



The Role of the Teaching Free Learning Campus Based on Local Culture in Strengthening Indonesia's Position in PISA 2024

Abdul Aziz^(✉) and Iswahyudi Joko Suprayitno

Muhammadiyah University of Semarang, Semarang, Indonesia
abdulaziz@unimus.ac.id

Abstract. This article examines the possibilities for the Free Learning Campus Program, run by the ministry of education and culture, to promote locally based learning methodologies. This essay discusses the development of reading and numeracy abilities at SD N Tambaksari in Kebumen Regency, Central Java, through learning based on local culture. The PISA test uses literacy and numeracy skills as indicators. Locally based learning approaches are intended to address the limitations of traditional learning approaches, which have historically tended to be one-sided and inconsistent in their use of technology. Students will learn how to use corn seed media in this approach, which is widely available and simple for SDN Tambaksari students to find. In reality, grade 2 pupils at SD N Tambaksari use corn kernels to master arithmetic operations. Students are also encouraged to read and discuss manuals on mathematical concepts, numbers, and online information sources. In this activity, literacy and numeracy are two topics that are looked at. Students are encouraged to watch instructional movies about arithmetic operations as they are learning. Students engage in learning more actively as a result of these activities. The majority of students are eager to engage in all aspects of their education. Through enhancing student literacy and numeracy, the independent learning teaching campus program may implement the conclusion of local culture-based education.

Keywords: Free Learning Campus · Local Culture · PISA

1 Introduction

Student competences must be maturely and measurably constructed in accordance with the needs of the times in order to prepare graduates who can cope with social, cultural, and workplace changes as well as rapid technology advancements [1]. With the fast shifting demands of the future, the match between graduates and business disciplines needs to be further expanded. Students are given careful preparation in terms of their abilities and adaptability [2]. In order for students to achieve learning outcomes, including aspects of attitude, knowledge, and skill, optimally, and to always be relevant and able to deal with problems that exist in society following their competencies, including in advancing the Indonesian nation, higher education has a responsibility to be able to design and

implement innovative and cooperative learning processes [3]. This issue is anticipated to be addressed by the Ministry of Education and Culture's Freedom of Learning Policy - Independent Campus.

The Merdeka Campus is a method of learning in higher education that is dynamic and flexible to create a learning culture that is innovative, not constrictive, and follows the needs of students. It also offers opportunities for students to continue developing the skills they already have or pick up new knowledge from the independent campus program [4]. This program's top aim is that it should be able to give students practical experience in the subject that they may use to improve their overall competency, get them ready for the workforce, or open up new job opportunities [5].

The teaching and learning processes at the Merdeka Campus are a type of education that treats students as highly capable learning objects. The Merdeka Campus learning process offers opportunities and challenges for the development of a variety of traits, including innovation, creativity, capacity, personality, and student needs. It also fosters independence in seeking and finding knowledge through realities and field dynamics, such as ability requirements, real-world problems, social interaction, collaboration, self-management, performance demands, targets, and how to achieve them [6, 7]. The well-designed and implemented autonomous learning program will help students develop both their hard and soft abilities, preparing them for community service [8]. The Freedom to Learn Program - Merdeka Campus is anticipated to be among the alternatives for Higher Education to generate graduates who are up to date, capable of using science and technology, the demands of business and industry, as well as the dynamics of a society that is still expanding [9, 10].

One of the independent learning campus independent programs is the teaching campus. This activity aims to equip students to become agents of change in the education system in Indonesia. It is hoped that the various competencies possessed by several students who participate in this activity can improve the quality of an educational institution [11–13]. Students from a variety of study programs, including non-educational study programs, are anticipated to improve the potential in schools that may not have been fully realized up to this point. It doesn't matter if this is due to underutilized educational resources or untapped student potential [14]. The expectation is that students from different study programs on the teaching campus would be able to revitalize and awaken the potential of schools and support schools in improving the standard of education. Given the restrictions in 3T schools, this program will be more focused if the target schools used for teaching campus activities are located in 3T areas. It has also been discovered that some 3T locations have quality that is reasonably good [15].

This activity also places students as teacher partners to innovate in improving numeracy skills, literacy, and technology adaptation for elementary and junior high school students for one semester [16, 17]. Given that literacy and numeracy skills are one of the PISA assessment indicators, Indonesia's current position still needs to improve. Elementary and junior high school students are also the object of assessment. Due to their perceived strategic importance in improving the PISA ranking, they are the focus of campus instructional initiatives. Also, there is a need for technological adaptation, particularly in light of the ongoing pandemic and the fact that some learning activities are now done online [18, 19]. Naturally, this also calls for technical proficiency and gadget

readiness [20]. Future generations' pupils in elementary and junior high schools, who represent the country's next generation, will require practically all areas of daily life to be compatible with current technology. Hence, technology-based learning is essential as a means of student adaptability that evolves in tandem with technological advancements.

Given the importance of social skills in everyday life, this teaching campus program also attempts to improve them. In addition to being cognitively competent, students also demonstrate empathy, communication, leadership, creativity, problem-solving, and the ability to innovate in relation to their competences. Students who take part in campus teaching programs need to be taught how to do this [21–23].

The continuing campus teaching program is an alternative that can be used to raise the standard of instruction. Using local culture-based learning to improve pupils' reading and numeracy abilities is one way to achieve this. Because this is contextual learning, the local culture is extremely important to learning. Students are accustomed to and frequently observe the culture around them; naturally, learning media can be used in situations like this [24].

By adopting corn growing media, local cultural wisdom can be raised in learning materials for educational campuses. Corn is extremely simple to find in Kebumen Regency, particularly in the region of Tambaksari Primary School. Students frequently watch and simulate the planting, growing, and harvesting of maize. Students' prior knowledge of corn might be used as a guide during the learning process. Under the autonomous learning campus teaching model, this corn medium can help Tambaksari Elementary School children improve their literacy and numeracy skills.

Ideally, the inclusion of regional cuisine in the teaching campus program at SDN Tambaksari Kebumen can help Indonesia's PISA ranking as well. PISA is an international research with the goal of assessing the educational systems of participating nations. The study involved evaluating the arithmetic, science, and reading skills of schoolchildren. The Teaching Campus Program, whose goal is to improve reading and numeracy abilities and adapt to the use of technology, is likewise in accordance with this. The disciplines of mathematics, science, and student reading proficiency have been the focus of PISA in three successive years (2012, 2015, and 2018).

In the last PISA assessment, Indonesia again got less than optimal results. Indonesia achieved successive scores of 371, 379 and 396 in reading, mathematics and science, which is still below the average of the participating countries. Based on this data, the ministry of education and culture will use the PISA results as one of the materials for evaluating the quality of education in Indonesia.

The next PISA will take place in 2021, and it will once again place a strong emphasis on mathematics, just as it did in 2003 and 2012. One fascinating topic that has been included in the draft PISA 2021 framework is computational thinking. This topic is also covered in a campus teaching program about features of technological adaptation, where this activity can be used to help students develop strong computational thinking skills.

2 Method

The research method for this study was a research design strategy. The choice of research design was made because, in this instance, the approach taken is methodical and adaptable to enhance the standard of learning in the classroom through collaboration between

teaching campus students and teachers to construct learning designs. Three stages were included in the creation of learning designs: original design, design experiments, and retrospective analysis. A Hypothetical Learning Trajectory (HLT) is created during preliminary design in order to be improved upon during the design experiment stage.

The tasks being completed now involve working with the instructor to perform a literature review on number resources and realistic mathematics instruction that may be used to teach number patterns, namely by employing the local cuisine (corn), which is widely available in the Kebumen district. Designing learning pathways and creating hypotheses to become HLT are done via curriculum analysis activities. To be fluid and adaptable during the experimental design stage, the theory is intended to be improved as a guideline in each learning activity.

The learning trajectory created in the preparatory stage is then used to practice learning in the experimental design stage (Prahmana, 2017). This exercise intends to encourage students to reflect and investigate their own tactics. This stage consists of two cycles; the first cycle is a pilot experiment with the goal of assessing and enhancing the planned learning trajectory. The following cycle of learning is experimental learning, which aims to implement learning using the corn concept for activities involving literacy, numeracy, and technology adaptation.

A retrospective analysis comes next. By contrasting the conjecture and HLT with the outcomes of using the learning trajectory in the design experiment stage, the data gathered in the design experiment stage is examined. These findings will provide a general summary of the learning trajectory for reading, numeracy, and technology adaptation skills.

The stages of this research were supported by seven students from the teaching campus program who came from different universities and study programs. The identities of these students are Tiara Ayustina (Muhammadiyah University of Semarang/Mathematics Education), Serliyanti (Muhammadiyah University Purwokerto/Geography Education), Sintami Indri Mulyani (Muhammadiyah University Surakarta/Elementary School Teacher Education), Aulia Jofial Rizqi (General Soedirman University/Science Communications), Nila Sri Wijayanti (Indonesian University of Education/PGSD Sumedang Campus), Citta Mudita (Yogyakarta State University/Physics), Galuh Eka Setty (Yogyakarta State University/Guidance and Counseling).

The seven pupils engaged in the learning activities while utilizing corn planting material. To enhance literacy and numeracy abilities, maize growing media and corn media are used. The reading component is strengthened in grade 2 elementary schools by planting maize using planting media. The reading and discussion of texts on growing and caring for maize is required of the students. In the numeration aspect, arithmetic processes are taught using maize kernels. The learning medium is actual corn seeds.

A laptop is used to introduce the learning process to technological adaptation. With the help of this laptop, students learned about the parts of computers, their characteristics, and how to utilize them. Students are also exposed to Microsoft Office, including Microsoft Word and Microsoft Excel; at this point, they are encouraged to use computers to research online resources related to learning about corn planting material.

3 Results

These activities can be described as follows, which were observed and also explained by the campus coordinator teaching Merdeka Learning Citta Mudita from the Physics Study Program at Yogyakarta State University.

Type of Activity: Literacy & Numeracy.

Activity Description: On this occasion, I filled class 2 with Ka Sintami. This time, we included maize growing activities in our reading and numeracy lessons. We started by praying before we started the teaching and learning activities. In addition, Ka Sintami led the enthusiastic clapping and sang “Planting Corn” as the activity’s opening performance to pique the interest of the grade 2 children. Following that, students were each given an aqua glass for the corn planting practice before being given cotton as a planting medium and continuing to discuss the specifics of growing corn. Students in grade 2 can practice alone to make it more obvious in practice. The aqua glass was capped after which pupils were ordered to leave the class to fill it with water.

Ka Sintami helped the children fill the aqua glass with water during this session. Also, each student receives three maize seeds, which are distributed throughout the class. The procedure is for the pupils to form a straight line before I hand out corn kernels to each student. The pupils were given water and instructed to practice planting corn in an aqua glass with cotton after receiving the corn kernels. To avoid confusion, students return to class after finishing and then identify each aqua glass by name. The lesson about sowing corn was followed by worksheets for the children to complete. Students are welcome to share information on today’s corn planting efforts at the top of the worksheet box. The worksheet for the bottom half follows, which focuses on numeracy. Students play while learning by putting corn kernels in the given box. Students merely need to glue the numbers provided on the corn, add them, and then answer the question in the enumeration issue because a number has already been provided above it. When all questions in both reading and numeracy have been addressed, each student is welcome to stand up and discuss their individual today’s activities and work. Students may leave the exercise after it has been concluded with prayer.

Type of Activity: Introduction to Technology and Literacy.

Activities introducing new technology while continuing the earlier activities. Students were given an opportunity to learn about MS Word’s features, one of which is inserted. Here, students put their word-image insertion skills to the test. Students make use of clip art or web inserts. Students are able to choose the images they want to use on this occasion. Together, each group attempts to find a solution. After choosing the images they like, the next duty is to type down stories based on the chosen images. For instance, if a group decides on a photo of a beach, the group then tells a tale about the beach, describing its location, the mood, and so forth. Each group collaborates to complete and create a tale. Afterwards, students practice using Ms. Word’s titles and other features for paragraphs that are oriented to the left, right, center, or right. The title is then presented in bold to the pupils in the title section. Each group tells the narrative they created after creating it.

Students also practice storing documents as they did before. Students will ask straightforward questions about the other groups’ stories after they have finished telling

their own. It is intended that pupils would pick up the habit of listening when their friends speak. After all, the storytelling in groups is complete; the closing exercise is now. The students are ready to shut down the laptop and practice closing any open files. The pupils then packed up their possessions and remained there, praying to be taken home. Students are given a quiz as usual before leaving for home. The first student to finish the quiz and leave will be that person. This time, the quiz was meant to gauge the pupils' understanding of general knowledge rather than their numeracy skills. The quiz questions were still still pertinent to the subject being studied.

In Grade 2 technology use activities, students carefully examine the components and functionalities of laptops and become familiar with Ms. Office. Students become adept at navigating technological developments through technology-based activities (2008) (Arbaugh et al.).

4 Conclusion

In teaching campus activities which are independent learning activities, when in the learning process, using learning media based on local culture can make students more active in learning about literacy and numeracy. Of course, this is also strengthened by the use of technology that supports Indonesia's ranking in PISA 2024. This is a pretty important finding considering that elementary schools still need more learning based on local culture. With a concept like this, students feel happy and enthusiastic about learning because what they often encounter around and is also easy to obtain in media forms will further assist them in improving literacy and communication skills.

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