

## **Upskilling Higher Education Students for Digital Competency Using Project Based Learning**

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### **Abstract**

*Students in the 21st century are emphasized to master digital skills to support their education. Students majoring in English education besides mastering English, they must also be able to teach on a digital platform. The problem of this research is how to strengthen digital competence in IAIN Kediri students through Project Based Learning. This research aims to improve the digital competence skills of English study program students through the Project Based Learning method. Strengthening was carried out in the Teaching English for Young Learners class using Classroom Action Research in 6 meetings. With the strengthening of the class, focused on digital competence namely Google Site, Canva Poster, Quizzis and White Board Animation. The projects are designing Learning English Website for Elementary Students using Google Site and Canva Poster, Developing Listening material and exercises using Quizziz and Canva, constructing speaking material using White board Animation, speaking exercises using Quizziz and Canva, Designing writing material using Quizziz and Canva speaking exercises using Quizzis and Canva, Designing writing material using Quizzis, White Board Animation and Canva Poster. All project results from strengthening digital competencies based on project-based learning are published in the following link: <https://sites.google.com/view/teylclass/>, after being checked by the instructor with satisfactory and good results.*

**Keywords:** *Upskilling, Digital Competency, Project Based Learning*

### **1. Introduction**

The Independent Learning Policy-Independent Campus (MBKM) is based on the Ministry of Education and Culture, Regulation Number 3 of 2020 concerning National Higher Education Standards on Learning Process Standards, particularly in articles 15 to 18. The Independent Learning Policy-Independent Campus aims to encourage students to gain learning experiences with various additional competencies outside the study program and/or off campus. There are at least four important things to consider in developing and implementing a curriculum with MBKM implementation. First, stay focused on achieving SKL/CPL. Second, it is ensured to fulfill the right to study for a maximum of 3 semesters, and students get a learning experience with additional competencies that are related to

the CPL of their study program. Third, with the implementation of MBKM, students get real-world learning experiences according to their profile or scope of work. Fourth, the curriculum designed and implemented is flexible and able to adapt to the development of science and technology (scientific vision) and the demands of the field of work (market signals). Based on the internship experience, researchers found that intern students taught and assessed their students used the old method, such as telling them how many pages they have on their worksheets, while students work on paper and send them their photos, or intern students are still sending in word form and students are still working on paper. In this case, there were two workloads with more burdens, namely students copying questions on paper and then answering them, interns still corrected one by one so that this was tiring and resulted in invalid student scores. Some researches about Project-based Learning (PjBL) have been administered before. One which was written by

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Faridah et al., (2011) it was Inculcating Soft Skills in 21st Century Workplace, the findings said that employers in the 21st century were looking for graduates with soft skills, including sense of responsibility, self-confidence, social and communication skills, flexibility, teamwork, good work attitude, self-motivation and self-management. Many of the skills learned through project-based learning are highly sought after by today's employers, including the ability to work well with others, deal with interpersonal conflicts, make thoughtful decisions, and practice and solve complex problems.

The project-based learning (PjBL) approach is carried out through these soft skills through projects assigned in the workplace communications company. The same as the researchers' research, this writing focused on the Project Based Learning. Another research was Project-based learning in programming classes – the effect of open project scope on student motivation and learning outcome, by Evi Zouganeli et al., (2014). In this article, reported on the application of project-based learning in the teaching of the second-year electrical engineering course, which includes learning to program in Lab VIEW (a graphical programming language), as well as a basic introduction to data communications and telecommunications. The introduction of the scope of open projects increased students' motivation and improved learning outcomes. In addition, laboratory exercises are included, which provide more tools for interfacing with external hardware (such as Arduino boards, sensors, and wireless networks), which further improves the quality of the project because students can absorb resources from their own interests and other courses their projects. Kim, Kyu Tae (2018), the writer of *The Structural Relationship among Digital Literacy, Learning Strategies, and Core Competencies among South Korean College Students*, explored the structural relationship among Korean college students' digital literacy, learning strategies, how to improve the digital competence skills of high-level students using project based learning? and core competencies, and the group differences between these variables depend on individual characteristics. The results showed that: (i) There are no differences between groups in terms of digital literacy and core competence; however, group differences Exist in the learning strategy; (ii) Digital literacy has a direct impact on core

competence, and learning strategy has an indirect impact on the impact of digital literacy on core competence; (iii) Digital literacy can enhance the effect of core competence when adjusting learning strategies. The research proposes areas for future research, including the development of digital technology-enhanced and ability-driven learning resources that can explain the impact of cognition, meta cognition, and resource management; digital literacy and achievement goal orientation, learning styles, and academic self-efficacy The relationship between the core competence of learners such as sense of learning; the impact of personal digital technology based on personal learning strategies on core competencies through experimental and quasi-experimental design; and qualitative research on the use of digital technology and learning strategies.

Both research, the previous and the current, study about something digital in teaching and learning activity. This research studied about the relationship among Digital Literacy, Learning Strategies, and Core Competencies among South Korean College Students, while the researches' study about improving students digital competencies using Project-based learning. Another study, competencies required for digital curation: An Analysis of Job Advertisements, which was written by Jeonghyun Kim, Edward Warga, and William Moen (2013). As digital curation played an increasingly important role in a fast-paced and data-intensive information environment, it is necessary to determine a set of capabilities for professionals in this evolving field. The job title, organization type and location, educational background, experience, knowledge and skills, responsibilities, etc. were reviewed and analyzed. The analysis results show that the characteristic of digital curatorial work is the complex interaction of various skills and knowledge. The results of this research put forward new requirements for qualified labor in the field of digital curation.

This disturbed the researchers to upskill the 5th semester students of IAIN Kediri with digital competencies by using Project Based Learning. Based on the above background, the researchers formulate the problem as follows: How to improve the digital competence skills of higher students using Project Based Learning? This study aims at improving the digital competence skills of higher students using Project Based Learning. This research will provide benefits to

improve the digital competence skills of higher students using Project Based Learning. The scope of the study is related to designing web site, recognizing application of students' assessment, using interactive media for online teaching and learning, and producing the digital interactive media for teaching and learning. The previous study focused on the effect of the project-based learning on the students outcome; it is quantitative research, and the researchers' here use Class Action Research to improve the students' digital competencies. This previous research, focused on the competencies of the digital curation. What makes it the same as current study is on subject, which is about digital technology. While the difference lies on the object of the study. The previous study focused in the competencies required for the digital curation, in the advertisement while the researchers' research focuses on improving students' competencies using project-based learning.

## 2. Method

In this study, the authors used the Classroom Action Research (CAR). Action research is a type of research conducted by teachers in the classroom. This research can provide new methods and procedures to improve the professionalism of teachers' teaching process and students' learning effects. Action research is research of a series of projects that teachers can participate in, either because they want to enrich their teaching, or because of data related to try out a new strategy. It can be concluded that action research is a cycle of settings carried out by teachers in the classroom to enrich all aspects of teaching and evaluate the success of certain activities and settings. There are four components to carry out classroom activity research in one cycle. They are as follows:

- a. Planning  
A plan is a research question that determines a plan after performing treatment. Researchers need to prepare behavioral research before doing this study.
- b. Acting  
This part talks about the procedures and works which will be taken by researchers. I stated that the researchers apply the plan, which is finished in the previous phase of the research field.
- c. Observe

In this step, the researchers have to check all works during the time. The observation is carried out inside the steps of the study, and the objective is to reveal any facts during the study process to show the condition of the students.

- d. Reflection  
Reflection is an effort to check the success or failure in achieving a temporary goal in order to set another ways. This may be the ultimate goal of the research.

The steps are as follows:

The first activity (Pre-Cycle), the works set began in January 2022. The focus of the research is to build rapport with fifth semester and researchers choose TEYL class to build trust and comfort to obtain in-depth data. The main reason for choosing this class is because it consists of 20% theories and 80% media production and practice with friends. Researchers are observing and discussing what are the problems with students' digital abilities, especially in designing websites, identifying applications for students' assessment, using interactive media for online teaching, and making digital interactive media for teaching and learning. A project will be carried out of the final output of this research. The second activity (the first cycle). A sort of plan: Planning actions relate to the students' predicted outcome. Designing the project, and developing the implementation plan project. Implementation of digital capabilities; designing Google website, using Canva posters, using Wordwall to develop student materials, whiteboard animations, and quizziz to create student assessments. The class is divided into 8 groups. Each group consists of 4 or 5 students and has a project with different responsibilities.


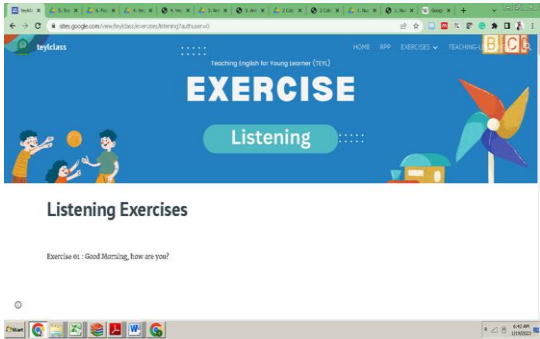

**Table 1.** Groups of the Project

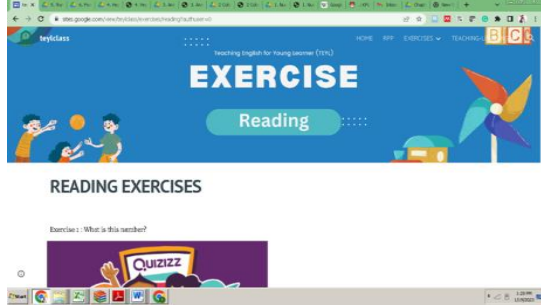
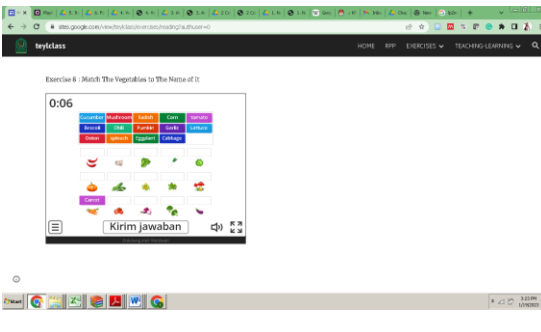
Name of the Group	Project	Digital Competencies
Group 1	Designing Learning English Website for Elementary Students	Using Google Site andhaving Canva Poster
Group 2	Developing listening material and exercises	Using Quizzis and Canva
Group 3	Constructing Speaking material	Using White Board Animation
Group 4	Constructing Speaking Exercises	Using Quizzis and Canva

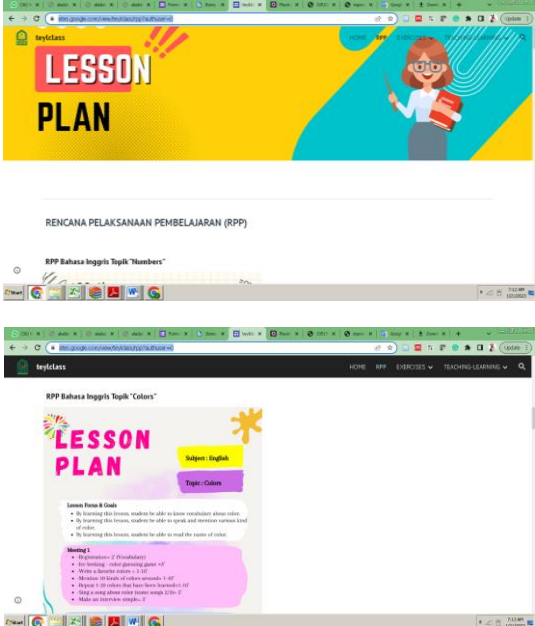
Name of the Group	Project	Digital Competencies
Group 5	Designing writing material	Using White Board Animation and Canva
Group 6	Designing writing exercises	Using Quizzis and Canva
Group 7	Designing Digital competencies material	Using Quizzis and Canva
Group 8	Designing Digital competencies exercises	Using Quizzis and Canva

### 3. Results and Discussion

The findings from this research are that there are 8 projects that can be completed by students. As a group they work together to build a website that contains different sub menus. Following are the results of the findings at the link:

Name of Group	Project Address	Project Results	Category
Group 1	<a href="https://sites.google.com/view/teylclass/">https://sites.google.com/view/teylclass/</a>		Good
Group 2 and 4	<a href="https://sites.google.com/view/teylclass/exercises/listening?authuser=0">https://sites.google.com/view/teylclass/exercises/listening?authuser=0</a>		
Group 3 and 4	<a href="https://sites.google.com/view/teylclass/exercises/reading?authuser=0">https://sites.google.com/view/teylclass/exercises/reading?authuser=0</a>		Good

Name of Group	Project Address	Project Results	Category
Group 5 and 6	<a href="https://sites.google.com/view/teylclass/exercises/writing?authuser=0">https://sites.google.com/view/teylclass/exercises/writing?authuser=0</a>	 	Good
		Group 7 and 8	

Name of Group	Project Address	Project Results	Category
			

The result showed that this research can show an increase in students' digital abilities by collaborating together to build and fill in class websites. This can also grow self-confidence among friends, and increase students' self-motivation, this is in line with the findings of Faridah et al which stated that there was an increase in management and teamwork motivation. The relationship from previous research is that reinforcement is carried out when subjects are already a worker, but in this research, reinforcement is carried out when the subjects are students so which are more competence in digital soft skill. Using Project-based learning where the learning model is based on assigning task in the form of projects, it can be seen that practically, students are guided to experience the process Investigated, where finally, students can develop the knowledge, skills, and attitudes. Such activities can become the basis for teacher assessment. Moreover, students felt enthusiastic in doing the task. The excitement of doing the task or project can give the impact on the increase of the goals reached. The improvement for their digital competencies can be seen in the implementation process of learning that going on relaxed yet serious way, since up skilling of TEYL students for digital competencies have the dimension of joy. In the implementation, students

are expected to provide teaching and learning material through technology. In constructing the web design, students are assigned to transform the written material to the interesting digital mode. such interactive game and Canva. Then to make sure that there has been an individual responsibility in doing the project, everyone is given a part of material to be finished. It building trust between students to do different works.

#### 4. Conclusion

The implications derived from this study is the use of up skilling of TEYL students for digital competencies to improve digital skills has the potential to be developed in IAIN Kediri. The students can gain knowledge about the application of this classroom action research and provide an alternative in choosing learning strategies to improve digital skills.

Based on the conclusions and implications above, this study may propose suggestions. Suggestions that could be addressed are for the researcher it is suggested that using up skilling of TEYL students for digital competencies a good alternative to teach and improve digital skill in order to make the students competencies become high; for students, it is suggested that they need to keep improving their skill the results achieved from the good digital skills need to be maintained and continually improved, and those who get low

scores should continue to practice individually and groups.

##### **5. Acknowledgement**

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##### **References**

- David. (2020, 12 December). Digital Competency: Kemampuan Abad 21 yang Harus Dimiliki Pengajar. Accessed on February 10th 2022, from <https://binus.ac.id/knowledge/2020/12/digital-competency-kemampuan-abad-21-yang-harus-dimiliki-pengajar/>
- Departemen Pendidikan Nasional. (2003). Undang-undang Republik Indonesia No.20 Tahun 2003 Tentang Sistem Pendidikan Nasional.
- Dewi, N. R., S. Kannapiran, & S. W. A. Wibowo. (2018). Development of Digital Storytelling-Based Science Teaching Materials To Improve Students' Metacognitive Ability. *Jurnal Pendidikan IPA Indonesia*, 7(1), 16-24.
- Douladeli, Efstratia. (2014). Experiential Education Through Project Based Learning. *Procedia- Social and Behavioral Sciences*, 152, 1256-1260.
- Hamalik, Oemar. (2010). *Kurikulum dan Pembelajaran*. Jakarta: Bumi Aksara.
- Hendricks, P. 1998. Developing Youth Curriculum Using the Targeting Life Skills Model dalam <http://www.extension.iastate.edu/4h/explore/lifskills.htm>, 2010.
- Jeonghyun, Kim, Edward Warga, & William Moen. (2013). Competencies Required for Digital Curation: An Analysis of Job Advertisements. *The International Journal of Digital Curation*, (8)(1), 66-83.
- Junaidi Aris, dkk., (2020). *Panduan Penyusunan Kurikulum Pendidikan Tinggi Di Era Industri 4.0 untuk Mendukung Merdeka Belajar - Kampus Merdeka*. Jakarta: Direktorat Jenderal Pendidikan Tinggi Kementerian Pendidikan dan Kebudayaan.
- Kim, Kyu Tae. (2019). The Structural Relationship among Digital Literacy, Learning Strategies, and Core Competencies among South Korean College Students. *Educational Sciences: Theory & Practice*, 19(2), 3-2.
- Kusumah, Inu Hardi. (2011). Model Pelatihan Kewiraswastaan Bidang Jasa Keterampilan Otomotif (Studi Tentang Pemuda Putus Sekolah di Kecamatan Sukasari Bandung). *Jurnal Invotec*, (7)(1), 29-52.
- Larmer, J., et al. (2015). *Setting The Standard for Project-Based Learning: A Proven Approach To Rigorous Classroom Instruction*. USA: Buck Institute for Education.
- Musa, Faridah, et. al., (2012). Project-based Learning (PjBL): Inculcating Soft Skills in 21st Century Workplace. *UKM Teaching and Learning Congress 2011, Procedia - Social and Behavioral Sciences*, (59), 565 – 573.
- Palilingan, Verry Ronny. (2014). Pengaruh Kreativitas, Enterpreneurship, dan Kecerdasan Kompetitif Terhadap Kinerja Pimpinan Program Studi. *Jurnal Invotec*, (10)(2), 153-168.
- Subandiyah. (1993). *Pengembangan dan Inovasi Kurikulum*. Jakarta: Grafindo Persada.
- Sugiyon. (2021). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung : Alfabeta.
- Sukmadinata, Nana Syaodih. (2009). *Pengembangan Kurikulum Teori dan Praktek*. Bandung: Remaja Rosdakarya.
- Suparlan. (2012). *Tanya Jawab Pengembangan Kurikulum Materi Pembelajaran*. Jakarta: Bumi Aksara.
- Zouganeli, Evi, et. al. (2014). Project-Based Learning in Programming Classes – The Effect Of Open Project Scope on Student Motivation and Learning Outcome. *Proceedings of the 19th World Congress The International Federation of Automatic Control Cape Town, South Africa*, (47)(3), 12232-12236.