	.158	.854
Error	Knowledge	36.972	119	.311		
	Teachers' belief	38.999	119	.328		
	Activities	41.099	119	.345		
Corrected Total	Knowledge	38.453	127			
	Teachers' belief	40.561	127			
	Activities	42.719	127			

Table8 above shows there are no statistically significant differences at (α= 0.05) due to the variables of gender, experience, number of students, and stage they are teaching now. Thus gender, experience, number of students and the stage they are teaching have no impact on teachers knowledge, attitude or the critical thinking method they are using because they apply whatever strategy they think is appropriate to their students regardless their gender, number or stage. Their role as facilitator and their awareness of the importance of this strategy overcome the other factors such as the students.

Conclusion

Critical thinking strategy is very important to teach for students since students become more independent, so they can take their decision by their own and they try to find solution for the problems. Teachers' role in critical thinking strategy is as a facilitator so students need to practice to learn this strategy. Critical thinking strategy can be applied for all stages since the curriculum offers it. Teachers can use more than one activity to achieve this strategy. This study shows that there is a strong relationship between the teacher's belief, knowledge and critical thinking activities. So, more training courses should

be held to the teachers in order to use this strategy which has appositive effects on the students' achievement instead of asking them to memorize only.

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Appendix

Questionnaire: Beliefs about Critical Thinking among English Teachers in Qasabet Al- Mafraq, Jordan

Gender: years of experience: school: primary or secondary

No	Knowledge	Strongly agree	Agree	Neutral	disagree	Strongly disagree
1	I know the lower order- thinking skill: understanding and remembering (Bloom taxonomy)					
2	I use the lower order thinking skill					
3	I know the higher —order thinking skills					

No	Knowledge	Strongly agree	Agree	Neutral	disagree	Strongly disagree
4	I use the higher order thinking skill					
5	I use critical thinking to achieve certain outcomes in the curriculum					
6	I know where this strategy should be used in the curriculum that I am teaching					
7	I have received training course on critical thinking and how it relates to my course curricula					
8	I realize that critical thinking is a matter of practice where students develop their thinking abilities					

No	Teachers' belief	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	I think critical thinking strategy is important					
2	Student s are more dependent when I use this strategies					
3	Critical thinking is good strategy for problem solving					
4	Critical thinking is used for decision making					
5	Critical thinking give students chance to evaluate alternatives and then to give reasons behind the choice					
6	Critical thinking is a good chance to develop verbal activities					
7	Students need to cooperate to have reach a decision					

no	Activities	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	I use critical thinking as a warm up activity such as Conceptual maps to teach new vocabulary or to connect new ideas with previous ones					
2	I use games to present this strategy					
3	I use role playing for critical thinking					
4	I use problem solving activity such as puzzle					
5	I use debate in this strategy					
6	Whenever I have a reading text I ask my students some critical thinking questions					