



Original Article (Quantified)

The effectiveness of using web quest strategies and digital stories in the development of critical thinking, higher level thinking skills, and the progress of fifth grade history literature students in Karbala city

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Abstract

The purpose of this research is the effectiveness of using web quest strategies and digital stories in developing critical thinking, higher level thinking skills, and student progress. The current study is a quasi-experimental study along with a pre-test-post-test design with a control group. The statistical population of the research is 860 fifth grade literature students, 45 of whom were selected by multi-stage cluster sampling and randomly divided into three groups of 15 (a control group of 15 and two experimental groups of the rest 30). Data collection was done based on Ritex critical thinking questionnaire (2003), higher level thinking by Abdi et al., (2013), and academic progress by Salehi (2014). The face and content validity of the questionnaire was approved by professors and experts in management and educational sciences and was confirmed through factor analysis. The reliability of the questionnaire based on Cronbach's alpha coefficient was obtained 0.90 for critical thinking, 0.84 for higher level thinking, and 0.79 for academic achievement. Analysis of the information obtained from the tests was done through SPSS software. The results of the research showed that the effect of using web quest and digital storytelling strategies on the development of critical thinking, higher level thinking and academic progress of students is positive and significant. It was also found that there is not any significant difference in the effect of using web quest strategies and digital storytelling on critical thinking, higher level thinking and academic achievement of students.

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Extended abstract

Introduction

Tendency to critical thinking is the factor of the reasoning process in a person's personality, which motivates him to use critical thinking (Facione, 2016). This shows the importance of critical thinking. Therefore, any conceptualization of critical thinking that only focuses on critical thinking skills is not complete, and in any discussion of critical thinking, the tendency towards this thinking should also be considered. In confirmation of this issue, many experts have emphasized the importance of tending to critical thinking in the creation and development of this type of thinking (Noshadi, 2015). Today's students are very different from the students of the past decades, because today's students are looking for deeper thinking about issues and involvement in decision-making; they want to participate in various dimensions of society; one of the ways of which is their development in creating new information, which is possible by equipping them with higher level thinking skills (Shafiei, 2015). For this reason, educational systems should not be limited to teaching knowledge and subjects, but in order to respond as much as possible, students should be given the tools to acquire the necessary strategies to adapt to changes, and in this way, the necessary motivation and ability for lifelong learning in them be created (Petrovska & Veselinovska, 2013). Based on the idea of search and research as well as the theory of constructivism, web quests engage learners in collaborative learning and group projects. In addition, there is a strong connection between web quests and multimedia techniques that provide important opportunities for using Internet resources in teaching and learning (Awada et al, 2020). A strategic web quest based on searching and building concepts forces learners to think at a higher level, so that they can analyze and apply complex information and create an exciting online teaching and learning strategy (Badeleh & Sabeti, 2017). Also web quest helps learners integrate their knowledge and meanings by applying information available on the Internet. Researchers believe that the ability of web quests in designing activities is unlimited, and it engages the learners by satisfying the intuition and curiosity of them (Sanford et al, 2010). According to the issues raised in this research, an attempt is made to answer the question of whether the use of web quest strategies and digital stories is significant in the development of critical thinking, higher level thinking skills, and the progress of fifth grade history literature students.

Theoretical Framework

Web Quest

Web Quest is a question-oriented platform or a model in which students are actively involved in a learning-oriented activity or situation and use multiple resources to interact with content and build knowledge. The Web Quest approach is a learning, problem-oriented, and searching approach; opposite to the direct transfer of knowledge in a teacher-centered learning environment (Nami, 2021).

Digital storytelling

Sadik (2008) considers digital storytelling as a new and modern expression of the old art of storytelling. Since throughout history, storytelling has been a tool for exchanging knowledge, wisdom and values, it has had different forms; this time by integrating with technology, it has been able to be used as a powerful tool to better explain the concepts of the problem.

Critical Thinking

Critical thinking, as a form of wise judgment or thoughtful decision-making, is truly pervasive. That is, it is hard to find a time or place where critical thinking does not seem to have potential value (Facione, 2016).



Higher level thinking

Higher level thinking includes analysis, synthesis and evaluation and requires mastery of previous levels such as applying normal rules in relation to similar or new issues and problems. Higher level thinking skills include changing and transforming information and ideas. This change in shape and transformation happens when students experience and analyze opinions, ideas and facts, and combine, generalize, explain or achieve some results and interpretations (Brookhart, 2017).

Academic progress

The academic progress is measuring the performance of learners and comparing the results with predetermined educational goals in order to decide whether the teacher's educational activities and the students' learning efforts have led to desirable results and to what extent (Mashayekh, 2014).

Sabih Mahdi & Ghalavandi (2024) investigated the effect of learning and motivational strategies on the self-efficacy of physical education and sports science students with the mediating role of academic progress and enthusiasm. The results showed that the effect of learning and motivational strategies, academic achievement goals, and academic enthusiasm on students' academic self-efficacy was positive and significant. It was also found that the mediating role of academic achievement goals and academic enthusiasm in the effect of learning and motivational strategies on academic self-efficacy was positive and meaningful.

Aibin et al, (2023) investigated the effect of different types of education outside the university on higher thinking tendencies of elementary and middle school students. They reported positive and significant impact of different types of education outside the university on the high thinking levels of elementary and middle school students.

Research methodology

The current study is a quasi-experimental study along with a pre-test-post-test design with a control group. The statistical population of the research is 860 fifth grade literature students, 45 of whom were selected by multi-stage cluster sampling and randomly divided into three groups of 15 (a control group of 15 and two experimental groups of the rest 30). Data collection was done based on Ritex critical thinking questionnaire (2003), higher level thinking by Abdi et al., (2013), and academic progress by Salehi (2014). The face and content validity of the questionnaire was approved by professors and experts in management and educational sciences and was confirmed through factor analysis. The reliability of the questionnaire based on Cronbach's alpha coefficient was obtained 0.90 for critical thinking, 0.84 for higher level thinking, and 0.79 for academic achievement.

Research findings

Analysis of the information obtained from the tests was done through SPSS software. The results of the research showed that the effect of using web quest and digital storytelling strategies on the development of critical thinking, higher level thinking and academic progress of students is positive and significant. It was also found that there is not any significant difference in the effect of using web quest strategies and digital storytelling on critical thinking, higher level thinking and academic achievement of students.

Conclusion

The current research was conducted with the aim of the effectiveness of using web quest strategies and digital stories in the development of critical thinking, higher level thinking skills, and student progress. The results of this research are in line with the findings of Nami (2021), Farjaei Bonab et al., (2021), Gharahkhan (2021), Famarzi (2019), Aibin et al.,



(2023), Alsalhi et al., (2020), Liang et al., (2020), Ebadi & Rahimi (2018), Liang et al., (2020), Ebadi & Rahimi (2018), Han-Yu et al., (2015), Aibin et al., (2023), Awada et al., (2020), Mosavi et al., (2021), Badeleh & Sabeti (2017), Alsalhi et al., (2020), Kazemi (2015), Farjaei Bonab et al., (2021), Faramarzi (2019), Gharahkhan (2021), and Shabani et al., (2017). Nami (2021) examined direct classroom-based instruction versus flipped web quest-based instruction: Toward more effective writing practice. It was found that direct classroom-oriented teaching compared to reverse web quest-oriented teaching had a lower impact on students' progress.