

Empowering EFL Learners' Digital Skills Through Project Based Pedagogy (At the Level of Algerian Secondary Education)

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Abstract:

Presently, secondary education in Khenchela is undergoing a significant digital transformation in both teaching and learning methodologies. Among the educational approaches demonstrating notable effectiveness is project-based learning (PjBL). However, there is a notable dearth of recent studies that have thoroughly investigated the efficacy of PjBL specifically at the secondary level. Therefore, it becomes increasingly imperative to clearly delineate the advantages of PjBL. Undoubtedly, the primary aim of this research is to delve into the effectiveness of project-based learning in augmenting learners' digital literacy. It also scrutinizes how PjBL can serve as an effective and advantageous learning approach. While the main focus of this paper is on the merits of PjBL, it is equally important to underscore the foundational importance of fostering high-quality digital literacy within the educational framework.

Key Words: Project based learning (PjBL), secondary education, effectiveness, digital literacy.

Introduction:

In light of the Covid-19 pandemic, there has been a significant shift in education from traditional face-to-face learning to electronic methods. Digital learning, facilitated by various multimedia technologies, has garnered considerable attention and acceptance among educators in the 21st century. It not only engages learners effectively but also offers equal opportunities for

communication, interaction, and sharing of materials through virtual platforms. Algerian universities have embraced digital online courses through platforms like Google Classroom, Google Meet, Zoom, and Kahoot, employing blended or face-to-face learning approaches. This transition aims to facilitate content delivery, provide online assessments, and assign daily tasks. Consequently, this study aims to explore the benefits of Project-based Learning (PjBL) in enhancing digital literacy among secondary school students in Khenchela. The study seeks to achieve this by investigating the impact of PjBL on digital skills, evaluating the effects of digitalization in Algerian schools, and proposing recommendations to address challenges in integrating PjBL to promote digital literacy.

1. Literature Review

Digital learning has become an integral component of contemporary education, with technology deeply embedded in various aspects of teaching and learning. Liu (2010) defines eLearning as utilizing the internet or digital resources for educational activities, leveraging modern educational technology to create rich learning environments. Generally, eLearning refers to acquiring knowledge through information and communication technologies (ICTs). It's important to note that eLearning is distinct from terms like distance education and online learning. During the COVID-19 pandemic, eLearning emerged as a vital solution for all educational levels following the closure of schools, universities, and institutions. Rossiter (2007) emphasizes the need to better understand e-learning as an educational innovation and to develop frameworks for change that align with organizational culture and practice. Therefore, as educators refine the definition of eLearning, it becomes more readily applicable for both teachers and learners.

The learning process has undergone a transition from traditional face-to-face instruction to blended learning and ultimately to eLearning. Face-to-face learning, a conventional method of training, involves learners physically attending educational institutions. According to Daft and Lengel (1986), face-to-face learning is an effective and engaging approach where teachers can monitor the learning process and adjust their teaching methods accordingly, thus establishing it as a professional pedagogical approach (King & Newmann, 2000). However, there is ongoing debate regarding the distinctions between blended learning and digital learning, which is a prominent topic in Didactics and educational sciences. Various efforts have been made to delineate these differences: digital learning entails using electronic means to acquire knowledge and typically requires institutional support, such as higher education institutions facilitating electronic interaction between educators and learners, providing content, resources, assessment tools, and feedback. Online learning or web-based learning is a subset of eLearning. On the other hand, blended learning, as described by Graham (2006), combines traditional face-to-face instruction with computer-mediated instruction.

Researchers have acknowledged that blended learning effectively integrates education with educational technology (Chew, Jones, and Turner, 2008).

1.1. Why Digital skills

Digital learning proves highly advantageous and valuable for English as a Foreign Language (EFL) learners. Firstly, it requires the utilization of Information and Communications Technologies (ICTs), thereby nurturing EFL learners' motivation, independence, and sense of responsibility. Additionally, it ensures EFL learners' academic success by optimizing learning opportunities, resources, and methodologies. Digital learning facilitates academic achievement for EFL learners (Soleymanpour, 2010). Regardless of time or location, EFL learners can access educational courses and resources through digitalized education, effectively eliminating physical barriers they may encounter. Furthermore, it stimulates learners' creativity, collaboration, and accountability. Importantly, Algerian universities and schools should take decisive steps to seamlessly integrate digitalization into secondary and higher education, recognizing it as a critical priority.

1.2. The Role of Digital Learning in Enhancing Learners' ICT Literacy

By integrating digitalization into contemporary educational institutions, learners are poised to become part of the digital generation, often referred to by Prensky as "digital natives," due to their exposure to digital Information and Communication Technologies (ICTs). Consequently, they have the opportunity to enhance their digital literacy skills and address the challenges associated with the digital transition in higher education. Establishing an online conducive virtual environment is imperative. As highlighted by Worthy (Chelghoum, 2017), learners can develop their technical, cognitive, and socio-emotional abilities while actively participating in a digital learning environment. The declaration of COVID-19 as a global public health emergency of international concern further underscores the importance of nurturing learners' digital literacy skills following the lockdown of universities (Cucinotta & Vanelli, 2020).

1.3. The Role of digital skills in Fostering Learners' 21st Century Skills

Digitalization enhances learners' 21st-century skills and competencies in several ways. Firstly, it promotes critical thinking abilities, encompassing reasoning, problem-solving, and decision-making, which can be developed and refined through online digital courses (Willingham, 2007). Secondly, it encourages collaboration and teamwork by fostering a conducive environment for group-based learning where learners can engage in commenting, sharing, and discussing educational content. Additionally, digitalization brings about pedagogical benefits such as the cultivation of creative thinking skills, reflection, and transformative learning (Palloff & Pratt, 2005). Through digital learning, learners can effectively articulate their own viewpoints, ideas, and opinions while also

honing essential professional competencies and interpersonal skills, including self-motivation, self-evaluation, self-direction, self-monitoring, and teamwork (Jaques & Salmon, 2007). Moreover, digital learning facilitates the development of soft skills as learners undertake courses, assignments, projects, and homework via digital platforms such as laptops, the internet, or tablets (Fu, 2013). Overall, digital learning offers numerous advantages that contribute to learners' academic and career success.

2. Research Methodology

2.1. Aim and Significance of the Research Study

Project-based pedagogy is a prominent topic of discussion among educators globally, representing one of the most significant ongoing conversations in the realms of Didactics and educational sciences. Despite numerous attempts to assess the efficacy of Project-based Learning (PjBL), attention has predominantly been directed towards primary education, with secondary and higher education receiving less focus. Therefore, the primary aim of this study is to evaluate the utility and effectiveness of the Project-based approach in enhancing digital skills within secondary education. Motivated by the significant shifts in education, particularly in the post-COVID-19 era, this paper seeks to investigate the importance of Project-based Learning in nurturing students' digital skills and competencies. The overarching goal is to contribute to the expanding body of research by examining the practicality of Project-based Learning in fostering digital skills. To achieve this objective, the study will pursue the following aims:

- a) To elucidate the benefits of Project-based Learning in cultivating students' digital skills.
- b) To identify the most effective educational digital platforms utilized by Algerian schools and universities.
- c) To assess learners' receptiveness towards learning through the Project-based approach.

2.2. Research Questions and Hypothesis

There has been a growing inquiry into the impact of project-based learning on the development of students' digital skills. As a result, the research aims to address the following questions:

- A. What advantages does project-based learning offer in enhancing students' digital literacy?
- B. How does project-based learning contribute to the development of learners' 21st-century skills and competencies?
- C. What are learners' attitudes towards project-based learning?

Drawing from previous research, the researchers proposed the following hypotheses regarding the role of project-based learning in enhancing students' skills and competencies:

1. Null Hypothesis:

- The implementation of project-based learning is not significantly effective in maximizing students' digital literacy skills.

2. Alternative Hypothesis:

- The implementation of project-based learning is highly effective in maximizing students' digital literacy skills.

2.3. Research Methodology and Research Design

2.3.1. The Research Instrument

This study predominantly utilized a quantitative approach for data collection and analysis. The primary tool employed for data collection was an electronic questionnaire administered through Google Forms, designed to fulfill the research objectives and gather information from participants. The questionnaire, tailored for EFL students, comprised both closed-ended (including multiple-choice and Likert scale questions) and open-ended questions. Prior to administration, the questionnaire underwent review by three external researchers, with necessary adjustments made. Employing a case study design, the paper delves into an in-depth examination of findings, focusing on a case study of 2nd year students in secondary school in Khenchela. The study aims to randomly select a sample of students and gather data on their attitudes, opinions, and experiences with project-based learning, as well as the correlation between such practices and the enhancement of their digital literacy skills.

2.3.2. Study Population

The study population encompasses EFL students in secondary education in Khenchela. A sample of 80 students will be randomly selected to gather data on their attitudes, opinions, and processes regarding the impact of project-based pedagogy on fostering their digital literacy skills.

2.3.3. The Electronic Survey

Notably, the electronic survey commences with a brief introduction elucidating the primary research objectives. It comprises 15 questions of varied formats, primarily multiple-choice, where respondents are prompted to select the corresponding option. Additionally, there are open-ended questions necessitating personal responses with justifications where appropriate. Structurally, the survey is divided into four sections, each serving a specific informational purpose. Section one focuses on

students' background information, while section two explores project-based learning, and section three delves into the merits of project-based learning in enhancing students' digital literacy skills. The questionnaire was distributed to all learners, and the data obtained will be presented and analyzed using tables and graphs, following the sequence of items in the questionnaire. (Subsequent analysis focuses on key questions.)

2.4. Analysis and Interpretation of the Questionnaire

Section One: Participant Background Information

In this section, the focus is on gathering background information about the participants. For instance, regarding the gender distribution, a random selection approach was employed due to the participants being divided into two groups. Out of the sampled 80 learners, the majority were girls, comprising approximately 90% of the total participants (around 72 girls), while a minority of 8 boys, representing 10%, participated.

Question 2: What is the frequency of presenting projects using electronic devices in your studies?

- Always
- Rarely
- I do not present projects.

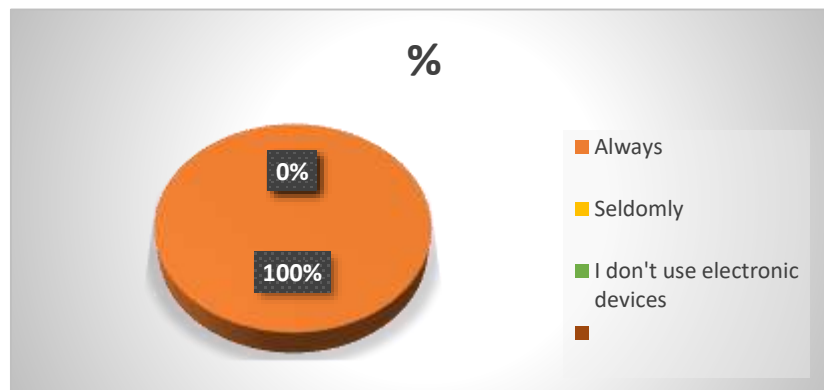


Figure 02: Learners' Presentation of Projects

Remarkably, all participants, accounting for 100%, indicated that they consistently present various projects throughout the academic year, which leaves a positive impression about the efficacy of project-based pedagogy.

Section Two: Integrating PjBL in Contemporary Education

Section two focuses on the integration of Project-based Learning (PjBL) in modern education. One of the pivotal questions is:

Question 3: Does the Project-based approach effectively function?

- Yes
- No

Interestingly, the majority of responses, approximately 88.75%, affirmed that PjBL indeed works, with 71 participants expressing familiarity with it as it is not entirely novel. Only a small fraction, 11.25%, opted for the negative choice.

Question 4: Do you believe that ePjBL should be integrated into modern education?

- Yes
- No

Notably, all participants, comprising 100% of the 80 learners, asserted that educators should incorporate E-Project Based Learning into modern education. Their consensus underlines the necessity of eLearning in contemporary educational settings.

Q5: Do you think that Algerian educators are incorporating PjBL in both secondary and higher education?

- Yes, to a great extent
- Somehow
- No at all
- No idea

Only 12 participants answered (yes, to a great extent) representing about 15,00% of the whole population, whereas 60 participants chose (somehow) representing 75%, while 7 of the participants declared that they had no idea. One of the participants chose no at all option.

Q6: What online learning platforms can be used to deliver projects?

- Zoom
- Microsoft Teams
- Google Classroom
- Kahoot

- Google Meet
- Others

When asking the participants about the online platforms that they can use to present projects, most of them, 40 learners representing 50% chose (Microsoft Teams), 20 participants declared that they are familiar with presenting via the (Zoom), representing 25%, 10 of them opted for (Google meet), and the rest chose (others). Worthy noted that all the participants ticked (Google classroom) in addition to the previous mentioned options.

paraphase

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Question 5: In your opinion, are Algerian educators integrating PjBL into both secondary and higher education?

- Yes, extensively
- To some extent
- Not at all
- Uncertain

Out of the entire population, only 12 participants, accounting for approximately 15.00%, selected "Yes, extensively," while 60 participants, representing 75%, chose "To some extent." Seven participants stated that they had no idea, and one participant chose the option "Not at all."

Question 6: Which online learning platforms do you consider suitable for project delivery?

- Zoom
- Microsoft Teams
- Google Classroom
- Kahoot
- Google Meet
- Other

When asked about preferred online platforms for project presentation, the majority, 40 learners, or 50%, opted for "Microsoft Teams," while 20 participants, or 25%, mentioned "Zoom." Ten

participants selected "Google Meet," and the remaining participants chose "Others." It's worth noting that all participants selected "Google Classroom" in addition to the aforementioned options.

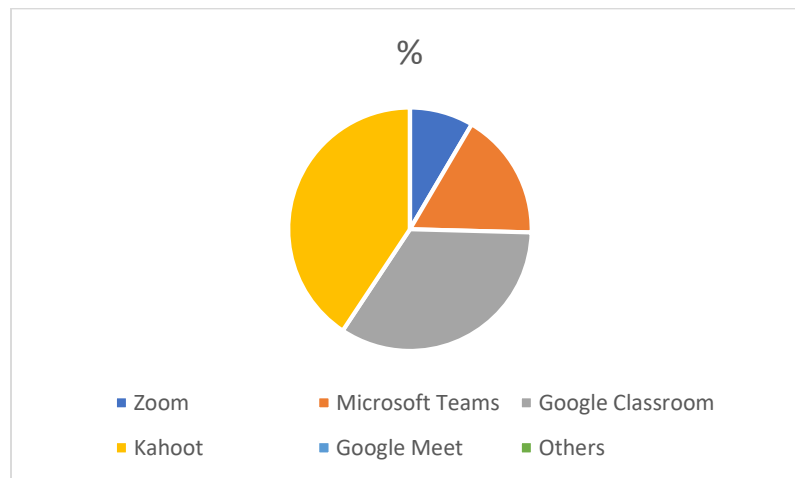


Figure 06: Online Platforms that Learners Familiar With while Presenting Projects

Section Three: Advantages of Project-Based Learning in Enhancing Students' Skills

Question 7: How confident are you in developing your digital literacy skills? • Very confident • Moderately confident • Not confident

All participants, comprising 100%, expressed feeling very comfortable in developing their digital literacy skills. This reflects their readiness and acceptance of eLearning and eProject-Based Learning (ePjBL).

Question 8: What is your opinion on the following statement: PjBL is a highly effective, engaging, and motivating approach for enhancing digital skills? • Strongly agree • Agree • Neither agree nor disagree • Disagree • Strongly disagree

The majority of learners (60%) strongly agreed that PjBL is a highly effective, engaging, and motivating approach, while 25% agreed. Only 15% remained neutral, choosing neither agree nor disagree. No participants disagreed with the statement.

Question 11: Please suggest three ways to enhance your digital literacy through projects.

Interestingly, learners provided various recommendations, including: I. Presenting projects using web-based technologies such as Google Classroom. II. Staying updated with new technologies to ensure easy access. III. Providing learners with training on the rational use of digital platforms to prepare them for ePjBL.

Findings and Discussions

After compiling learners' responses into an Excel worksheet for analysis, the following conclusions were drawn:

Learners exhibited overwhelmingly positive attitudes toward eProject-Based Learning.

Google Classroom was identified as an effective platform for project presentations.

Learners displayed strong motivation for presenting projects electronically using modern web-based technologies.

The majority of learners showed a preference for eLearning.

Learners demonstrated familiarity with recent technologies.

PjBL was found to enhance various skills and competencies, including critical thinking, time management, collaboration, creativity, soft skills, motivation, and teamwork.

Google Classroom emerged as an exceptionally useful web-based technology.

Digital platforms were perceived as user-friendly and accessible during project work, meeting learners' expectations for eLearning.

Based on these findings, it is recommended to implement PjBL to enhance students' digital literacy, leveraging various web-based technologies such as Google Classroom for their utility and accessibility. Additionally, staying abreast of new technologies and periodically evaluating their effectiveness is advisable.

This study represents a meticulous quantitative examination aimed at understanding the impact of project-based learning (PjBL) on learners' skill development and competencies, alongside their perceptions regarding eProject-Based Learning (ePjBL) facilitated through platforms like Google Classroom. The backdrop of the COVID-19 pandemic has significantly accentuated the importance of ePjBL, compelling educators to reassess traditional teaching methods and embrace innovative pedagogical approaches. Scholars such as Weller (2020) and Cronjé (2020) have emphasized the transformative potential of modern technologies in enriching educational experiences, particularly through ePjBL. In this context, the study advocates for Algerian schools to embrace project-based approaches and ePjBL, leveraging the diverse array of online platforms available, despite the potential challenges that may arise, especially for educators inexperienced in such methodologies. Furthermore, the study calls upon researchers to delve into novel strategies and techniques to augment the effectiveness and applicability of PjBL. At its core, this research delves into how PjBL serves as a catalyst for nurturing not just academic knowledge but also vital soft skills and competencies crucial for success in an ever-evolving world. Through thorough examination and analysis, it seeks to

contribute valuable insights to the ongoing discourse surrounding innovative educational practices and their implications for learner development and success.

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