فاعلية استخدام الرحلات المعرفية عبر الويب على أنماط الانشغال المدرسي لدى طلبة الصف العاشر في مادة الدراسات الاجتماعية بسلطنة عمان

The Effectiveness of Using Cognitive Trips via Web (Web Quest) on the Types of School Engagement among Tenth Grade Students in Social Studies Subject in the Sultanate of Oman

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الملخص

يهدف هذا البحث إلى دراسة أثر استخدام استراتيجية الرحلات المعرفية عبر الويب (web quest) على أنواع الاندماج المدرسي (المعرفي والسلوكي والانفعالي) لدى طلبة الصف العاشر في مادة الدراسات الاجتماعية بسلطنة عمان، كما يهدف إلى الكشف عن وجود فروق دالة إحصائيا في تأثير استخدام طريقة تدريس الرحلات المعرفية عبر الويب على أنواع الاندماج الدراسي باختلاف النوع الاجتماعي، لقد اعتمد الباحث المنهج التجريبي وتصميم العينة باستخدام اختبارين قبلي وبعدي وذلك نظرا لملائمته لطبيعة العينة البحثية المستهدفة، وقد بلغت عينة البحث (٦٠) طالبا من مدرسة الشيخ أبو زيد الريامي للتعليم الأساسي (٥-١٢) و(٦٠) طالبة من مدرسة الجبل الأخضر للتعليم الأساسي ٥-١٢ مقسمين إلى مجموعتين أحدهما تجريبية وعددها (٣٠) طالبا و(٣٠) طالبة باستخدام طريقة تدريس الرحلات المعرفية عبر الويب والأخرى ضابطة عددها (٣٠) طالبا و(٣٠) طالبة باستخدام الطريقة التقليدية لكل مدرسة على حدة. واستخدم الباحث مقياسًا للاندماج الدراسي يتكون من ثلاث محاور هي: الاندماج المعرفي، الاندماج السلوكي، الاندماج الانفعالي، وتم التحقق من تمتع المقياس بالصدق والثبات من خلال تطبيقه على عينة استطلاعية، ولقد تم استخدام برنامج SPSS للتحليل الإحصائي للبيانات، ولقد اسفرت النتائج عن تأثير استخدام تدريس الرحلات المعرفية عبر الويب تأثيرا إيجابيا على أنواع الاندماج الدراسي (المعرفي والسلوكي والانفعالي)، كما أشارت النتائج إلى أنه لا اختلاف في تأثير لاستخدام طريقة تدريس الرحلات المعرفية عبر الويب على أنواع الاندماج الدراسي باختلاف النوع الاجتماعي، وأخيرا قدم البحث عدة توصيات في ضوء النتائج.

Abstract:

This research aims to study the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman. It also aims to reveal the presence of statistically significant differences in the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to gender. The researcher used the experimental approach and sample design using two pre and post -tests, which is suitable to the nature of the research. The research sample consists of (60) students from Sheikh Abu Zaid Al Riyami School for Basic Education (5- 12) and (60) students from Al-Jabal Al-Akhdar School for

Basic Education 5-12. The sample was divided into two groups, one of which is an experimental group, which consists of (30) male and (30) female students using cognitive trips via web (web quest), and the other is a control group, which consist of (30) male and (30) female students using the traditional method for each school separately. The researcher used a scale of cognitive trips via web (web quest) on the types of school Engagement consisting of three dimensions: cognitive Engagement, behavioral Engagement, and emotional Engagement. The validity and reliability of the scale was verified by applying the scale to a pilot sample. SPSS program was used for statistical analysis. The results revealed that using cognitive trips via web (web quest) impacts positively on the types of types of school Engagement (cognitive, behavioral and emotional). The results indicated also that there is no difference in the effect of cognitive trips via web (web quest) on the types of school Engagement according to gender. Finally, several recommendations were presented on the basis of the finding.

Introduction

Teaching strategies or methods are one of the most important aspects that teachers give most of their attention to, as it is the best way through which learning is achieved inside and outside the classroom, whether by using the traditional style of education or using the integrated style based on the use of technology and the Internet. Teachers always seek to most appropriate way to deliver information to their students in view of the nature of the educational situation. Among those methods or strategies is the strategy of using cognitive trips via web (web quest), which depends on the student as the focus of the educational process. It is a set of educational activities and tasks that help the learner to explore and extract information. It needs the use of higher-level thinking and problem-solving skills through realistic questions about a specific topic or problem, and these questions are directed and selected in advance by the teacher and depend entirely on information sources on the Internet (Al-Sayed, 2019).

Education based on the Engagement of technology in education, and the use of various teaching strategies such as the use of cognitive trips via the web, which takes into account the individual differences, especially with regard to learning styles, is not limited to teaching information to students, but goes beyond that to trying to engagement students in educational activities and tasks. This contributes greatly to raising the level of student participation inside and outside the classroom, and this is one of the most important goals that educational institutions seek to develop (Stephen, 2016).

School Engagement is the most important factors that must be taken into account when learning student from several aspects: first, the cognitive aspect, which indicates the extent of interest and the degree of proficiency shown by the student when participating in various educational activities and tasks, whether curricular or extra-curricular. Secondly, from the emotional side, which refers to competence, values, and belonging feelings. It also includes positive reactions towards the teacher and colleagues, and the educational process in general. And thirdly, from the behavioral point of view, which refers to the behaviors shown by the student inside the classroom, which reflect the extent of the student's interest and the effort he exerts during the educational process. Secondly, that he realizes the extent of his different capabilities and abilities, and thirdly, how can he employ these capabilities effectively and positively (Linnansaari & Viljaranta, 2015).

Hodges' study also indicates that the student's inability to achieve School Engagement in its various forms represents in itself a problem that has dimensions on the educational process and society. As a whole, reports issued by the American Foundation for Quality in Education indicate that out of every three students, one of them fails to achieve School Engagement, which forces them to leave school seats, and thus negatively affects society, especially with regard to unemployment and the spread of crime (Hodges, 2018).

Educational institutions have paid a lot of attention to students' School Engagement by using possible means to engage students to the emotional, behavioral and cognitive aspects, including the use of teaching strategies that depend on the student as the focus of the educational process to enhance his participation cycle, and work to arouse attention and invest his energies (Olson, 2015). Among these strategies is the use of cognitive trips via web based on active collaborative learning using multimedia, which takes into account the learning styles of students. Stephen (2016) indicated the positive impact of using cognitive trips via web on School Engagement through student participation in performing tasks, class activities and enhancing student cooperation, and these impact on learning outcomes. As pointed out (Esomonu & Okeaba, 2016) to the positive impact of cognitive trips via web on student behavior in terms of school attendance, student participation, exchange of knowledge and interaction with the teacher, as it proved effective in improving academic achievement.

Geography is considered a subject that have been greatly affected by modern technological developments, especially with regard to the use of educational media, as it is among the subjects that are affected by what is happening in society. visual or both together. It contributes to the awareness of geographical phenomena in their temporal and spatial dimensions and social, economic and political change, which prompted those concerned to prepare educational media that help the teacher to teach them, which contributes to increasing their effectiveness and it achieves its goals (Al-Sunaid, 2020).

Geography is concerned with studying phenomena and places and climatic changes. it is very important for teachers to use interactive means in presenting these phenomena realistically away from abstract concepts, and using Internet sites that abound with these various educational means through which the students can move between the new and the old, and between the local level and the regional and global levels, as well as between reality and imagination and many realistic experiences that researchers have carried out in the study of geographical phenomena worldwide, which contributes to arousing attention and School Engagement (Al-Salem, 2017).

Hence, this research comes to investigate the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman

Research problem

Despite the efforts made in the field of education to catch up with scientific and technical developments, and to adapt them in accordance with the educational systems followed by various countries. However, there is a concern for teachers on how to employ these scientific and technical developments within the classroom through the use of appropriate teaching strategies to make education livelier, which contributes to increasing school engagement (Abu Raya, 2016).

The interest of those in charge of educational systems is increasing day after day in the educational problems that students face during the course of the educational process, such as the low school engagement, which leads to poor learning outcomes (Azmy, 2015), and perhaps among the reasons is the continued lack of development of some curricula to modern curricula based on the engagement of technology in education, and for teachers to continue providing scientific material to students in the classroom through the use of traditional teaching strategies based on memorization (Humaid, 2020).

The problem of low level of school engagement afflicts educational institutions, especially teachers in the classroom, because of its importance in achieving educational goals. And the student, and between the student and his peers, and between the student and the educational content, and the extent to which the content is appropriate to his inclinations, trends, and learning styles (Nasr, 2019). The teaching method based on theoretical aspects does not meet the needs of students, especially with the development of modern technologies in the diversity of educational media and the ease of communication between the teacher and the student. The lack of diversity in the use of teaching strategies based on the use of technological and technical reality in the educational process, including the integrated and diverse educational environments it contains, is among the most important problems that educational institutions suffer from the low level of school engagement among students. Whether at the behavioral level in participating in educational tasks or activities or at the emotional level in the relationship between students and the teacher, or at the cognitive level by employing cognitive strategies to serve their cognitive tendencies and attitudes (Kuzu, 2015).

Given the extreme importance of school engagement, it becomes a matter of interest for educators, researchers, and curriculum developers, including social studies curricula, in terms of interest in accordance with scientific and technological developments, and the search for the best modern methods of teaching (Alewi, 2020). Social studies curricula such as history and geography are based on theoretical aspects and are mostly lack of practical and skillful aspects, and therefore teachers often rely on a teaching method based on memorization, in which the teacher is focus of the educational process and the student is merely a recipient of information, and therefore the student lacks the vitality of learning, which affects the school engagement with fellow students, and this has been shown by some Omani studies, including a study (Ali, 2019).

The problem of the current study lies in the low attitude of students towards choosing economic geography in the eleventh grade, which prompted many students to choose sports, plastic arts and music without their desire only due to its ease and difficulty of economic geography. In addition to the diversity of educational media between print, visual and audio, through which topics become more dynamic in dealing with geographical phenomena, whether economic or environmental. The researcher hopes through to be a key to the solution in raising the level of school engagement. The study of (Khamis, 2016), the study of (Al-Zoubi, 2017) and the study of (Al-Zahrani A., 2021)

were recommended to overcome on the problem of the low level of school engagement using modern teaching strategies based on the integration of technology in education, such as the use of cognitive trip via web as one of the e-learning environments based on interaction between the student and the teacher, between the student and his peers, and between the students and the educational content, through which the student becomes the focus of the educational process in an active learning based to search, analyze, explore, investigate, solve problems, and use his higher mental skills.

The study (Samaida, 2015) indicated that there is a positive effect between the characteristics of the learning environment based on the use of web technologies and the of school engagement, whether at the behavioral level, the emotional level, or the cognitive level. Effective use of teaching strategies based on the use of technology. Accordingly, the problem of the current research is represented in its attempt to investigate the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman.

Research questions

This study seeks to answer the following questions:

Q1. Is there effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman?

Q2. Are there significant differences on effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to gender?

Research Objectives

This research aims to achieve the following objectives:

1-Investigating if there is effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman.

2- Investigating if there are significant differences on effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to gender.

Review of Related Literature

Cognitive trips via web is one of the methods of e-learning based on the use of video clips, sound and image, movements and texts in its various operations in terms of size and shape, and contribute directly to successful teaching practices using webcasting for education based on the use of computers and the Internet. This strategy depends on the use of reliable and easily accessible internet sites in order to access the required information, so the student in this strategy bears the responsibility of self-learning, and is able to be more benefited from it in creative and critical thinking, problem solving and providing appropriate solutions. This helps to motivate Students to access knowledge that achieves quality in education, and is based on the collective performance of students. Thus, contributes to the school engagement and the exchange of knowledge, and also contributes to defining the modern roles of the teacher such as design, research and supervision of student learning (Osama, 2015).

To talk about the nature of cognitive trips via web, we find many definitions that dealt with this strategy via the web, including: It is a surfing process on the internet whose aim is direct and correct access to information with the least possible effort. The aim of developing the learner's thought, and making the learning process an enjoyable process for the student (Sen, 2006). Lamb also defines it as inquiry-based activities that allow learners to use various information sources on the Internet to access real and meaningful education (Lamb, 2007).

Web Quest Elements of Cognitive trips

Knowledge trips via web contain seven elements or components, which were agreed upon by (Osama, 2015) and (Al-Salem, 2017), and the researcher will address these seven elements in detail as follows:

The first element - Introduction: Introduction is the main element in cognitive trip via web, as it presents the way for the subject to be learned and researched, as well as clarifies the tasks required by the student in clear, specific and appropriate terms for the topic. (AL-Khataybeh, 2016).

The second element: tasks: Task element is considered a pivotal element because it is the element from which the students start on their trip through the tasks required of them, and these tasks must be identical to the scientific material to be learned, implementable and exciting for the learners' interests.

The third element: procedures or operations: This element includes a description of the steps that students must complete during the activity performance (cognitive trips), and it also includes directions, tips, timelines, concepts, strategies, and the collaborative roles that students play.

The fourth element: resources. The idea of cognitive trips via web is mainly based on searching for information in the intranet through links or various educational media, printed and non-printed, related to the location of the cognitive trip prepared in advance by the teacher.

Fifth Element: Evaluation: The evaluation in the cognitive trips is the basic criterion for measuring students' skills and outputs through the various activities that will be implemented within the specified time. (Alewi, 2020).

Sixth element: findings and recommendations (Conclusion): In this element, a summary of the cognitive trips' idea that has been researched and investigated on the web is presented. It also includes the information that students are expected to acquire at the end of the cognitive trips.

The seventh element: Teacher page: This page contains a guide to the strategies that the teacher followed in preparing the cognitive trips.

Advantages of cognitive trips Web Quest

Cognitive journeys (Web Quest) have many advantages, including: It works to motivate the learner to self-learning by using his skills and abilities, which contributes to increasing his interest and motivation. Cognitive trips help develop higher abilities and skills such as analysis, synthesis and evaluation. Provide the student with sources of information based on searching for accurate information on the Internet. It is based on the principle of encouraging collaborative learning in completing tasks. The learner becomes a researcher and organizer of the educational process (Murssi, 2020).

The importance of Web Quest cognitive trips in the educational process:

(Al-Manhrawi) pointed out the importance of (Web Quest) in the teaching-learning process in the following points: Employing the strategy of cognitive trips via web in the classroom is a factor of diversity and change of the roles of both the student and the teacher in the educational process (Keziban, 2019). It allows the student to use many educational tasks that are based on the use of higher-order thinking skills in building and acquiring scientific knowledge, such as problem-solving skills and creative thinking through

self-learning based on various and reliable sources of information (Al-Manhrawi, 2015).

Cognitive trips and social studies

The social studies subject, especially geography, is one of the subjects concerned with the study of the environment and human, and the extent of human's relationship with the environment and his interaction with natural and unnatural variables in it, such as phenomena on the earth's surface and their impact on human. The social studies is one of the subjects that are taught in the various educational stages because of its importance in raising students from the personal and social aspects, and because it is concerned with the study of the place and its relationship to humans, plants and animals. Because this subject needs a variety of information in understanding the nature of the content, it needs a variety of readable and unread instructional media, especially in understanding different phenomena, and the social studies subject is concerned with developing higher thinking skills among students, and this skill needs activities, research and self-learning, and then is evaluated through it, so cognitive trips via web are an effective tool for changing the traditional style of teaching social studies subject based on indoctrination to the modern style based on self-learning and group work in searching for information sources and processing them, which develops their motivation and school engagement (Al-Sunaid, 2020)

Obstacles that limit the use of cognitive trips via web

There are many obstacles that limit the use of cognitive trips (web quests) as defined by (Osama, 2015), including: The difficulty of applying the cognitive trips to the students of the lower grades because of their inability to read and the weakness of their research, design and processing skills. Some subjects are not suitable for cognitive excursions. The inadequacy of some cognitive-trip designers in accessing the links related to the research topic. Problems related to the Internet and power outages. The lack of a sufficient number of computers to complete the cognitive trips.

The theory on which the Web Quest is based and its relationship to instructional design

Web Quest is based on the constructivist theory, which depend on encouraging students to access information through an exploratory trip via web, through which they acquire research skills, encourage collaborative

work, and exchange tasks and roles between them. It also works to develop their mental abilities and develop their creative thinking. It also contributes in encouraging the student to analyze and synthesize information away from direct transmission (Al-Zahrani, 2018). Constructivists emphasize the importance of providing a realistic educational environment, through which the student acquires knowledge, and this environment is appropriate to achieve the educational goal, and is based on the principle that the transmission of education depends on the extent to which the educational tasks agree with the reality related to the subject of learning. Piaget believes that thinking is a process of organization and adaptation through which the individual acquires his cognitive abilities. The constructivist theory is based on the belief that the learner creates his personal knowledge through his experiences (Al-Salem, 2017).

School Engagement

There are many definitions that deal with school engagement, including Sciarra's definition as the extent of the student's psychological investment and the effort he directs in learning, understanding, and the ability to obtain and acquire knowledge, as well as the student's sense of belonging to the school, accepting its values, and active participation in the tasks and activities entrusted to him (Sciarra, 2018). (Abdullah) points out that school engagement is the extent to which the student participates in the various educational activities within the school campus, which requires a lot of effort and investment of the student's internal energies and potentials, as well as the emotional and motivational aspects of learning (Abd Al-Latif, 2017).

Theories of school engagement

Finns' perception of students' school engagement: Finn believes that the concept of engagement is one of the concepts that fall within the scope of psychology, and it is one of the basic elements for achieving success and excellence in the educational process, due to its association with many educational outcomes such as high academic performance, compatibility in the educational environment, and a positive attitude towards the educational process. Finn believes that There are two forms of school engagement: Behavioral engagement: It refers to the behaviors shown by the student inside the classroom, which reflect the extent of the student's interest and the effort he exerts during the educational process (Sumaida, 2015) and (Al-Hamidi, 2019). Emotional integration: refers to competence, values, and

feelings of belonging. It also includes positive reactions towards the teacher and colleagues, and the educational process as a whole.

Kahns' perception of students' school engagement: Kahn is among the first researchers who dealt with the subject of school engagement in the literature, and defines engagement as: one of the psychological phenomena that includes the student's participation in educational activities and tasks, both curricular and extracurricular, which reflects the student's previous experiences. The phenomenon of engagement includes a group of elements that appear during facing the challenges of the study and the different environment, as well as during the interaction between the student and the teacher (Sumaida, 2015) and (Al-Hamidi, 2019).

Terenzinis' perception of negative influences: Terenzini proposes four basic areas for achieving school engagement, which are: the student's personal characteristics, his previous experiences, the organizational context of the educational institution, the educational climate and the learning environment.

The importance school engagement

The importance of school engagement, as indicated by (Seifeddin, 2015), is determined by the following points: Increase and improve the academic achievement of learners. Works to improve school performance, especially among students with low abilities. school engagement helps raise the level of motivation towards learning. engagement develops a lot of practical and skillful tasks. It encourages positivity and engagement among students. Develops self-confidence and self-esteem. Helps students develop higher order thinking skills.

Previous studies

A study of Kai (2014) aimed to explore using the WebQuest model to teach the concepts of proportionality in elementary school mathematics learning and the subsequent effects on students' learning achievements. Moreover, the study aimed to understand students' learning attitudes and their satisfaction with learning in relation to the WebQuest as a model. The study used a quasi-experimental research method, and the participants were two sixth-grade students with 52 Taiwanese elementary school students. The experimental group was taught using WebQuest, while the control group was taught through the use of traditional integrated IT curriculum. The results of the

study indicated the following: (a) in terms of learning achievement, students who learned using the WebQuest model showed better learning performance than students who were taught using the traditional Integrated Information Technology Curriculum; (b) there is no statistically significant difference between the learning attitudes of students who were taught using the WebQuest model and those who were taught using a traditional information technology integrated curriculum; (c) In the Satisfaction with Learning Questionnaire, students who learned using the WebQuest model showed high satisfaction with learning, choosing between Agree and Strongly Agree for 6 dimensions including WebQuest Teaching, Information Technology Ability, Math Curriculum Assistance, Collaborative Learning and Learning Reflection and Feedback . This indicates that the students were largely and specifically satisfied with the task-oriented WebQuest learning approach that was designed in this study.

A study of Linnansaari (2015) aimed to examine and explain the extent of the engage of Finnish students in science lessons using an electronic program that was downloaded on smart phones. To achieve the purpose, a sample of students was examined using the semi-experimental approach consisting of (68) male and female students from the Ninth grade, the sample was divided into (31) students and (37) female students. The sample also included eleventh grade students, with a sample of (67) male and female students, of whom (46) were males and (21) females. The results of the study resulted in the engagement of students in general and the engagement of female students in general especially in all educational activities and tasks, and that the scientific stories and novels used had a significant impact on increasing school engagement, and the students' opinions confirmed through the questionnaire that technology has a major role in increasing motivation and school engagement, as it suits their life needs.

A study of Stephen (2016) aimed to find out the effect of using the WebQuests approach to elicit student participation in a university course as a case study. Five students and one instructor participated in the study, and over the course of one academic semester, teaching and learning processes were varied by introducing WebQuest-based learning. Data were gathered by observing student activities as they engaged in the learning processes, and also assessing student learning and satisfaction by looking at student grades and also administering a survey questionnaire to students. Findings indicate that educational technologies such as the WebQuest can potentially foster

student engagement in learning and also help improve learning outcomes. Implications of these findings are discussed.

A study of Weijun (2020) used a WebQuest. It was prepared that can be used in teaching mathematics. It is designed to teach the coordinate system to seventh grade students in an entertaining way. The WebQuest prepared is published at the mathematicswebquest.sitemynet.com Web site. The aim of the project is to increase the effectiveness of the learning process and to enrich the course visually and to provide student interaction. Literature survey method was used in the research. WebQuest appearance, setup process, design steps, important points for effective use, its use in Turkey, advantages, disadvantages and limitations of the system are indicated. WebQuest's history in Turkiye, and teacher and student perspectives were also included in the study. There is no general opinion that this type of activity can make a positive contribution to the emotional and cognitive capacities of learning environments. On the other hand, when the current structure of studies is taken into account, some negative attitudes about technical shortcomings and teacher/student competence are noted.

Research Methodology

The researcher used the experimental approach and sample design using two pre and post -tests, which is suitable to the nature of the research.

Research population and sample.

The research population consisted of all tenth-grade students in Al Dakhiliyah Governorate schools, for the academic year (2022-2023). While the study sample was limited to (60) students from Sheikh Abu Zaid Al Riyami School for Basic Education (5- 12) and (60) students from Al-Jabal Al-Akhdar School for Basic Education 5-12. The sample was divided into two groups, one of which is an experimental group, which consists of (30) male and (30) female students using cognitive trips via web (web quest), and the other is a control group, which consist of (30) male and (30) female students using the traditional method for each school separately.

Research instrument

First: the materials used in the study and the experimental treatment

The educational materials used in the study is an educational site based on the use of WebQuests cognitive trips. In this study, the researcher used a

website (http://zunal.com) to design an educational material through it according to the teacher's guide in using cognitive trips via web for the unit to be taught (the unit of factors affecting the formation of the earth's surface), which was previously prepared by the researcher. (http://zunal.com) is one of the free websites that allows the teacher to design integrated educational lessons through a cognitive trip based on self-learning by using the instructions contained in the tasks and operations required to be implemented by the student, and the site contains many elements that form an environment integrated educational system, which is Introduction, Tasks, Procedure, Resources, Conclusion, Evaluation, and Teacher page (Al-Juhani, 2016). The researcher used the https://www.webex.com/ application for visual communication to connect students with experts from outside the educational system of the Ministry of Education, including an agricultural engineer at Al-Diwan Farms and a lecturer at Sultan Qaboos University who specialize in the field of environment, and this is what distinguishes the current study. It is the use of video technology in conjunction with the cognitive trips via web in order to communicate directly by students with experts specialized in the environmental field to inquire about some of the tasks to be achieved.

school engagement scale

The scale aims to measure the school engagement of tenth grade students in the light of the (Fredricks, 2016) model, and it is expressed in the total scores that will be obtained through the school engagement scale. In the current study, the researcher used the scholastic integration scale, which was prepared by (Tariba, 2016) after it was developed by (Al Shalafa, 2016). The researcher prepared a scale of school engagement through several stages: Determining the objective of the school engagement scale. Determining the dimensions of the school engagement scale. The researcher identified the school engagement scale through three dimensions: (Cognitive engagement). behavioral engagement and emotional (Fredricks, 2016).

Validity of the school engagement scale

The values of the correlation coefficients between the statements of the of Cognitive Engagement and the overall average of the variable ranged between (0.306 - 0.665). The values of the correlation coefficients between the statements of the of Behavioral Engagement and the overall average of the variable ranged between (0.320 - 0.649). The values of the correlation

coefficients between the statements of Emotional Engagement and the overall average of the variable ranged between (0.495 - 0.682). All of them were statistically significant at the level of significance ($\alpha = 0.01$), which indicates that the variable had good constructive validity.

Reliability of school engagement scale

The alpha Cronbach's coefficient value of the Cognitive Engagement was (0.791), Behavioral Engagement was (0.789) and Emotional Engagement was (0.810). This showed a high degree of trustworthiness and consistency with regard to the dimensions included in the questionnaire. This indicates good relationship of statements with the construct.

Results

Q1. Is there effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman?

The repeated-measure ANOVA was used to examine the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman. However, some assumptions had to be met before testing the hypotheses. One assumption of the repeated-measure ANOVA is to have normally distributed data and normally distributed error terms. Both assumptions are met. The standardized residuals of: (the pre- Cognitive Engagement and the post-Cognitive Engagement), (the pre- Behavioral Engagement and the post- Behavioral Engagement) and (the pre- Emotional Engagement and the post- Emotional Engagement) were plotted in a Q-Q plot. These indicate a normal distribution for both tests. The Q-Q plots can be seen in figure (1). Finally, the Levene's test was conducted to test whether there is an equal variance across the groups. The outcome of the Levene's test is presented in Table (1) for all variables. The results show that the Levene's test is non-significant in each case at a significance level of 0.05. Hence, all assumptions are met for the repeated-measure ANOVA.

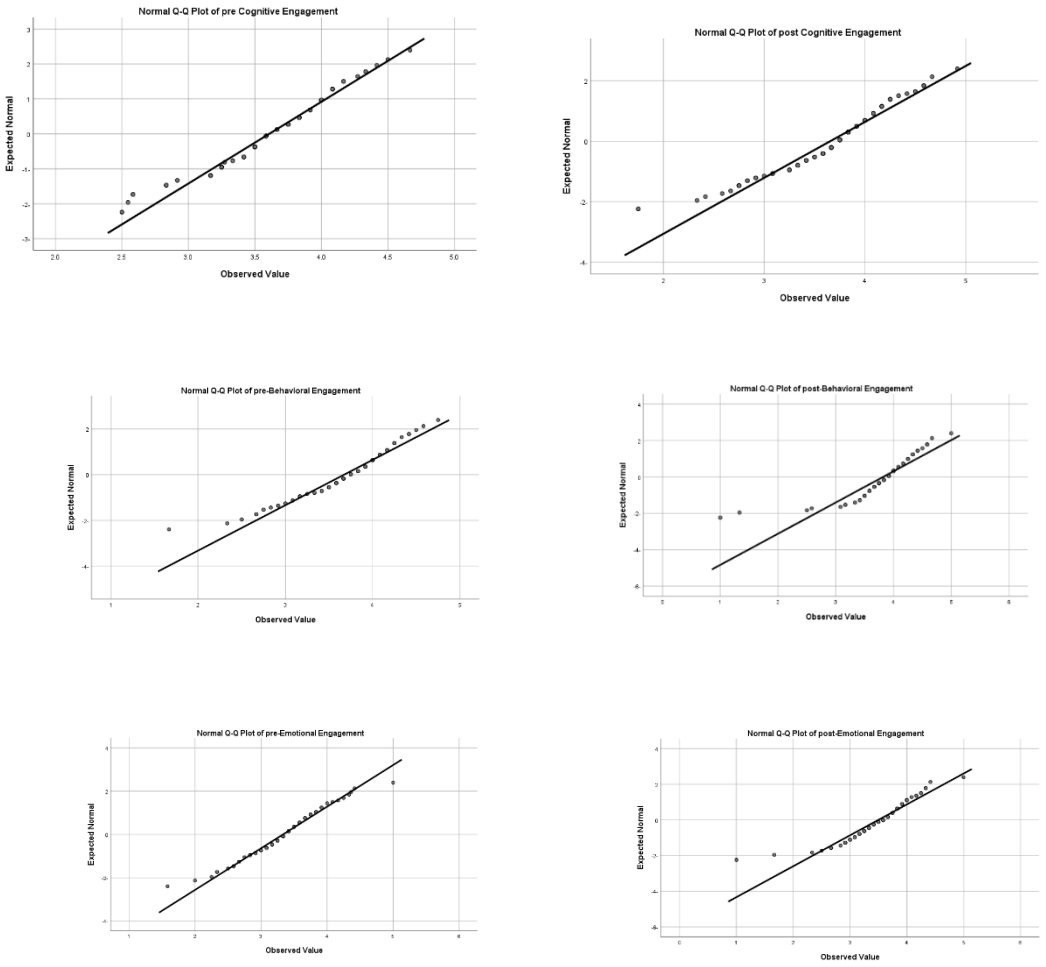

Figure (1): Q-Q plots for (the pre- Cognitive Engagement and the post-Cognitive Engagement), (the pre- Behavioral Engagement and the post-Behavioral Engagement) and (the pre- Emotional Engagement and the post-Emotional Engagement)

Table (1): Levene's test of Cognitive Engagement, Behavioral Engagement and Emotional Engagement

Variables	Levene Statistic	df1	df2	Sig.
pre- Cognitive Engagement	0.84	1	117	0.361
post- Cognitive Engagement	2.594	1	117	0.11

pre-Behavioral Engagement	2.039	1	117	0.156
post-Behavioral Engagement	0.009	1	117	0.925
pre-Emotional Engagement	0.213	1	117	0.645
post-Emotional Engagement	0.596	1	117	0.442

Cognitive Engagement

The mean values of Cognitive Engagement are (3.55 ,3.66) for control and Experimental groups for pre- Cognitive Engagement. While the mean values are (3.53 ,4.10) for control and Experimental groups for post- Cognitive Engagement.

The results of the repeated-measure ANOVA for Cognitive Engagement are presented in Table (2). The data in Table (8) contains the values from the Greenhouse-Geisser test, which is the most conservative test. The values for the other tests, such as 'Sphericity Assumed' provided the same values.

Table (2): results repeated-measure ANOVA for Cognitive Engagement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Cognitive Engagement score according to test type	2.55	1	2.55	29.099	0.00	0.199
Interaction of Cognitive Engagement scores according to test type * group	3.127	1	3.127	35.681	0.00	0.234
Error (Cognitive Engagement (pre and post))	10.255	117	0.088			

Table (8) shows that using cognitive trips via web (web quest) impacts on the Cognitive Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to test type and group. Cognitive Engagement, with the variable of group, is significantly different in the post-Cognitive Engagement than in the pre-Cognitive Engagement (F = 3.127, p

= 0.00). This indicates that means are not equal in the pre-Cognitive Engagement and post- Cognitive Engagement. The partial eta squared is 0.234. The effect size indicates that 23.4% of the variance Cognitive Engagement is attributed to group and test type.

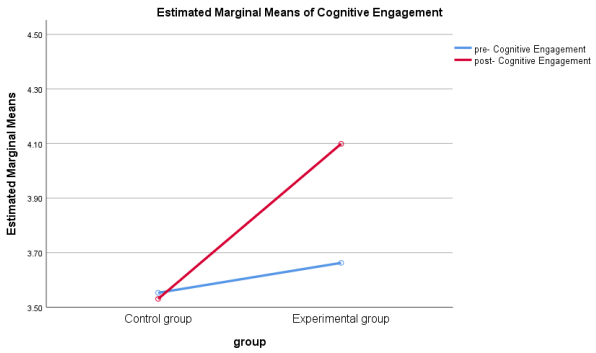

Figure (2): how using cognitive trips via web (web quest) impacts on the Cognitive Engagement for control group and experimental group according to test type

Using cognitive trips via web (web quest) appears to play a role in how it affects the Cognitive Engagement among tenth grade students in social studies subject in the Sultanate of Oman. The researcher plotted the effect for both groups separately (see: figure 2).

Behavioral Engagement

The mean values of Behavioral Engagement are (3.68 ,3.66) for control and Experimental groups for pre- Behavioral Engagement. While the mean values are (3.76 ,4.16) for control and Experimental groups for post-Behavioral Engagement.

The results of the repeated-measure ANOVA for Behavioral Engagement are presented in Table (3). The data in Table (3) contains the values from the Greenhouse-Geisser test, which is the most conservative test. The values for the other tests, such as 'Sphericity Assumed' provided the same values.

Table (3): results repeated-measure ANOVA for Behavioral Engagement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared

Behavioral Engagement score according to Test type	4.917	1	4.917	36.13	0.00	0.236
Interaction of Behavioral Engagement score according to Test type * group	2.616	1	2.616	19.224	0.00	0.141
Error (Interaction of Behavioral Engagement score according to Test type * group	15.922	117	0.136			

Table (3) shows that using cognitive trips via web (web quest) impacts on the Behavioral Engagement among tenth grade students in social studies subject in the Sultanate of Oman. Behavioral Engagement, is significantly different in the post- Behavioral Engagement and in the pre- Behavioral Engagement (F = 19.224, p = 0.00). This indicates that means are not equal in the pre- Behavioral Engagement and post- Behavioral Engagement. The partial eta squared is 0.141. The effect size indicates that 14.1% of the variance in Behavioral Engagement is attributed to group and test type. The researcher plotted the both groups separately (see: figure 3).

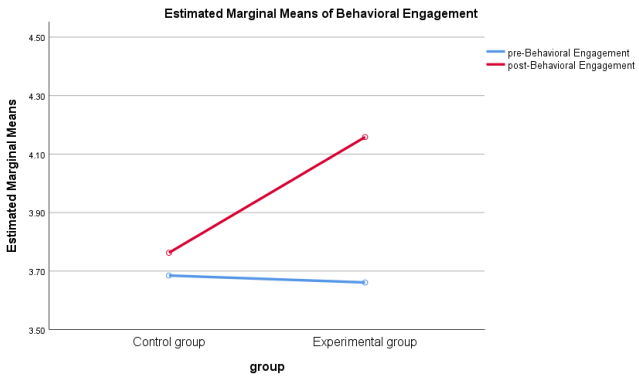

Figure (3): change in groups Behavioral Engagement for control and experimental

Emotional Engagement

The mean values of Emotional Engagement are (3.33 ,3.33) for control and Experimental groups for pre- Emotional Engagement. While the mean values

are close (3.44 ,4.02) for control and Experimental groups for post-Behavioral Engagement.

The results of the repeated-measure ANOVA for Emotional Engagement are presented in Table (5). The data in Table (5) contains the values from the Greenhouse-Geisser test, which is the most conservative test. The values for the other tests, such as 'Sphericity Assumed' provided the same values.

Table (5): results repeated-measure ANOVA for Emotional Engagement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Emotional Engagement score according to Test type	9.45	1	9.45	82.994	0.00	0.415
Interaction Emotional Engagement score according to Test type * group	5.011	1	5.011	44.007	0.00	0.273
Error (Interaction of Emotional Engagement score according to Test type * group	13.322	117	0.114			

Table (5) shows that using cognitive trips via web (web quest) impacts on the Emotional Engagement among tenth grade students in social studies subject in the Sultanate of Oman. Emotional Engagement, is significantly different in the post- Emotional Engagement and in the pre- Emotional Engagement ($F = 44.007$, $p = 0.00$). The partial eta squared is 0.273. The effect size indicates that 27.3% of the variance in Emotional Engagement is attributed to the group and test type. The researcher plotted the both groups separately (see: figure 4).

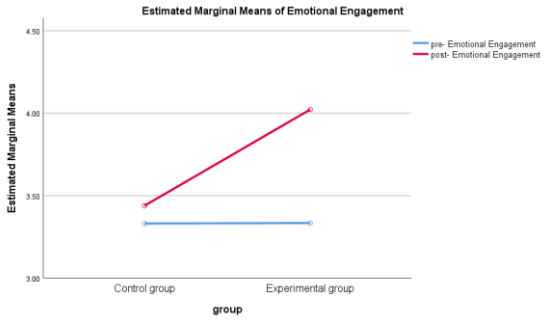

Figure (4): change in Emotional Engagement for control and experimental groups

The result of question one is supported by a study of Kai (2014) which indicated that the Satisfaction with Learning Questionnaire, students who learned using the WebQuest model showed high satisfaction with learning, choosing between Agree and Strongly Agree for 6 dimensions including WebQuest Teaching, Information Technology Ability, Math Curriculum Assistance, Collaborative Learning and Learning Reflection and Feedback. This indicates that the students were largely and specifically satisfied with the task-oriented WebQuest learning approach. It is also supported by a study of Linnansaari (2015) which indicated that the engagement of students in general and the engagement of female students in general especially in all educational activities and tasks, and that the scientific stories and novels used had a significant impact on increasing school engagement, and the students' opinions confirmed through the questionnaire that technology has a major role in increasing motivation and school engagement.

Q2. Are there significant differences on effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to gender?

1) Cognitive Engagement

Two-way ANOVA was used to find out if there were statistically significant differences in Cognitive Engagement attributed to the group and the gender. As table (6) shows the results of the two-way ANOVA. It is clear from Table (7) that there is non-statistically significant difference at the level ($\alpha = 0.05$) between Cognitive Engagement due to the interaction between group and gender or due to gender. Whereas, there is statistically significant difference at the level ($\alpha = 0.05$) in Cognitive Engagement due to group. The effect size

indicates that 24.8% of the variance in Cognitive Engagement is attributed to the group.

Table (6) The results of two-way ANOVA of Cognitive Engagement according to group and gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
gender	0.172	1	0.172	0.678	0.412	0.006
group	9.585	1	9.585	37.84	0.00*	0.248
gender * group	0.685	1	0.685	2.705	0.103	0.023
Error	29.129	115	0.253			

Figure (5) shows the Means of Cognitive Engagement according to gender and group. The results in tables (15) indicate a difference in the level of Cognitive Engagement between males according to group. The table (8) shows the post-tests of the Cognitive Engagement. The level of the Cognitive Engagement for experimental group for males and female were higher than the control group. The effect size indicates that 21% of the variance in Cognitive Engagement for males is attributed to the group and 8.1% of the variance in Cognitive Engagement for females is attributed to the group.

Table (7) The results of one-way ANOVA of the Major depressive episode according to gender for each type of job

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
male	7.764	1	7.764	30.652	0.00*	0.21
Error	29.129	115	0.253			
female	2.551	1	2.551	10.07	0.002*	0.081
Error	29.129	115	0.253			

*Correlation is significant at the 0.05 level

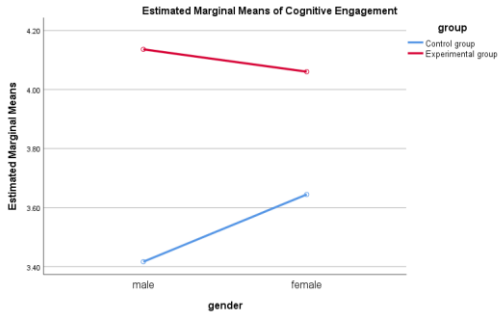

Figure (5): Means of Cognitive Engagement according to gender and group

Table (8) Post-test results of differences in the level of the Cognitive Engagement according to gender and group

gender	(I) group	(J) group	Mean Difference (I-J)
Male	Experimental	Control	0.719*
Female	Experimental	Control	0.416*

*Correlation is significant at the 0.05 level

2) Behavioral Engagement

Two-way ANOVA was used to find out if there were statistically significant differences in Behavioral Engagement attributed to the group and the gender. As table (9) shows the results of the two-way ANOVA. It is clear from Table (9) that there is non-statistically significant difference at the level ($\alpha = 0.05$) between Behavioral Engagement due to the interaction between group and gender or due to gender. Whereas, there is statistically significant difference at the level ($\alpha = 0.05$) in Behavioral Engagement due to group. The effect size indicates that 13.2% of the variance in Behavioral Engagement is attributed to the group.

Table (9) The results of two-way ANOVA of Behavioral Engagement according to group and gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
gender	0.199	1	0.199	0.743	0.391	0.006
group	4.655	1	4.655	17.413	0.00*	0.132
gender * group	0.259	1	0.259	0.969	0.327	0.008
Error	30.74	115	0.267			

*Correlation is significant at the 0.05 level

Figure (6) shows the Means of Behavioral Engagement according to gender and group. The results in tables (10) indicate a difference in the level of Behavioral Engagement between males according to group. The table (11) shows the post-tests of the Behavioral Engagement. The level of the Behavioral Engagement for experimental group for males and female were higher than the control group. The effect size indicates that 10.4% of the variance in Behavioral Engagement for males is attributed to the group and 4.2% of the variance in Behavioral Engagement for females is attributed to the group.

Table (10) The results of one-way ANOVA of the Behavioral Engagement according to gender for each type of job

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
male	3.585	1	3.585	13.41	0.00*	0.104
Error	30.74	115	0.267			
female	1.348	1	1.348	5.04	0.027*	0.042
Error	30.74	115	0.267			

*Correlation is significant at the 0.05 level

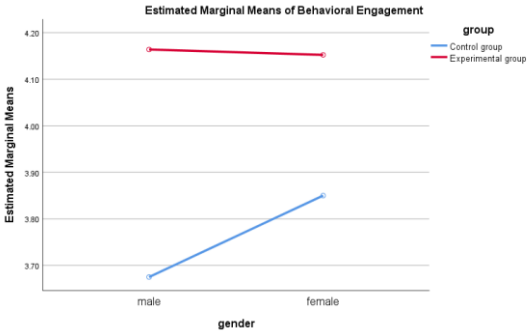

Figure (6): Means of Behavioral Engagement according to gender and group

Table (11) Post-test results of differences in the level of the Behavioral Engagement according to gender and group

gender	(I) group	(J) group	Mean Difference (I-J)
Male	Experimental	Control	0.489*
Female	Experimental	Control	0.302*

*Correlation is significant at the 0.05 level

3) Emotional Engagement

Two-way ANOVA was used to find out if there were statistically significant differences in Emotional Engagement attributed to the group and the gender. As table (12) shows the results of the two-way ANOVA. It is clear from Table (12) that there is non-statistically significant difference at the level ($\alpha = 0.05$) between Emotional Engagement due to the interaction between group and gender or due to gender. Whereas, there is statistically significant difference at the level ($\alpha = 0.05$) in Emotional Engagement due to group. The effect size indicates that 23% of the variance in Emotional Engagement is attributed to the group.

Table (12) The results of two-way ANOVA of Emotional Engagement according to group and gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
gender	0.576	1	0.576	1.949	0.165	0.017
group	10.129	1	10.129	34.292	0.00*	0.23
gender * group	0.718	1	0.718	2.429	0.122	0.021
Error	33.969	115	0.295			

*Correlation is significant at the 0.05 level

Figure (7) shows the Means of Emotional Engagement according to gender and group. The results in tables (13) indicate a difference in the level of Emotional Engagement between males according to group. The table (14) shows the post-tests of the Emotional Engagement. The level of the Emotional Engagement for experimental group for males and female were higher than the control group. The effect size indicates that 19.4% of the variance in Emotional Engagement for males is attributed to the group and 7.4% of the variance in Emotional Engagement for females is attributed to the group.

Table (13) The results of one-way ANOVA of the Emotional Engagement according to gender for each type of job

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
male	8.189	1	8.189	27.724	0.00*	0.194
Error	33.969	115	0.295			
female	2.704	1	2.704	9.156	0.003*	0.074
Error	33.969	115	0.295			

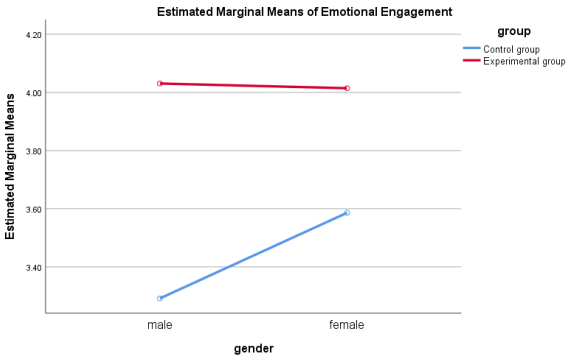

Figure (7): Means of Emotional Engagement according to gender and group

Table (14) Post-test results of differences in the level of the Emotional Engagement according to gender and group

gender	(I) group	(J) group	Mean Difference (I-J)
Male	Experimental	Control	0.739*
Female	Experimental	Control	0.428*

*Correlation is significant at the 0.05 level

The result of question two is supported by a study of Kai (2014), a study of Linnansaari (2015), a study of Stephen (2016). All three studies didn't mention about any difference between male and females in the types of school Engagement.

Recommendations

Through the previously results, which confirmed the impact of using the web quest strategy on the types of school Engagement of tenth grade students in social studies in the Sultanate of Oman, the researcher presents a set of recommendations:

- Employing the strategy of cognitive trips via web in teaching social studies topics at various academic levels.
- Training the teaching and supervisory staff on the methods to employ the strategy of cognitive trips via web in teaching.

- The need to provide an appropriate environment to employ the strategy of cognitive trips via web in teaching on a larger scale.

Conclusion

This research aimed to study the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman. It also aims to reveal the presence of statistically significant differences in the effectiveness of using cognitive trips via web (web quest) on the types of school Engagement among tenth grade students in social studies subject in the Sultanate of Oman according to gender. the experimental approach and sample design using two pre- and post-was used. The results revealed that using cognitive trips via web (web quest) impacts positively on the types of school Engagement (cognitive, behavioral and emotional) Engagement. The results indicated also that there is no difference in the effect of cognitive trips via web (web quest) on the types of school Engagement according to gender. Finally, several recommendations were presented on the basis of the finding.

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