EXPLORING USER EXPERIENCES IN PROJECT-BASED LEARNING WEBSITE FOR CREATIVE PRODUCT AND ENTREPRENEURSHIP EDUCATION

Septi Kurnia
Faculty of Economics, Universitas Negeri Jakarta, Indonesia
Email: septi.kurnia432@gmail.com

Corry Yohana
Faculty of Economics, Universitas Negeri Jakarta, Indonesia
Email: corryyohana@unj.ac.id

Nadya Fadillah Fidhyallah
Faculty of Economics, Universitas Negeri Jakarta, Indonesia
Email: nadyaffidhyallah@unj.ac.id

ABSTRACT

This research aims to explore and comprehend user experiences and interaction dynamics in the context of developing a Project-Based Learning (PBL) website for creative product and entrepreneurship education. Qualitative research methods were employed to gain in-depth insights into how students, educators, and other stakeholders experience and interpret the implementation of PBL through the website. The research subjects consisted of 11th-grade students in Online Business and Marketing at vocational schools. Data collection through in-depth interviews, questioners, observation, and content analysis of interactions within the website. The findings indicate that the developed website received positive validation from media and content experts. Practitioner evaluations from teachers, the vice principal in charge of the curriculum, and student responses demonstrated high acceptance of the website. This research provides profound insights into user experiences and perceptions of PBL-based learning media, contributing to the development of more contextual and project-based learning strategies in the field of education.

Keyword: Project-based learning, User experiences, Creative product and entrepreneurship

ABSTRAK

Penelitian ini bertujuan untuk mengeksplorasi dan memahami pengalaman pengguna serta dinamika interaksi dalam konteks pengembangan media *website* berbasis *Project-based Learning* (PBL) pada pembelajaran Produk Kreatif dan Kewirausahaan. Metode penelitian kualitatif digunakan untuk mendapatkan wawasan mendalam tentang bagaimana peserta didik, pendidik, dan pemangku kepentingan lainnya mengalami dan memaknai implementasi PBL melalui media *website*. Subjek penelitian ini adalah siswa kelas 11 Bisnis Daring dan Pemasaran (BDP) di SMK. Pengumpulan data melalui wawancara mendalam, kuesioner, observasi, dan analisis konten terhadap interaksi di dalam media. Hasil penelitian menunjukkan bahwa media *website* yang dikembangkan mendapatkan validasi positif dari ahli media dan ahli materi. Penilaian praktisi guru, wakil kepala sekolah bidang kurikulum, dan respon siswa menunjukkan penerimaan yang tinggi terhadap media ini. Penelitian ini memberikan wawasan mendalam tentang pengalaman dan persepsi pengguna terhadap media pembelajaran berbasis PBL, serta memberikan kontribusi penting dalam pengembangan strategi pembelajaran yang lebih kontekstual dan berbasis pada proyek dalam dunia pendidikan.

Kata Kunci: *Project-based learning*, **Pengalaman pengguna, Produk kreatif dan kewirausahaan**

INTRODUCTION

Vocational education has significantly contributed to creating highly skilled and competitive Human Resources (HR) in the global job market (Ridwan, 2021). The entire vocational education system is focused on providing practical or hands-on experiences, aiming to equip graduates with various competencies demanded by the industrial sector (Istiqomah, 2016). According to information from *Detiknews*, the Directorate General of Vocational Education, Ministry of Education and Culture, has highlighted five crucial aspects in the Vocational Education curriculum. First, theory-oriented subjects will be connected with vocational content. Second, mandatory internship activities for at least one semester. Third, students are given the freedom to choose additional subjects for three semesters. Fourth, co-curricular programs, such as community service, are mandatory in each semester. Fifth, there is a subject on Creative Ideas and Entrepreneurship that spans three semesters and utilizes the Project-Based Learning (Imandiar, 2021).

The implementation of the Project-Based Learning (PBL) model, specifically known as project-based learning (PBL) in the Creative Product and Entrepreneurship subject, enables student engagement in problem-solving with a logical approach, creating a deep and authentic educational experience (Khairat, 2020). The advancements in information and technology have had a significant impact on education, particularly in the development of learning media. Interactive learning media has the potential to make instructional materials more engaging. The use of website-based learning media is an innovative form to create an interesting learning experience (Septiara & Saino, 2022). Research conducted by Fajar and Nova (2018), showed that website-based learning media can be a valid, practical, and effective tool in education. Furthermore, a study by Karnoto (2022) demonstrated that the PBL learning model could increase the learning motivation of students in Creative Product and Entrepreneurship by 77% in the first cycle and 85% in the second cycle.

Initial observations conducted by the researcher at SMK Negeri 12 Jakarta in the Creative Product and Entrepreneurship subject in the 11th-grade Online Business and Marketing class revealed several important findings. Existing facilities, such as insufficient classroom space, resulted in the need to repurpose laboratories as additional classrooms. The current learning media are limited to whiteboards, PowerPoint-based presentations, videos, and images. These limitations lead to student boredom and passivity in the learning process, with a prolonged understanding of the material. Interviews conducted revealed that the use of e-learning in the school only occurred during Distance Learning. Currently, learning has fully returned to face-to-face, rendering e-learning platforms obsolete in the current learning context.

Based on the outlined issues, this research is focused on exploring and understanding user experiences and interaction dynamics in the context of developing a Project-Based Learning (PBL) website for Creative Product and Entrepreneurship education. The study is expected to contribute to enhancing the understanding of qualitative aspects in the development of project-based learning media and provide guidelines for the effective development of strategies to enrich project-based learning experiences in the context of creative product and entrepreneurship.

LITERATURE REVIEW
Website-based Learning Media

Website-based learning media is an instructional tool that utilizes the World Wide Web (WWW) or commonly known as a website as a medium for the learning process. The use of website platforms was initially introduced in the early 1990s. A website can be defined as a collection of pages presenting information through various media such as text, images, animations, audio, and video (Divayana et al., 2016). The learning process itself is an activity where educators and learners interact, and through this process, learners acquire new

210

knowledge, form habits, and develop attitudes and character. The utilization of website-based learning media is expected to enhance collaboration between educators and learners in the learning process. This media aids students in developing more effectively and discovering learning resources in a centralized manner (Anggoro & Yunianta, 2018).

Project-Based Learning

Project-based learning is a learner-focused instructional model. According to Umamah & Andi (2015), PBL is a learning model grounded in the principles and core concepts of specific learning materials. In PBL, learners engage in complex activities aimed at solving learning problems and constructing knowledge by producing tangible products (Purnomo & Ilyas, 2019). The uniqueness of PBL lies in granting students the freedom to explore various disciplines to solve problems. In the context of PBL, the teacher's role transforms into a guide or facilitator who guides students to develop a more creative and critical mindset towards their environment. Group collaboration becomes the norm in PBL, creating authentic assessments and allowing learning resources to evolve from various sources (Khairat, 2020).

Creative Product and Entrepreneurship

The subject of Creative Product and Entrepreneurship is part of the curriculum for Vocational High Schools (SMK) taken by students majoring in Online Business and Marketing. Initially known as Entrepreneurship, this subject has continuously evolved in response to the changing demands of the workforce. This transformation is evident through the Directorate General of Basic and Secondary Education Ministry of Education and Culture's Decision number 4678/D/KEP/MK/2016 on the Spectrum of Expertise in Secondary Education and Presidential Regulation number 87 of 2017, focusing on strengthening Character Education. Alongside these developments, the Entrepreneurship subject underwent a name change to Creative Product and Entrepreneurship. This step was taken to align the education system with the needs and demands of the workforce and industry (Khairat, 2020).

METHOD

This research methodology involves data collection through in-depth interviews, questioners, participatory observation, and content analysis of interactions within the website media (Machin-Mastromatteo, 2015). The following are data collection instruments in the form of questionnaires and interview sessions that have been utilized.

Table 1. Data Collection Instruments

No	Indicator	Questions
1.	Pre-research needs analysis	What methods do teachers employ during instructional activities?
2.	Pre-research needs analysis	What instructional media are utilized by teachers during the teaching and learning process?
3.	Pre-research needs analysis	What types of instructional media align with your learning style?
4.	Content	How does the website contribute to students' curiosity, self-directed learning, motivation, and knowledge enhancement, given that the content is organized into distinct topics, structured based on Project Based Learning, and aligns with the principles of Project Based Learning?"
5.	Material	How is the assessment of material alignment, indicator formulation, completeness, content, ease of understanding, colour combination, text, images, and clarity of visuals and videos on the website with the goal of teaching Creative Products and Entrepreneurship, and based on Project-Based Learning?
6.	Learning Process	Can the use of a website in learning enhance students' curiosity and learning motivation, as well as facilitate the learning process?

Source: Data processed by Researchers (2023)

Through qualitative analysis, the study aims to provide a comprehensive overview of the impact of Project-Based Learning (PBL) on the learning process, the extent to which online interactions promote collaborative learning, and user responses to the website media as a tool for supporting creative learning and entrepreneurship development (Terms, 2020). In-depth interviews were conducted to gather information about the issues and learning media needs for 11th-grade Online Business and Marketing students at SMK Negeri 12 Jakarta. Content analysis involves testing the feasibility of the website product by engaging media and content experts, who are expert lecturers in their fields, teacher practitioners, and the vice principal in charge of the curriculum. Feasibility testing will be conducted through the use of questionnaires assessing aspects such as appearance, program, content, relevance, and language. Participatory observation aims to evaluate students' cognitive abilities before using the website media and assess the media's effectiveness after being tested.

RESULTS AND DISCUSSION

Based on the results of observations and interviews, it was found that the teaching of Creative Products and Entrepreneurship in that school is still limited to the use of print media, causing students to easily become bored and less active in learning activities. The teaching methods applied are confined to one-way lectures from teachers, presentations, summarizing materials, and the like. Such a teaching approach leads students to understand the material only in theory. This analysis supports the idea of developing a project-based learning website to enhance the quality of both face-to-face and online learning. As revealed in a study conducted by Ritonga (2017) on the utilization of Information and Communication Technology (ICT)-based media in the context of the learning process, the research results show that teachers responded very positively, with an approval rate of 80.83%, regarding the use of ICT-based learning media during instructional activities. Furthermore, a study carried out by Hariyanto (2023) on the utilization of learning media for students states that it provides significant benefits in the learning process. The media assists in standardizing the delivery of learning materials and avoiding student boredom during the implementation of learning activities. The following is the display of the Project-Based Learning website.

Figure 1. Website display

Source: Data processed by researchers (2023)

Content Analysis of Project-Based Learning Website

Qualitative research involves the evaluation of website content utilizing data from various sources, including media experts, content specialists, teacher feedback, curriculum representatives, and students. Feasibility assessment processes are carried out through interview methods, observations, and the use of questionnaires, subsequently calculated using the Likert Scale Calculation method as described by Arikunto in Azkiyatul (2016). Surveys are implemented as a data collection technique, wherein researchers employ statements or questions (Sahir, 2022).

Table 2. Likert Scale

No	Percentages	Description
1.	90.00% - 100.00%	Very good, can be used without improvement.
2.	75.00% - 89.00%	Very good, can be used without improvement.
3.	65.00% - 74.00%	Less valid, less good, need major repairs.
4.	55.00% - 64.00%	Invalid, ineffective, not good, cannot be used.
5.	00.00% - 54.00%	Very bad, unusable

Source: Data processed by Researchers (2023)

Based on the review by media experts, the validation of instructional media development obtained an overall score of 63, while the expected score was 70. Therefore, the product validation by media experts reached an approval rate of 90%, categorized as excellent. When evaluated by content experts, the review results of instructional media development received a total score of 40 out of the expected 50. The validation by content experts achieved an approval rate of 80%, categorized as good. Evaluation by creative product and entrepreneurship teachers indicated a total score of 55 out of the expected 60. Thus, product validation by teachers reached an approval rate of 91%, classified as excellent. Curriculum Vice Principals' assessment yielded a total score of 59 out of the expected 60. The product validation by the Curriculum Vice Principal reached an approval rate of 98%, classified as excellent.

The website is considered an engaging platform with highly effective content presentation. The utilization of this project-based learning website can serve as a tool to assist teachers in providing easy and practical access for students to acquire materials, enhancing the smoothness of the learning process. As revealed in the study conducted by Basilotta et al, (2017) on Project-Based Learning (PBL) through the incorporation of digital technologies: An evaluation based on the experience of serving teachers. The results obtained reveal a positive evaluation of this methodology. Most teachers indicated that the projects promoted active participation by students (95%), motivated them to learn (96%), and helped them acquire various curricular skills (90%). However, this website media has a weakness in terms of identifying its creator or content developer. Suggestions include the addition of a student attendance feature, which assists teachers in monitoring and recording student attendance in a practical and efficient manner (Puckdeevongs et al., 2020). However, this website has a drawback regarding the identification of its content creator or developer. Recommendations include adding features for student attendance, providing teachers with the ability to monitor and record student attendance in a practical and efficient manner.

User Experience on Project-Based Learning Website

User experience is measured through a questionnaire, subsequently calculated using the Likert Scale Calculation method as described by Arikunto in Azkiyatul (2016). According to student responses, the validation results of instructional media development reached a total score of 2014 out of the expected 2145. Therefore, product validation by students achieved an approval rate of 94%, categorized as excellent. Research findings indicate that the use of the Project-Based Learning Website in the context of learning generates positive user responses.

213

Observations and interviews reveal that user experiences reflect good acceptance of this platform. Users appreciate the attractive interface and effective content presentation.

The media is interactive, enhancing student engagement levels and making the learning process more dynamic. The ease of access without requiring an account or payment process provides convenience for users. The research conducted by Fatullah (2021) regarding the User Experience Design of the Exploration Campus Application at Bogor Agricultural University using the Design Sprint method demonstrates the successful progression of this study to the medium-fidelity prototype development phase for the said application. Based on the results derived from the applied testing, all user participants unequivocally affirmed that the application's design has been well-received and effectively meets the users' needs to a satisfactory degree.

Additionally, this media offers a holistic learning experience with a combination of theory and practice through the implementation of the Project-Based Learning method (Sheerah, 2020). However, some notes regarding weaknesses also emerge, especially concerning dependence on internet access as a primary limitation, causing the media to be accessible only when connected to the internet. In the current digital era, it is important for teachers to develop learning media that can improve student learning outcomes (Mayangsari et al., 2021).

CONCLUSION AND RECOMMENDATION

Based on the research results involving observation, interviews, and evaluation analysis from various parties, it was found that Creative Product and Entrepreneurship education in the school is limited to the use of print media, resulting in boredom and low student engagement levels. The teaching methods, which are confined to traditional approaches such as lectures, presentations, and summaries, lead students to understand the material only theoretically. This analysis indicates the need to develop a Project-Based Learning-based website as a solution to enhance the quality of learning, both in face-to-face and online settings. Validation of the Project-Based Learning-based website content involves media experts, content experts, teacher responses, curriculum representatives, and students, achieving an overall high level of approval.

Although this media is deemed effective in enhancing student engagement and providing a holistic learning experience, some weaknesses have been identified. Dependency on internet access, the absence of attendance features, and developer identification are constraints that need to be addressed. Suggestions include adding student attendance features for class management efficiency and identifying content developers to enhance transparency. Overall, the results of this research highlight the positive potential of the Project-Based Learning-based Website in improving the quality of learning. However, further improvements and developments are needed to address the identified weaknesses so that this media can become a more effective and efficient learning tool.

REFERENCES

Anggoro, I. F., & Yunianta, T. N. H. (2018). Development of Learning Media Website-Based for Trigonometry. *Pendidikan Matematika*, *4*, 253–260.

Azkiyatul, A. (2016). *Pengaruh Ceramah KH.Anwar Zahid Melalui Youtube Terhadap Pemahaman Mahasiswa Komunikasi dam Penyiaran Islam, Fakultas Dakwah dan Komunikasi, UIN Sunan Ampel Surabaya*. Universitas Islam Negeri Sunan Ampel.

Basilotta, G. P. V., Martín del Pozo, M., & García-Valcárcel Muñoz-Repiso, A. (2017). Project-based learning (PBL) through the incorporation of digital technologies: An evaluation based on the experience of serving teachers. *Computers in Human Behavior*, *68*, 501. https://doi.org/10.1016/j.chb.2016.11.056

214

Divayana, D. G. H., Suyasa, P. W. A., & Sugihartini, N. (2016). Pengembangan Media Pembelajaran Berbasis Web Untuk Matakuliah Kurikulum dan Pengajaran di Jurusan Pendidikan Teknik Informatika Universitas Pendidikan Ganesha. *Jurnal Nasional Pendidikan Teknik Informatika (JANAPATI)*, *5*(3), 149. https://doi.org/10.23887/janapati.v5i3.9922

Fatullah, M., & Asfarian, A. (2021). Perancangan Pengalaman Pengguna dari Aplikasi Eksplorasi Kampus Institut Pertanian Bogor Menggunakan Metode Design Sprint. *Jurnal Ilmu Komputer Dan Agri-Informatika*, *8*(1), 10–19. https://doi.org/10.29244/jika.8.1.10-19

Hariyanto, B. (2023). Penggunaan Media Pembelajaran Untuk Siswa Dan Berhubungan Dengan Kualitas Mutu Pendidikan Program Studi Pendidikan Ilmu Pengetahuan Sosial Fakultas Keguruan dan Ilmu Pendidikan Pendahuluan. *Pusat Publikasi S-1 Pendidikan IPS FKIP ULM*, *1*(2210128210009), 1–13.

Imandiar, Y. (2021). Kemendikbud Rombak Kurikulum SMK, Ini 5 Aspek Perubahannya. *Detiknews.Com*.

Istiqomah, N. (2016). Peran Konselor dalam Mengembangkan Karier Siswa Sekolah Menengah Kejuruan (SMK) Melalui Kewirausahaan sebagai Modal di Era Mea. *Seminar Asean Psychology & Humanity*, 297–303.

Karnoto. (2022). Penerapan Project Based Learning Untuk Meningkatkan Motivasi Belajar Produk Kreatif Dan Kewirausahaan Pada Peserta Didik Kelas XI.TKJ 1 SMK Negeri 1 Pemalang. *VOCATIONAL: Jurnal Inovasi Pendidikan Kejuruan*, *2*(1), 27–33. https://doi.org/10.51878/vocational.v2i1.869

Khairat, Y. (2020). Penerapan Model Project Based Learning Dalam Meningkatkan Aktifitas Dan Hasil Belajar Peserta Didik Pada Mata Pelajaran Produk Kreatif Dan Kewirausahaan. *Jurnal Teknologi Pendidikan*, *9*(2), 185–196.

Machin-Mastromatteo, J. D. (2015). Learning with social media: An information literacy driven and technologically mediated experience. *Communications in Computer and Information Science*, *552*, 328–335. https://doi.org/10.1007/978-3-319-28197-1_34

Mayangsari, D., Sudiarditha, I. K. R., & Nurjanah, S. (2021). The Effect of Quality Learning Media on the Results of Learning Through Creativity of Learning in Learning Online to Students in SMA State 22 Jakarta. *Jurnal Pendidikan, Ekonomi, Perkantoran dan Akuntansi, 2*(3), 1-8.

Puckdeevongs, A., Tripathi, N. K., Witayangkurn, A., & Saengudomlert, P. (2020). Classroom attendance systems based on bluetooth low energy indoor positioning technology for smart campus. *Information (Switzerland)*, *11*(6). https://doi.org/10.3390/INFO11060329

Purnomo, H., & Ilyas, Y. (2019). *Tutorial Pembelajaran* (2019th ed.). K-Media.

Ridwan, M. (2021). Pembangunan Sumber Daya Manusia Pada Sekolah Kejuruan Di Indonesia: Tantangan Dan Peluang Di Era Revolusi Industri 4.0. *Moderasi: Jurnal Studi Ilmu Pengetahuan Sosial*, *2*(1), 1–10. https://doi.org/10.24239/moderasi.vol2.iss1.35

Ritonga, N. (2017). Analisis Penggunaan Media Berbasis Teknologi Informasi Dan Komunikasi Dalam Proses Pembelajaran Biologi Di Smp Negeri Se-Kec. Medan Kota Analysis of the Usage Information Techology Base and Communication in Learning Process of Biology At Smpn All Medan Ci. *Cahaya Pendidikan*, *3*(1), 77–87. https://doi.org/10.33373/chypend.v3i1.872

Sahir, H. S. (2022). *Metodologi penelitian* (T. Koryati (ed.)). Penerbit KBM Indonesia.

Sheerah, A. H. (2020). Using Blended Learning to Support the Teaching of English as a Foreign Language. *Arab World English Journal*, *6*(6), 191–211. https://doi.org/10.24093/awej/call6.13

215

Septiara, D. P., & Saino, S. (2022). Pengembangan E-Modul berbasis Web pada Mata Pelajaran Produk Kreatif dan Kewirausahaan kelas XI BDP I di SMKN 1 Surabaya. *Jurnal Pendidikan Tambusai*, *6*, 10689–10699.

Terms, F. (2020). Elementos clave para un modelo de aprendizaje basado en proyectos colaborativos online (ABPCL) en la Educación Superior. *American Journal of Distance Education*, *34*(3), 241–253. https://doi.org/10.1080/08923647.2020.1805225