

Supporting EFL Students' Learning of Theoretical English-Content Through Using an Inquiry-Based Teaching Technique

Hasan Mohsen Al-Wadi¹

¹ Bahrain Teachers College, University of Bahrain, Kingdom of Bahrain

Correspondence: Hasan Mohsen Al-Wadi, Bahrain Teachers College, University of Bahrain, Kingdom of Bahrain. Tel: 973-3961-4128. E-mail: hasan.alwadi@gmail.com

Received: June 11, 2018 Accepted: July 11, 2018 Online Published: July 13, 2018

doi: 10.5539/elt.v11n8p73 URL: <http://doi.org/10.5539/elt.v11n8p73>

Abstract

The present study investigates the effects of implementing an inquiry-based teaching technique on motivating EFL/ESL student teachers to learn an English content-based course and to become critical toward the knowledge they are exposed to in this course. A quasi-experimental methodology of research was implemented through the one independent group design on a class of 19 students majoring in English education in the bachelor program at Bahrain Teachers College, University of Bahrain. A pre-post questionnaire was conducted to identify students' motivations towards both the English content-based course and the proposed technique that is the inquiry-based teaching before and after the application of it. The study findings revealed positive impact of the proposed technique on increasing those EFL/ESL student teachers' motivations toward the current course which indicates the effectiveness of this technique in motivating students to study other theoretical English content-based courses as well as supporting these students to develop new study skills that can assist them to learn and understand the content of these types of courses, which usually are theoretical.

Keywords: inquiry-based technique, questioning strategy, EFL/ESL context, theoretical content, motivation

1. Introduction

Sun (2012) states that nowadays questioning strategy in ESL classroom is one of the most effective English language teaching strategies as it allows the teachers to develop more interpersonal activities to their students in a real interactive background, and to involve many students with their own single personalities that teachers encounter in the classroom. Simultaneously, Young (1991) mentions that generating interactive questions is very fundamental for EFL/ESL teachers as it helps them to create an atmosphere in the class for effective language learning and an attitude in the learners that reflects genuine interest and motivation to learn the language. More specifically, several studies focused on how the application of questioning strategies in the EFL/ESL classroom develops the linguistic competence through its improvement of certain skills, especially the reading skills. For instance, Taylor, Alber and Walker (2002) indicate that training EFL students on self-questioning is influential for improving their reading comprehension. Akkaya and Demirel (2012) also suggested that practicing posing questions in the pre-reading stage assists EFL/ESL students to develop effective reading strategies and facilitate their comprehension of the target texts.

Lee (2014) explains that applying inquiry-based technique in teaching EFL/ESL can be classified as one type of the questioning strategies that can be used in the EFL/ESL context. According to him, inquiry involves questions and so an inquiry-based teaching practice simply means generating questions or an approach for communicative competence by foreign language instructors. In this regard, Yubin (2004) reports in his study that creating an inquiry-based teaching learning environment in the EFL/ESL classroom develops the learners' language accuracy and reduces the linguistic errors they usually make when practicing the language. According to Yubin's study (2014), the students' achievement in language accuracy increased after practicing an inquiry-based teaching approach to learning present simple tense. Yubin (2014) explains that the nature of learning occurred during the inquiry-based teaching generated an amount of feedback that was processed by the teacher to the students who were at the same time directly applying the required corrections and implementing them in their actual practice during the lesson. Sujariati et al. (2016) asserts this finding and adds that the results of the application of questioning strategies on an Indonesian EFL university students revealed an increase in the classroom participation with an adequate level of oral fluency on the part of the students due to the opportunities

that were created due to the amount of questions that were generated by the instructor.

However, asking questions in language classes should not only be directed to improving the language competence, but to assist EFL/ESL learners become critical, creative, risk takers, and seekers of new knowledge (Wassermann, 2010; Bachman & Palmer, 1996). This becomes more demanding when English is not only the target language of learning but also the medium of instruction to achieve a certain subject content. Seker and Komur (2008) conducted a study on 53 second-year ELT students in Turkey to investigate the differences between questions asked by ELT students with higher and lower critical thinking ability. The researchers applied an inquiry-based technique in which they calculated the critical thinking scores, by the use of Ennis-Weir Critical Thinking Essay, the students obtained during their learning by the proposed technique. The study findings revealed that students obtained higher critical thinking scores as they asked questions out of curiosity to remove uncertainties and to seek novel ideas. Similarly, Campbell and Mayer (2009) conducted an experimental study investigating the effects of a question asking and information inquiry – based teaching practice on engaging ELT students during the college lectures and improving their learning. The study findings illustrated that the experimental group students, who received 25 slide PowerPoint lecture with inserted multiple-choice questions outperformed the control group students who received lectures through only statements and not corresponding questions on a retention test.

In the Bahraini EFL/ESL context, it has been noticeable to the author how third year student teachers at Bahrain Teachers College usually perform in the discussion part in his theoretical course and how that negatively impacted the learning experience by turning it into a teacher-centered experience than a student-centered one. As it is the case in any theoretical content course, students in the target course showed difficulty to absorb the content and become critical towards the knowledge shared with them in the course by their instructor. This was evident in their reflection journals in the way those students found it challenging to reflect on the testing policy in their school context. The students couldn't inform and justify for which of the studied testing approaches and policies in the course might exist or could be performed in their target teaching context. Nevertheless, they sometimes show hesitance or reluctance to explain the chapters they had read and when they were asked about the reasons, they justified that the given content was too complicated for them to read or comprehend or the language level was beyond their level. Consequently, this had generated frustration on my part as the only leader and instructor for this course as well as the fact that my class usually turns to be teacher-centered than student-centered where my students become passive listeners to my lecture than active participants or critical practitioners, which is in contrast to what they were expected to do in this type of a teacher education program.

In order to facilitate students' learning of a theoretical content course as well as raising their critical sense as novice English Language Teachers (ELTs), an attempt to expose students to a different teaching technique was made. Thus, they were taught the assigned theoretical content through an inquiry-based teaching technique where they were given planned opportunities to critique, reflect and think about the delivered content. Due to positive effects of the proposed technique on English language learners as mentioned in the literature, the author chose this technique to apply in this study for the following reasons:

First, novice ELTs need to perform “sociocultural knowledge and metacognitive strategies” (Celce-Murcia et al., 2012) and this can be best gained and developed during their pre-service language education program where they are exposed to theory and practice simultaneously throughout their regular courses and practicum during their program study. This will enable these novice ELTs to conceptualize the theories and principles they are studying better. In addition, it assists them exemplify the taught principles and practices in their actual reality of teaching EFL/ESL much efficient. Second, developing a critical reflective thinking on professional practices has become a must that any teacher education program must expose the teacher candidates to (Johnson, 2006). Accordingly, the third year ELT students at Bahrain Teachers College (BTC) are urged to acquire this skill to assist themselves develop professionally after they finish their study at college, particularly in the area of language testing and assessment, which requires a gaining of a fundamental theoretical knowledge in this regard. Thirdly, the nature of the chosen course for the current study, i. e., Language Testing and Evaluation, is of particular interest to the author both professionally and personally. The structure and content of the course makes it an interesting one to investigate this topic as it is one of the very few courses that is mainly theoretical and do not include any practical or pedagogical parts where students can have an opportunity to work on designing teaching materials or perform a group activity. On a personal level, the author is the one who proposed and developed this course and he finds himself responsible for improving the quality of learning and teaching experiences that should be performed in it.

Finally, there is no evidence of similar studies conducted in Bahrain Teachers College with pre-service ELT students as participants or in the University of Bahrain with students studying theoretical content courses.

Therefore, it is believed that this study will contribute to the design of more effective pre-service education practices for ELT candidates as well as more meaningful teaching and learning experiences in theoretical content courses.

2. Research Objectives

Based on the above, the main objective of this study is to investigate the effectiveness of implementing an inquiry-based teaching technique in motivating ESL/EFL learners to study a theoretical-English content course during their bachelor programme. Specifically, the current study aims to:

- 1) Measure the effects of applying the inquiry-based technique on increasing the third year ELT students' motivation toward learning an English theoretical content-based course.
- 2) Determine the third year ELT students' level of motivation towards using the inquiry-based technique in teaching and learning English theoretical content-based courses.
- 3) Identify the aspects of effectiveness of applying the inquiry-based technique on the third year ELT students' learning and study of the English theoretical content-based course.

3. Methodology

3.1 Research Questions

The current study was an attempt to make intervention in the current teaching of a theoretical content course for ELT third year students. This will be attempted to answering the following research questions:

- 1) What is the level of students' motivation towards learning the Language Testing and Evaluation course *before* the implementation of the inquiry-based teaching technique?
- 2) What is the level of students' motivation towards the inquiry-based teaching technique *before* the implementation of the proposed strategy?
- 3) What is the level of students' motivation towards learning the Language Testing and Evaluation course *after* the implementation of the inquiry-based teaching technique?
- 4) What is the level of students' motivation towards the inquiry-based teaching technique *after* the implementation of the proposed strategy?

Therefore, a quantitative methodology was adopted through a quasi-experimental design of the study. This methodology was found quite useful as it would assist in measuring the effects of the addressed variables more objectively in order for a possibility of generalization of the obtained findings.

3.2 Hypotheses

Focusing on the inquiry-based technique and its possible effects on increasing third year ELT students' motivation toward learning the theoretical-oriented content courses, two hypotheses were shaped at the outset.

- 1) There are significant differences in the ELT third year students' motivation toward learning the Language Testing and Evaluation course at level ≤ 0.05 *before* the implementation of the Inquiry-based Technique.
- 2) There are significant differences in the ELT third year students' motivation towards the application of the inquiry-based technique at level ≤ 0.05 *before* the implementation of this technique in teaching and learning of the Language Testing and Evaluation course.
- 3) There are significant differences in the ELT third year students' motivation toward learning the Language Testing and Evaluation course at level ≤ 0.05 *after* the implementation of the Inquiry-based Technique.
- 4) There are significant differences in the ELT third year students' motivation towards the application of the inquiry-based technique at level ≤ 0.05 *after* the implementation of this technique in teaching and learning of the Language Testing and Evaluation course.

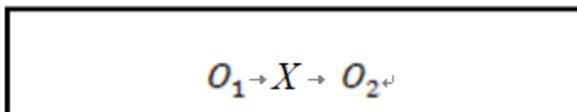
3.3 Participants

The study was conducted on third-year ELT students ($n=20$) in Bahrain Teachers College at the University of Bahrain. This was the first time they take a theoretical content-based course in their specialization, that is Language Testing and Evaluation, as they were used to have general education and language development courses in their year two. The students in this group are also found homogenous from different perspective. First, they all hold positive attitudes towards learning English and learning in English. This can be found in the decision they made in their year two to specialize in English and become English language teachers. Second, they perform an acceptable level of language proficiency that ranges from 60% and above as they all passed their

English Placement Test and were nominated to be ELT candidates. In terms of gender, most of students were females (n=14) while the rest were male (n=5). However, this should not have affected the homogeneity this group enjoys as all of students have been involved in collaborative group projects in which both genders have to work with each other since their year two. Nevertheless, the mode of study these students study in, which is a block system, has enabled them to be in their same group in all of their university courses along their program study. Consequently, this adds to these students’ ability to socialize and interact with each other more easily which increases the homogeneity factor among them.

3.4 Method

The quasi-experimental-one independent group design- was followed in this study. This was applied to the third year ELT section in the academic year 2017-2018. The section was treated as a one independent group that was exposed to two dependent variables. The first dependent variable (O_1) was the students’ current level of motivation towards a) learning the English theoretical content-based course and b) the inquiry based technique as a new teaching strategy. Then students were exposed to an experimental manipulation (X), which was presented in their exposure to and application of the inquiry-based technique during their learning of the theoretical English-content course. This was followed by the second dependent variable (O_2), which was seen in measuring the difference in students’ level of motivation towards learning the theoretical content-based course is measured with reference to the applied treatment. This can be illustrated as follows:



(Cohen et al., 2003: 212)

3.4.1 Survey of Students’ Motivation Towards Inquiry-Based Technique

A survey was designed to measure the target students’ motivation towards the inquiry-based technique before and after the application of this technique in the teaching of their course. The running of the survey before the application of the target technique will act as an authentic opportunity for these students to show their motivations towards a technique that they have never practiced in this course as well as that they might not be aware of before studying this course. Similarly, the running of the survey after the application will act as an indicator that shows the degree of difference in the students’ level of motivation after they were exposed to the target technique and became aware of its practices. The survey was developed in reference to the literature (e.g. Sun, 2012; Sujariati et al., 2016; & Lee, 2014)

The survey includes the following parts:

A covering letter

Section (I): Statements measuring students’ motivation towards the Inquiry-based technique and they are distributed as below:

Table 1. Distribution of statements in the motivation survey towards the inquiry-based technique

Statements	Positive Statements	Negative Statements	Total
No. of the statement	1-2-3-4-7-8-9-11-12-13-15-16-18	5-6-10-14-17-19-20	20
Total	13	7	

Section (II): Statements measuring students’ motivation towards TC2ENT366 course and they are distributed as below:

Table 2. Distribution of statements in the motivation survey towards learning TC2ENT366 course

Statements	Positive Statements	Negative Statements	Total
No. of the statement	1-2-3-8-9-10-11-12-13-14-15-17-18-19-20	4-5-6-7-13-16	20
Total	15	5	

The survey followed Likert scale in responses (*strongly agree, agree, neutral, disagree, strongly disagree*) to provide equal opportunity for all students to express their responses towards the given statements.

The survey was sent for arbitrators in the English Language Education (ELE) department and Educational Studies department to review and validate the survey. An agreement of 75% was obtained among all the approached arbitrators on most of the survey items. Some items were paraphrased or restated as suggested by the arbitrators.

In terms of reliability, the internal reliability among the survey items was calculated using Alpha Cronbach factor through the SPSS and the obtained result was (0.822) which indicates that the designed survey enjoys an adequate value of reliability in terms of the purpose it was designed to fulfil.

Further, the survey statements were analyzed according to the following distribution of weights:

Table 3. Method of survey analysis

Statements	<i>Strongly agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly disagree</i>
	5	4	3	2	1
Positive					
Negative					

The above table illustrates that the *mean* score for each statement will be between (1-5), accordingly, the students' responses were evaluated according to the following scale:

Table 4. Scale of responses' analysis

Judgment	<i>M</i>
Low	1.00 – 2.5
Average	2.6 – 3.9
High	4.00 – 5.00

3.4.2 Design of a Discussion Guide Based on the Inquiry-based Technique

A discussion guide booklet was designed to apply to the participants in the current study. The developed questions were based on recalling and using learnt theoretical content to create a new knowledge in the same domain. According to Walsh and Sattes (2005), recalling, using and creating theoretical knowledge are fundamental cognitive skills that assist the individual learners to become more positive learners, critical about what they learn and enable them to use their learning of the target theoretical content in their university study more effectively (Sattes, 2005).

4. Results and Discussion

4.1 Students' Motivation Towards Learning TC2 ENT366

Students were asked to do a questionnaire related to their motivation towards learning the target course before the application of the proposed strategy in order to give students an opportunity to express their motivations towards learning the target course plus to obtain more accurate responses of the students towards the implemented teaching strategy. The following table illustrates the average motivational level of these students towards the course before and after they were exposed to the strategy:

Table 5. Comparison between Students' motivations towards their study of the Language Testing and Evaluation Course before and after the application of the inquiry-based technique

<i>Stage</i>	<i>No. of participants</i>	<i>Mean</i>	<i>S.D.</i>	<i>df</i>	<i>Value of (t)</i>	<i>Sig.</i>
Before	19	2.85	0.706	19	11.343	0.361
After	19	4.07	0.913	19	195.93	0.013

The above results show significant differences at level 0.05 (0.13) in students' motivation towards studying the target theoretical course after the application of the inquiry-based technique, which indicates that the proposed technique was effective enough in increasing the third year ELT students' motivation towards studying theoretical content courses as represented in the current course [language testing and evaluation]. More detailed analysis of this general finding is discussed according to three main aspects:

4.1.1 Increasing Motivation Through Raising Awareness and Developing Study Skills

It appears that the applied technique successfully assists students to develop more awareness about their course rationale, structure and function. This is obvious in their responses to the questionnaire items shown in Table 6:

Table 6. Detailed analysis of students' motivation towards studying the course before and after the application of the inquiry-based technique

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	5. I don't participate actively in the language testing class discussions.	3.650	.7452	3.89	.5104
	7. I think that studying pure theoretical courses like language testing helps me select the teaching pedagogy suitable for my students.	1.650	.6708	4.650	.4894
	8. I think that this type of theoretical-content courses [e.g. language testing] does not suit my academic abilities.	3.650	.8127	1.6	.5026
	11. Studying pure theoretical courses like language testing raises my confidence in my specialization as an ELT candidate.	1.600	.6806	4.450	.5104
	13. I don't prefer to study other theoretical content courses like language testing.	3.650	.7452	3.89	.5104
	14. I don't enjoy searching for topics or issues that are related to the topics studied in language testing.	3.700	.8013	4.00	.5104
	15. I never think of skipping any of my language testing classes.	1.750	.6387	4.300	.4702
	16. I like the tasks and assignments given in the language testing course.	1.700	.6569	4.600	.5026
	19. Studying theoretical courses like language testing isolates me from the actual reality of teaching English as ESL/EFL.	3.650	.7452	4.61	.5104

As it is illustrated in the table above, participants showed how the experimented technique helped them to conceptualize their teaching practices by linking the theoretical content they were studying, which is assessment and evaluation in this regard, with the pedagogical practical courses they were studying at the same time (e.g. items 7,11,13 & 16). This development of awareness toward the integration between theory (as represented in the target course in this study) and practice (as expressed in students' responses in the questionnaires) justifies the increase in students' motivation towards learning the target content course as seen in students' responses to items 5,15 & 19. According to the students' responses to these items, they find themselves more engaged in the course classes through class participation and this could be due to the nature of the course assignments, which were designed according to the proposed technique, that is the inquiry-based. Chang (2012) compared various linguistic features of three academic disciplines (Humanities and Art, Social Sciences & Education, and Physical sciences and Engineering) forms and functions of inquiry. The results of his study revealed more commonalities rather than differences across disciplines. Similarly, in this study, the above discussed results of ELT students

matches with what Adedoyin's (2010) reached in his study, which was conducted on 471 math students to investigate their perceptions of the role of questioning in learning their subjects with theoretical content and its effect on their achievement in those subjects. The results obtained in Adedoyin's study (2010) indicate that students perceived the technique of questioning, especially those asking for certain method of inquiry, as a positive effective technique on those students' motivation to learn the theoretical content of the assigned subjects.

Consequently, the results obtained for items 8 and 14 as shown in table 6 indicate that the increase of those students' motivation towards the target theoretical course was associated with a development of academic skills, such as identifying specific methods for searching particular information and extensive reading of a topic or issue related to the studied content in the course. Lee (2014) asserts this finding in his study that was carried out on 12 students to investigate the effectiveness of implementing the inquiry-based pedagogy in second and foreign language learning. His study reports that eight out of twelve students who participated in the study perceived the inquiry teaching as an effective tool to enhance their motivation in learning the target language.

4.1.2 Motivating Students by Becoming More Academically Focused

In addition to the general findings illustrated above in Table 6, the overall obtained results also show some specific findings. These findings reflect how the used inquiry-based technique enabled the participant students to develop special academic skills as a consequence of their increasing motivation to learn the target course content. Table 7 illustrates this more clearly.

Table 7. Detailed analysis of students' motivation towards studying the course before and after the application of the inquiry-based technique

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	3. I find the language testing course includes a lot of technical terms that are difficult to understand.	4.350	.6708	1.750	.7164
	12. Studying pure theoretical courses like language testing enables me to become more reflective about my practical performance in the field.	4.450	.5104	1.700	.5712
	17. Studying theoretical courses like language testing improves my comprehension and knowledge in my specialization.	1.450	.5104	4.7	.515
	20. I find this type of theoretical courses requires advanced study skills to understand its content.	1.500	.6070	4.650	.5817

The comparison between students' responses to items 3 & 4 before conducting the inquiry technique justifies the high means (4.3 & 4.4) and standard deviation (.670 & .510) scores obtained before the treatment. It also explains the low mean (1.7) and standard deviation (0.716) scores registered after the application of the inquiry-based technique on the third year ELT students. Though no further investigation on these two items was carried out with the students due to the focus and nature of this study, both items 12 and 17 can display part of the fact in this regard. As it is shown in the table, students find themselves after implementing this technique more motivated and ready to practice reflection as they can link what they study in their theoretical course to their actual teaching practice in terms of ways of assessment and evaluation. This could be due to the fact that the application of the inquiry technique required that the formation of the questions or the tasks according to which the students were required to respond needs to base on cultivation of affective factors and cognitive theories (Wilén, 1991). In this study, the participants were asked to respond to questions and do tasks that relate to certain issues and concerns expressed and raised by students themselves. According to Lee (2014), cognition in language teaching refers to the ability and process of thought, including understanding ability, logical thinking ability, creativity, problem solving skills and intuition. On the other hand, Lee (2014) mentions that affection in language teaching refers to the emotional factors (e.g. psycholinguistics & sociolinguistics) that relate intertwine and interrelate with cognition. This is exactly what happened to the participant students in this study as their learning and study of the target content was emotionally influenced by their desire and motivation to improve themselves through acquiring definite cognitive skills such as comprehension and reflection. This is asserted by Miciano (2002) who did an experimental study to find out the effectiveness of using the questioning study on developing students' self-questioning in order to improve their comprehension of prose texts in English. The

researcher indicates that developing deep text processing and asking strategic questions by ELT candidates can be achieved through training them on different pedagogies that stimulate students to generate questions and motivate them to inquire more about the content they study.

4.1.3 Promoting Metacognition for Extra Motivation

The third finding obtained from the analyzed results about the students' motivations towards the taught course after implementing proposed technique can be seen from the perspective of how the new applied technique, the inquiry based teaching, motivated students to practice metacognitive skills. The obtained responses to the items 2,4, & 18 in Table 8 displays this fact.

Table 8. Detailed analysis of students' motivation towards studying the course before and after the application of the inquiry-based technique

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	2. Studying language testing and evaluation assists me to more understand how EFL/ESL can be better delivered and assessed.	1.650	.5871	4.350	.5871
	4. Studying language testing assists me in my study of other none theoretical oriented ELT courses.	1.400	.5982	4.450	.6048
	18. I don't think theoretical content courses like language testing are necessary.	1.600	.5026	4.55	.6048

Indeed, this fact integrates with the findings explained in Table 8 which explains how the students find the proposed teaching technique equipped them with some skills such as comprehension and reflection that positively influence their motivation towards studying the current theoretical course. The above results display further skills that those students developed and impacted their motivation towards studying the concerned course. The responses for item 2 imply that students have developed metacognitive skills in the way they are able to correlate between the content they studied and how they can utilize it to better understand or justify for certain practices in terms of current assessment and evaluation policies and practices which they experience in the real context. Byun et al. (2014) asserts this fact and explains that using inquiry techniques and systematic questioning in EFL/ESL teaching motivates students to practice 3 different learning approaches to the target study content, which are a) developing sub detailed questions from the main idea, b) negotiating the questions, and c) following a systematic mental analysis of the analyzed content. These three approaches can be claimed were practiced during the application of the inquiry based strategy in this study as displayed in the following figure:

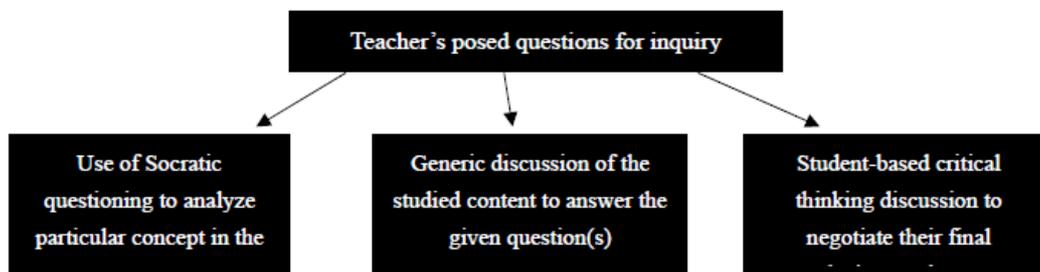


Figure 1. Students' development of learning approaches as a result of applying the inquiry based teaching technique

The development of these particular learning approaches as illustrated above proves that application of programmed questioning and inquiry tasks supports students to develop their critical thinking skills because the use of different inquiry patterns performed by the teacher leads ESL/EFL students to practice more cognitively demanding thinking and language interaction with their teacher to reach shared understanding and interpretation of the delivered content. This in turn encourages reflection among those students and makes the learning environment of the theoretical course more engaging and interactive. This finding matches with what Pate and Miller (2011) reported in their study that students in experimental self-questioning group scored 80% or better

than students in control group (53%). The researchers conclude that this approach supports students to improve the level of abstract thinking and this is exactly what this study has achieved as students became more critical to the theoretical content studied in the course and how the inquiry approach directed them to a way they construct their new knowledge about the target content.

4.1.4 Reinforcing Students' Motivation in Subject Matter Learning

The last finding that can be reported regarding students' motivation towards learning the target theoretical content-based course is that the proposed strategy assisted students to increase their motivation towards the overall learning experience they have in this course. The obtained responses for items 9 & 10 of the questionnaire display this fact:

Table 9. Detailed analysis of students' motivation towards studying the course before and after the application of the inquiry-based technique

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	9. I feel comfortable when I study topics and issues in language testing.	1.700	.7327	4.600	.5026
	10. I don't attempt to expand my readings in the topics I study about language testing.	1.650	.5871	4.350	.4894

One major justification for this increased motivation towards learning the course content could be the way the inquiry technique assisted students to interact with two main types of questions, i. e., the display and referential questions. According to Sun (2012), display questions ask the respondents to display knowledge already known to the questioner, and referential questions request information not known to the questioner. Responding to these two types of questions assist the learners feel more secured and free from any type of assessment as they find themselves seekers of knowledge, who are in need to understand how and why they learn a particular knowledge than being just recipients of particular information to use for the exam purpose. This finding is asserted by what Meng, Zhao and Chattouphonexay (2012) found in their study. According to this study, content-based instruction has been viewed as an essential part of English language teaching planning in the US k-12 education. In their study, the researchers attempted to explore the type of functions questions applied by teachers in content-based instruction (CBI). By focusing on 16 grade-three students and only one teacher who taught science in English and the use of observations and interviews, the researchers found that in content-based instruction, display and referential questions were the most frequently used type of questions by the teacher.

4.2 ESL/EFL Students' Motivation Towards the Applied Technique (IBT) in Teaching English Content-based Courses

Close to the obtained findings regarding the students' motivation towards learning the target course, their responses to the questionnaire about their motivation towards the applied teaching technique indicates significant findings as well. This can be seen in the summary of the registered results of students' motivation towards the inquiry-based technique before and after its implementation in their course. Table 7 displays this summary:

Table 10. Comparison between Students' motivations towards the Inquiry-based technique before and after its application

<i>Stage</i>	<i>No. of participants</i>	<i>M</i>	<i>S.D.</i>	<i>df</i>	<i>Value of (t)</i>	<i>Sig.</i>
Before	19	2.42	1.302	19	8.32	0.00
After	19	4.28	0.693	19	27.61	0.00

The above table illustrates the increase in students' motivating to learn the theoretical-English content after the application of the inquiry-based technique as registered in their Mean (4.28) and Standard Deviation (0.693).

4.2.1 IBT is an Effective Means for Developing Reading Comprehension

In terms of the application of the Inquiry-Based Technique (IBT), the participants' responses to the survey revealed how the participants became more motivated to learn through the proposed technique as they found it

helpful in developing some skills that positively influenced their reading ability and made them more capable to approach and study the theoretical content of the course. More details about this finding is shown in the following table:

Table 11. Detailed analysis of students' motivation towards IBT before and after its application

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	6. I feel afraid when I am asked to search for certain information related to the content of the course.	4.350	.6708	4.31	.6070
	7. I think that giving students tasks to search for further information or inquire about specific issue in the course content makes studying this course boring and rigid.	4.200	.6156	4.45	.6048
	8. I find that using guiding questions and doing research essays makes me feel more confident in learning the course.	1.550	.6048	4.350	.5871
	9. I find that using the inquiry-based technique assists me in improving my understanding of the studied content.	1.700	.5712	4.250	.5501
	13. I find that using the inquiry-based technique has made the course content more complex.	4.300	.6569	4.21	.5026
	14. I always find myself being challenged when I am asked to answer set of questions related to the assigned content in the course.	1.700	.6569	4.300	.5712
	16. I think that using the inquiry-based technique did not encourage me to read more about the studied content.	4.450	.6048	4.55	.5130

According to the table, IBT had positive its influence in developing students' comprehension as they read and study content of their course (item 9) and this can be linked to their responses for item 16, in which they show how IBT motivated them to increase their readings of the related topics to their course content. Several studies (e.g. Taylor, et.al., 2002) and Miciano, 2002) assert that using questioning strategies, such as inquiry technique, self-questioning and programmed questioning, have strong effect on developing the EFL/ESL learners' cognitive reading comprehension skills and oral reading comprehension proficiency as well. In addition, Akkaya and Demirel (2012) report that achieving effective reading ability of high theoretical content is associated with guiding questioning strategies posed in pre-reading, during reading and post reading activities. This is exactly what was done with the participants during the application of IBT and reflected in their responses to items 8 & 14 in the survey about their motivation towards IBT. The results show how those participants felt demotivated towards responding to guiding questions before the application of IBT as they have always felt that they were challenged by something they had never been prepared for. On the contrary, their responses to items 8 & 14 changed after the application of IBT as the majority of participants found themselves confident when they are given guiding questions as they always find themselves challenged by the content they are required to read and understand. However, it seems that the proposed technique didn't have any influence in changing those participants' motivation towards the type of content and their level of anxiety and complexity when studying the content of this course. This is clearly reflected in the data registered for items 6, 7 and 18. Eason et al. (2012) explored the relative importance of different factors that influence EFL/ESL students' comprehension of read content. They explained that ESL/EFL student's level of comprehension can vary according to the text and question types as well as semantic and syntactic awareness, inference, or level of cognitive skills that are required to facilitate these learners' approach and comprehension of the target content. Therefore, one way to go over this fact is that these students should have more exposure to higher order cognitive skills such as reasoning, inferencing and elaboration to comprehend more complex text and question types.

4.2.2 Developing Learning Skills Through IBT

In addition to the improvement of comprehending read/studied content and development of associated reading skills mentioned and their influence on increasing the students' motivation towards using IBT in their learning as discussed in section 5.2.1, it is also found that the applied technique acted as a means for students to develop some learning skills. This can be seen as the increased in interaction between students and the target course content as expressed by participants in item 4, in which a dramatic increase of motivation was expressed by the

students towards studying their course content after using IBT. Table 12 provides a summary of these findings:

Table 12. Detailed analysis of students' motivation towards IBT before and after its application

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	1. I enjoy interacting with the way of raising questions in the Language Testing classes.	1.650	.7452	4.400	.5982
	2. I find that using the inquiry-based technique motivated me to get involved in the course.	1.650	.5871	4.350	.5871
	3. I find that using the inquiry-based technique in the course has made it more exciting.	1.750	.7164	4.350	.6708
	4. I think that using the inquiry-based strategy in the course has reduced interaction between the student and the target content.	4.450	.6048	1.400	.5982
	12. Using the inquiry-based technique has developed my research skills.	1.700	.5712	4.450	.5104
	17. The inquiry based activities given by the instructor made the target content of the course simpler.	1.450	.5104	4.7	.515
	18. The inquiry-based technique provided me with useful feedback to avoid my errors in this course.	1.600	.5026	4.550	.6048
	19. I believe that using the inquiry-based technique is effective in teaching theoretical content courses.	1.500	.5130	4.550	.5104
20. Using the inquiry based technique in this course turned learning into a competition than just a traditional learning.	1.500	.6070	4.650	.5871	

Consequently, it is found that IBT acted as an excellent opportunity for ESL/EFL learners to experience exciting and challenging learning in a way they were allowed to discover answers for given questions/tasks, reflect on specific test items and materials and justify for their judgments in reference to the studied content, plus practicing self-learning that reinforces their confidence as ESL/EFL learners (items 1, 2 & 3). Also, they found it a useful way to improve their language proficiency as ESL/EFL learners (items 18 & 19). Lee (2014) asserts this fact as well and explains that although IBT has primarily been applied to the teaching of science and math, its concept and question-answer mechanism are equally well-suited to L2 classroom as instructors employ IBT to enhance the acquisition of vocabulary, to explore the grammatical structures, to engage in the negotiation of meaning and to discover the embedded cultural essence. This practice helps ensure the L2 learning experience stays active and dynamic which in turn keeps students engaged and attentive.

Generally, it was evident how IBT motivated the participants to get more engaged and to be more interactive with studying their theoretical content of the course. The obtained results show how the application of IBT made students less stressful and anxious in addition to having them more involved in the class discussions and activities. Table 13 displays this:

Table 13. Detailed analysis of students' motivation towards IBT before and after its application

<i>n</i>	<i>Items</i>	<i>Before</i>		<i>After</i>	
		<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>
19	5. I feel stressed when the inquiry-based technique is used by the instructor during the course classes.	4.400	.6806	4.65	.5982
	10. I feel that using the inquiry-based technique gives me an equal opportunity to participate in the class discussions.	1.550	.6048	4.250	.6387
	11. Using the inquiry-based technique enabled me to get more involved with my classmates through exchanging information and experiences with them.	1.526	.6118	4.550	.6048
	I feel more motivated to learn the target content when the instructor uses the inquiry-based technique with us.	1.500	.5130	4.350	.4894

Sun (2012) considers reduction of students' anxiety and stress a humanistic aspect which IBT enjoys, particularly for ESL/EFL students. According to him, IBT enables the teacher develop communication with the students in the way that teacher pays more attention to students' listening and speaking abilities while they use classroom languages, especially when both teacher and students use equal tone to express their thoughts and ideas.

In sum, it can be stated that the application of the IBT in teaching the English content-based course was effective enough to raise ESL/EFL students' motivation towards their study of English theoretical content-based courses as well as using inquiry skills to facilitate their learning in the target language. A general summary of the obtained results is shown in Table 14:

Table 14. Overall comparison between students' motivation towards the target course and implemented strategy before and after the implementation of the inquiry-based teaching technique

Students' motivation	Stage	N	M	S.D.	df	t	Sig.
towards the Course	Pre	19	2.56	1.011	-	11.343	0.361
	Post	19	4.07	0.913	19	195.93	0.013
towards the implemented Strategy	Pre	19	2.42	1.302	19	8.32	0.00
	Post	19	4.28	0.693	-	27.61	0.00

5. Limitations

The findings obtained in this study were limited to the followings:

Time limitations: The study was carried out in the second semester of the academic year 2017-2018.

Human limitations: The third year ELT students who are studying theoretical courses either in semester 1 or semester 2.

Objective limitations: This is represented in the participants' motivation toward studying a theoretical oriented course.

Place limitations: The study was carried out in Bahrain Teachers College at the University of Bahrain.

6. Conclusion

Based on the obtained results and discussed findings, it can be stated that the application of the proposed teaching technique indicates a rejection of the study hypotheses 1 and 2 and an acceptance of the hypotheses 3 and 4. This was proved through the results which indicate significant differences in those ELT third year students' motivation toward learning the target theoretical English-based content course at level ≤ 0.05 after the implementation of the Inquiry-based Technique. As well as, the results show significant differences in those third year students' motivation towards the application of the inquiry-based technique at level ≤ 0.05 after the implementation of this technique in teaching and learning the Language Testing and Evaluation course. Therefore, it is recommended that this type of teaching techniques should be applied when teaching pure theoretical content courses in general and when teaching theoretical English-based content to ESL/EFL learners. This is due to the fact that this technique facilitates ESL/EFL learners in understanding the target content in the courses through the guiding questions and inquiry tasks which they are assigned to do while practicing this technique. Moreover, this technique proves to be an effective motivator to ESL/EFL learners to establish positive attitudes towards learning theoretical content courses in the foreign language, which reinforces their confidence in learning and using English as a foreign language and the medium of instruction. Further, it is worth to emphasize that this technique is more effective to ESL/EFL learners to be critical and active learners while using English for not only communication purposes but for learning purposes as well. This was evident in students' study skills as they developed during the application of this technique.

References

- Akkaya, N., & Dermirel (2012). Teachers' candidates' use of questioning skills in during-reading and post-reading strategies. *Procedia – Social and Behavioural Sciences*, 46, 4301-4305. <https://doi.org/10.1016/j.sbspro.2012.06.244>
- Bachman, L.F., & Palmer, A. S. (1996). *Language Testing in Practice*. Oxford; Oxford university Press.
- Bernstein, R. (1983). *Beyond Objectivism and Relativism*. Philadelphia: University of Pennsylvania Press.

- Campbell, J., & Mayer, R. (2009). Questioning as an instructional method: Does it affect learning from lectures? *Applied Cognitive Psychology, 23*, 747-759. <https://doi.org/10.1002/acp.1513>
- Celce-Murcia, M., Brinton, D. M., & Snow, M. A. (2014). *Teaching English as a Second or Foreign Language*. USA: Heinle Cengage Learning
- Cohen, L., & Manion, L. (2003) *Research Methods in Education* (5th ed.). London: RoutledgeFalmer.
- Eason, S. H., Goldberg, L. F., Young, K. M., Geist, M. C., & Cutting, L. E. (2012). Reader-text interactions: How different text and question types influence cognitive skills needed for reading comprehension. *Journal of Educational Psychology, 104*(3), 515-528. <https://doi.org/10.1037/a0027182>
- Kerlinger, F. N. (1970). *Foundations of Behavioural Research*. New York: Holt, Rinehart & Winston.
- Lee, H. Y. (2014). Inquiry-based teaching in second and foreign language pedagogy. *Journal of Language Teaching and Research, 5*(6), 1236-1244. <https://doi.org/10.4304/jltr.5.6.1236-1244>
- Meng, J., Zhao, T., & Chattouphonexay, A. (2012). Teacher questions in a content-based classroom for EFL young learners. *Theory and Practice in Language Studies, 2*(12), 2603-2610. <https://doi.org/10.4304/tpls.2.12.2603-2610>
- Miciano, R. (2002). Self-questioning and prose comprehension: A Sample case of ESL reading. *Asia Pacific Education Review, 2*(3), 210-216. <https://doi.org/10.1007/BF03024914>
- Pate, M. L., & Miller, G. (2011). Effects of regulatory self-questioning on secondary-level students' problem-solving performance. *Journal of Agricultural Education, 52*(1), 72-84. <https://doi.org/10.5032/jae.2011.01072>
- Seker, H. & Komur, S. (2008). The relationship between critical thinking skills and in-class questioning behaviours of English language teaching students. *European Journal of Teacher Education, 31*(4), 389-402. <https://doi.org/10.1080/02619760802420784>
- Sujariati, M., Rahman, Q., & Mahmud, M. (2016). English teacher's questioning strategies in EFL classroom at SMAN 1 Bontomarannu. *ELT Worldwide Journal, 3*(1), 107-121.
- Sun, Z. (2012). An Empirical Study on New Teacher-student Relationship and Questioning Strategies in ESL Classroom. *English Language Teaching Journal, 5*(7), 175-183. <https://doi.org/10.5539/elt.v5n7p175>
- Taylor, L. K., Alber, S. R. & Walker, D. (2002). The Comparative effects of a modified self-questioning strategy and story mapping on the reading comprehension of Elementary Students with Learning Disabilities. *Journal of Behavioural Education, 11*(2), 69-87. <https://doi.org/10.1023/A:1015409508939>
- Youbin, Z. (2014). *Questioning Strategies based on the Affective Teacher-student relationship* (p. 3, 28). Jianqxi Normal University.
- Young, D. J. (1991). Creating a Low-Anxiety Classroom Environment: What Does Language Anxiety Research suggest? *Modern Language Journal, 75*, 426-439. <https://doi.org/10.1111/j.1540-4781.1991.tb05378.x>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).