

Enhancing Transformative Learning through 'Setara Daring': A Framework for Optimizing Equivalent Education in Bandung, Indonesia

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Abstract

Background: Transformative learning is a learning process that 'brings' learners closer to reality, presenting critical-reflective knowledge, by positioning the teacher more as a facilitator to guide and encourage that process. Online learning has become a choice for face-to-face learning systems in the Digital Era using Learning Management Systems (LMS) to support learning achievements.

Research Objectives: The ultimate goal to be achieved in this research is the emergence of a new product on the transformative learning model assisted by the LMS "Setara Daring" for learners of Equivalency Education in the city of Bandung, Indonesia

Research Method: This study uses a qualitative case study approach to examine transformative learning through the Setara Daring LMS in equivalency education. Focusing on non-formal education units in Bandung, it explores learner engagement, critical thinking, and the facilitator's role in digital environments. Data from observations, interviews, and documents provide in-depth insights into how LMS-based learning fosters critical and adaptive skills.

Research Findings: This study demonstrates that the Setara Daring LMS plays a vital role in fostering transformative learning in equivalency education. It promotes active engagement, critical reflection, and higher-order thinking through interactive features like discussions, collaborative tasks, and formative assessments. By integrating inquiry-based strategies and self-paced learning, the LMS supports independent thinking and decision-making. The findings provide empirical evidence of its effectiveness in enhancing digital learning experiences within non-formal education settings.

Conclusion: This study shows that the Setara Daring LMS effectively fosters engagement, critical reflection, and thinking in equivalency education. The transformative model developed offers an interactive, flexible approach to digital learning, with educators as key facilitators. Proven in Bandung's non-formal education, this LMS-based model provides a foundation for improving learning quality more broadly.

Novelty/Originality/Value: The novelty of this study lies in developing a transformative learning model using the Setara Daring LMS in equivalency education—an often overlooked area in digital innovation. It highlights the LMS's role in promoting engagement, reflection, and critical thinking, with educators as key facilitators. Based on evidence from Bandung's non-formal education, this study offers a foundation for future LMS-based models in similar contexts.

Keywords: Transformative Learning, Learning Management System, Setara Daring, Critical Attitude, Equitable Education.

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INTRODUCTION

Learning is not just a transfer of knowledge, but also a transfer of learning that can produce a transformation in mindset and cognitive actions (Aziz, Mahmud, & Mislinawati, 2022). Learning is not merely a process of passive information reception by learners, but an active thinking process to make sense of the entire learning experience (Nurhadi, 2020). Learning is not merely the fulfillment of intellectual needs under duress, but must be done with a willingness to engage and be actively involved in the learning interaction process (Sari & Qiptiyah, 2022). The involvement of learners in education should be directed towards the formation of self-confidence in their potential and abilities. According to Abdulhak, learning must be able to prepare students to demonstrate learned behaviors in real conditions. Similarly, in educational programs, learning is not just about achieving passing grades, but it must also be able to foster independent learning and usefulness in life (Falaq, 2022). The intellectual capacity built within the learning system should be directed towards enhancing the learners' ability to manage themselves and their environment (Pratami, 2024). Learners should be encouraged to have the courage to improvise and construct more dynamic learning interactions, both inside and outside the classroom (Septiasih, 2024). This needs to be done because the learning styles and strategies of each learner vary according to the individual and social characteristics present in their environment (Himmah, 2023). Therefore, learning activities should begin with the creation of an enjoyable learning atmosphere, involving the potential of learners and their surroundings, and developing facilitation strategies that align with the learning objectives (Budi et al., 2021).

The characteristics of equivalency learners, who are adults and pursue education while working, require them to divide their study time and concentration. This requires a high level of self-directed learning due to the dynamic study schedule in the Equivalency program. With such an understanding, it is almost certain that the learning patterns that have been in place so far will not be able to demonstrate a learning process and outcomes that can change the mindset/thinking (transformative) about the importance and usefulness of the learning activities. In fact, with a change in mindset in learning, equivalency education learners will be able to utilize their time to develop independence in action and thought. Equivalency education learners will be able to manage themselves and their environment better for learning. So, *Transformational learning* is important for expanding individual understanding, *beliefs*, and perspectives with the ultimate goal being personal growth, independence, and independent thinking (Herman, 2023).

Similarly, a critical attitude in equitable education has not yet been well established. In various cases of equivalency education, it was found that the learning process has not resulted in changes in attitudes and education, namely creative learning with a high level of independence. Learners lack the ability and willingness to analyze learning materials, so they approach learning merely as a fulfillment of obligation without understanding and critical thinking. The participation of equivalency learners in education is more based on a strong desire to obtain a diploma without being accompanied by the spirit and earnestness of studying.

Transformation in learning occurs in the perspectives of values, frames of reference, and mindsets. This indeed highlights the prominent cognitive aspect in the transformation intended by Mezirow, and has become one of the points of criticism from various parties. Some researchers then also emphasized the importance of adding emotional and social dimensions as targets for transformation. Even further, this multidimensional personal transformation is considered necessary to be positioned within the broader framework of political, economic, and social power. Based on the various perspectives above, it can be concluded that transformative learning is a concept of learning oriented towards the formation of individual perspective transformation, making them more mature, wise, and critical in thinking and acting, whether the process is based on cognitive-rational, affective-emotional, or communicative-social dimensions.

Currently, the implementation of equivalency education is increasingly developing, one of which is the use of the Learning Management System "Setara Daring." Online learning (Daring) has become a choice to expand the face-to-face learning system remotely (Hifzul, 2020; Stukalo & Simakhova, 2020). This choice is also accompanied by the use of the Learning Management System (LMS) to support learning achievement (Fitriyani, et al., 2020). This condition affects the critical thinking skills of equivalency learners who are

required to endure and adapt in order to follow the learning with the LMS system. Learners are required to be proficient in using the "Setara Daring" learning management system, to be accustomed to the online system so they can keep up with all the learning. Education today is required to meet the challenges of the 21st century, producing graduates with the 6 C for HOTS skills, one of which is critical thinking. It is expected that graduates will achieve this, where an important goal of critical thinking is that learners in equivalency education can think deeply, logically, gather, and evaluate evidence with specific disciplines as a result of studying core subject disciplines (Tang T, Vezzani V, Eriksson V, 2020). In this case, learners in literacy education must be able to think critically about various information they obtain through the use of social media (Bunt B, Gouws, 2020; Gül M, Akcay, 2020). The ability to think critically enables a person to analyze and evaluate critically using various mental processes such as focusing attention, categorizing, selecting, and judging (Cottrell S. 2023). The ability to think critically is very much needed in education because through critical thinking, learners in equivalency education can prepare themselves for future situations and conditions. Through critical thinking skills, learners in equivalency education will not only come to understand themselves but also be able to understand the world and their environment (Nadeak, 2020).

When linked to information processing in learning, critical thinking directs equivalency education learners towards a learning process that processes information. Compared to being mere passive recipients of information, prioritizing critical thinking supported by the appropriate learning model will further enhance the understanding of equivalency education learners (Firman F, Rahayu, 2020; Leach et al., 2020). In the process of critical thinking, students are directed to focus their minds on processing and understanding each piece of information (Gül M, Akcay, 2020; Zhang H, Yuan R, He X., 2020). After going through this critical thinking process, it is expected that students will have the ability to analyze and respond to information accurately. The use of LMS by students can affect their learning outcomes (attitudes) (Dekker, 2020; Firman, 2020).

The use of LMS as a proper learning medium can enhance students' academic performance, which impacts the learning outcomes achieved. Recent studies have demonstrated that the effective use of Learning Management Systems (LMS) can significantly enhance students' academic performance, thereby positively influencing learning outcomes. For instance, a study published in *Frontiers in Education* found that integrating educational technology, including LMS, led to higher academic performance in subjects like science, writing, mathematics, and languages, as well as increased student engagement and motivation (Valverde-Berrococo, J., Acevedo-Borrega, J., & Cerezo-Pizarro, M., 2022). If the students' academic performance is high, it means that the learning conducted has been successful and the learning objectives set have been achieved. The correct use of LMS will provide benefits in learning and can improve learning outcomes. Additionally, LMS can have a positive impact on its users, as it offers the freedom to search for information without the constraints of space and time. LMS has become a primary facility in enhancing social interaction between equivalency education learners and tutors, enabling easy and quick communication (Haider & Al-Salman, 2020; (Hasanah, et al., 2020). The utilization of LMS is expected to assist the learning process and facilitate interaction between equivalency education learners and tutors in this Digital Era. Effective and quick communication will ease the delivery of learning (Astini, 2020; Karasan A, Erdogan, 2021). The use of online-based learning media, including learning management systems, is an effective application used during the learning process. Furthermore, the use of digital media by students can influence their academic performance. The more the use of digital media as a learning medium by students increases, the more their academic performance improves. Conversely, the more the use of digital media as a learning medium decreases, the more their academic performance declines (Pradana, 2023).

In the digital era that has used technology as one of the main tools in obtaining information, LMS has become one of the choices in the online learning process (Nariman, 2021; Sheth, e t al., 2020). Although it cannot be denied that the learning process in the digital age heavily relies on the use of learning media and the critical attitude of learners. Some research findings that examine critical attitudes, media usage, and their relationship with improved learning outcomes show that the more experience a person has in interacting both within and outside their own environment, the more it will influence their level of critical thinking (Nadeak, 2020). Then, the higher the level of correct social media use in learning, the more satisfaction will be created within the students, which can increase learning motivation and impact learning outcomes.

METHODS

Research design

The research method in this study uses a qualitative approach through case study methods and qualitative approaches, the results show that the 'Setara Daring' LMS is capable of supporting active learner engagement, facilitating critical reflection, and enhancing critical thinking skills. The subjects of the research are non-formal education units in the Bandung City area that provide Equal Education (A, B, C) using the LMS "Setara Daring," specifically at 1) PKBM Bina Cipta Ujungberung, 2) PKBM Sukamulya, and 3) PKBM Bina Insani. To determine the effectiveness of the model test results, an analysis was conducted using data recording techniques, daily notes through critical attitude sheets.

Synergy with a focus on the main research issues, procedures, and stages of the research, this study was conducted through three stages, namely:

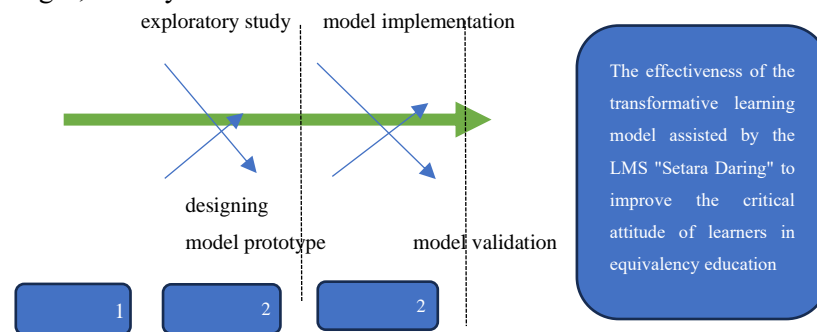


Figure 1. Model development

First stage. (2024). This stage is the identification and development phase of the blueprint design for the transformative learning model assisted by the LMS "Setara Daring" in the Equal Education Program in the City of Bandung, West Java. The steps to be taken in this phase are: (1) theoretical analysis of the Transformative Learning Model and Online Learning, (2) identification of LMS utilization among equivalency education learners, (3) identification of the critical attitude characteristics of equivalency education learners.

Second stage. (2025). After obtaining data on the design of the transformative learning implementation model assisted by the LMS "Setara Daring" and the characteristics of the critical attitudes of learners in equivalency education, the following will be carried out: (4) theoretical analysis of the transformative learning modules and the transformative learning assessment model; (5) conducting transformative learning assisted by the LMS "Setara Daring" in the Equivalency Education Program; (6) trial of the teaching materials model, learning model, and assessment model; and (7) refinement of the teaching materials model, learning model, and assessment model.

Third stage. (2032) In the third stage, the effectiveness of transformative learning assisted by the LMS "Setara Daring" in the Equivalency Education Program is measured, alongside a comprehensive evaluation of all components of the developed learning model. In relation to these matters, the final stage will involve (1) assessing the effectiveness of the learning model implementation; (2) evaluating the teaching materials model and final revisions; and (3) dissemination through scientific activities such as seminars/workshops.

RESULTS AND DISCUSSION

Another significant aspect of implementing Setara Daring is the readiness of learners and educators to adapt to digital learning environments. While online education offers flexibility, it also requires digital literacy skills that not all participants possess. Some learners, particularly those who are accustomed to traditional face-to-face learning, may struggle with self-regulated learning and time management in an online setting. Likewise, educators must adapt their teaching strategies to ensure engagement and interactivity in a virtual classroom,

which demands additional training and preparation. Without adequate support, both students and teachers may face difficulties in maximizing the platform's potential.

Moreover, social interaction remains a crucial element in education that online learning platforms often struggle to replicate. In a conventional learning environment, students benefit from direct interactions with peers and teachers, fostering collaboration, critical thinking, and social skills. The Setara Daring platform, while effective in delivering content, may not fully replace the social and emotional engagement that occurs in traditional classrooms. Efforts to integrate discussion forums, virtual group projects, and interactive activities are essential to bridge this gap and ensure a holistic learning experience.

Implementation of the LMS-assisted learning model "Setara Daring" in the Equivalency Education Program.

LMS "Setara Daring" is designed to support equitable education, providing access to learners who wish to pursue education outside the formal path. This platform aims to improve the quality of learning by providing materials that can be accessed anytime and anywhere, thus accommodating the need for flexible learning (Awad, et al., 2022; Etfita, et al., 2022; Walugembe, et al., 2022). However, the implementation of this program in the city of Bandung faces several challenges. One of the main challenges is the uneven access to the internet across the city. Although Bandung is a large city with relatively good infrastructure, there are still certain areas on the outskirts of the city that have inadequate internet connectivity. This makes it difficult for students in those areas to access materials and participate in learning consistently. In addition, the availability of adequate devices also poses a challenge. Many students from lower-middle economic backgrounds do not have devices like laptops or tablets that are ideal for online learning. Most still rely on smartphones, which, although useful, have limitations in terms of display and functionality for intensive learning activities.

The readiness of technology from the instructor's side is also an important factor. Educators must adapt to new teaching methods and learn to use various tools and features available in the "Setara Daring" LMS. Research findings indicate that the tutors are adequately prepared to use the "Setara Daring" LMS in the teaching and learning process. However, research findings also indicate that this process requires training and time, and not all learners have the same level of comfort in using new technology. Some tutors may have difficulty effectively integrating technology into their teaching. On the other hand, the LMS "Setara Daring" offers many significant benefits. This platform enables more structured and monitored teaching, with features such as online quizzes, discussion forums, and video materials that can be accessed again. This provides students with the opportunity to learn at their own pace, review difficult material, and interact with teachers and fellow students more flexibly. The interactions that occur through this platform also add a new dimension to the learning process. Discussions in online forums allow learners to share views and ask questions openly, which might be more difficult to do in a conventional classroom setting. This can enhance students' understanding and engagement in the learning process. Research findings also indicate that the role of tutors is very important in enhancing learners' critical attitudes. Tutors have several effective methods, such as linking the material to trending facts or learners' activities according to their fields.

Several aspects can also be implemented to enhance the critical attitude of learners, such as designing challenging learning content that stimulates critical thinking. This can include case studies, real-life problems relevant to daily life, and scenarios that require in-depth analysis. This content must be presented in various formats, such as text, video, and simulations, to attract interest and accommodate different learning styles (Mizal, 2021; Yusriadi, 2021). Then, the LMS should be used to provide discussion forums and virtual study groups. In this space, learners are encouraged to discuss, exchange opinions, and ask questions. Moderators or tutors can provide guidance and stimulate deeper discussions by asking open-ended questions that require critical thinking to answer. This social interaction is important for developing argumentative and reflective thinking skills. In addition, LMS can support the assignment of tasks and projects that require learners to research, analyze, and present their findings. These tasks should be designed to challenge their assumptions, encourage them to explore various perspectives, and develop creative solutions to complex problems. Through

the constructive feedback provided by the tutor, learners can identify the strengths and weaknesses of their thinking, as well as ways to improve it (Yusriadi, 2021; Obenaus, 2021).

The LMS program should also be able to offer additional resources such as articles, journals, and access to digital libraries. These resources are important to support independent research and enrich the knowledge of learners. Accessing various sources of information helps them develop the ability to distinguish valid and relevant information from that which is not. It is also important to utilize LMS technology to track the progress and performance of learners. With learning analytics, tutors can monitor participation, engagement, and understanding of learners, and then adjust their teaching strategies according to individual needs. This data can be used to provide additional support to those who need it and to design personalized interventions. Research findings also indicate that tutors have been striving to implement the values of the LMS "Setara Daring" in their teaching processes.

Effective communication and continuous support from tutors and mentors are very important. They act as facilitators who help learners develop their critical thinking through guidance, feedback, and encouragement. By fully utilizing the capabilities of LMS, equivalency education can become a powerful platform for developing learners' critical attitudes, enabling them to become more independent and reflective thinkers. Based on the implementation of the LMS in the city of Bandung, particularly in the research locus, it has been established quite well, but there are still some obstacles such as features in English and devices that are sometimes inadequate. The learners still often complain about issues related to internet signal.

Other challenges faced by learners are the adjustments at the beginning of each new academic year. Generally hindered by several obstacles, but over time, it can continue to adjust well between the administrators, tutors, and learners. As time goes by, the learners will be gradually introduced to the features of the online application so that they can eventually adapt. The tutors also strive to ensure the presence of learners for active interaction, so the learners must continuously face the screen of the device accessed for the LMS.

Research findings indicate that, overall, this LMS is very helpful for both learners and tutors in the learning process. Online discussions, forums, and chat rooms provide opportunities for students to interact, exchange ideas, and learn from each other, creating a collaborative learning environment even if virtual. These features help reduce the sense of isolation that may be felt in remote learning and facilitate important peer-to-peer support (Wahyuni, 2019; Çavuş, et al., 2021). This LMS also makes it easier to track each individual's learning progress. Learners can see their achievements through a dashboard that displays task status, quiz results, and completed modules. This helps them to stay motivated and take responsibility for their own learning process (Joseph, et al., 2022); This finding is relevant to what was expressed by the informant, who is a learner at PKBM, and is very happy and enjoys it. I also gained new knowledge so that I am not too outdated when it comes to technology.

The empirical condition of implementing LMS-assisted learning "Setara Daring" in the equivalency education program at the research locus has been carried out, although there are still several obstacles that remain difficult to overcome until now. However, some PKBM continue to strive for innovations that can continuously optimize the "Setara Daring" program, such as preparing engaging and enjoyable multimedia in accordance with the teaching materials and continuously updating skills in using media and online applications that keep pace with the times.

The effectiveness of the 'Setara Daring' LMS in supporting the development of critical thinking skills among learners in the Equivalency Education Program.

Based on research findings regarding the conditions of LMS learning implementation and the critical attitudes of learners, a model can be developed aimed at emphasizing transformative learning so that various issues in LMS learning can continue to be minimized. By integrating an LMS, this model can provide a platform that supports better interaction and collaboration among learners and between learners and tutors. Various issues regarding lagging behind can be addressed through study sessions where learners share materials with their peers who have fallen behind due to poor signal or inadequate devices. In addition, the

development of the transformative learning model. Discussion forums and collaborative activities are very important in this model. Discussion forums provide space for learners to share views, question assumptions, and develop their arguments. Collaborative activities, such as group projects, allow learners to work together, share ideas, and solve problems collectively. This interaction can facilitate a more dynamic and critical learning process.

The transformative learning model assisted by the LMS "Setara Daring" is designed with key components that encourage critical thinking. These components include challenging learning materials, reflective tasks, discussion forums, and collaborative activities. The learning materials must cover topics relevant to real life and provoke critical questions. In addition, reflective tasks can encourage learners to reflect on their personal experiences and relate them to the new concepts they are learning. The LMS "Setara Daring" must provide an active and structured discussion forum. Moderators or facilitators need to ensure that the discussion remains focused and constructive and encourage participation from all learners. Additionally, collaborative projects should be designed to facilitate cooperation and interaction among learners. The use of collaborative tools such as shared documents and virtual workspaces can support this process.

In the tutor aspect, the design of the transformative learning model needs to prioritize adequate training to transform learning and continuously identify issues in the learning process with the LMS. This training should include discussion facilitation techniques, reflective assessment, and effective use of the LMS. In addition, ongoing support through professional discussion groups and online resources can help teachers develop their skills. The goal of developing the transformative learning model is to ensure that learning with LMS runs optimally, sustainably, and is well understood.

Another equally important aspect is the involvement of learners in the learning process. The LMS-based transformative learning model must ensure that learners are not only passive recipients of information but also active agents in their own learning. This can be achieved through student-centered teaching methods, where they are given space to explore topics relevant to their own experiences and engage in projects that require the application of critical thinking (Bryant, et al., 2021; Chang, 2021; Phuong, 2019). Based on the research findings, adequate technological infrastructure is also needed to support this transformative learning model. The availability of stable internet access and suitable devices is very important. The government and equal education providers need to work together to ensure that all learners have fair access to this technology. Technology assistance programs or device provision initiatives can be concrete steps to address this challenge.

By developing and implementing the transformative learning model assisted by the LMS "Setara Daring," equivalency education can be significantly improved. These steps not only help in the development of critical thinking skills among learners but also equip them with the competencies needed to fully participate in modern society (Ubaidah, 2023). The integration of technology in the learning process should be seen as a tool to empower learners, enabling them to develop their full potential in a supportive and interactive environment.

The development of the transformative learning model assisted by the LMS "Setara Daring" has been greatly needed to improve access and the quality of equivalency education in the City of Bandung. However, there are still several challenges that need to be addressed, such as uneven internet access, the availability of adequate devices, and the technological readiness of both teachers and students. The challenge also affects efforts to enhance the critical attitude of learners. Although there have been efforts from the tutor to develop critical attitudes, such as linking the material to everyday facts, facilitating discussions, and presenting challenging tasks, there are still obstacles related to technological readiness and an adequate educational environment.

The LMS-assisted transformative learning model is also oriented towards the integration of various key components, including engaging learning materials, reflective tasks, discussion forums, and collaborative activities. Although most tutors are quite ready to use the "Setara Daring" LMS, this process requires training and time, and not all learners have the same level of comfort with new technology. Adequate training for tutors and a student-centered learning approach are also important aspects of this model. As a recommendation from the research findings, continuity between the government and equivalency education providers is needed to collaborate in the long term with the aim of improving the quality of facilities and infrastructure, as well as strengthening LMS learning oriented towards enhancing the critical attitudes of learners.

CONCLUSION

In general, this study shows that the use of the 'Setara Daring' LMS is effective in supporting transformative learning in equivalency education. By utilizing online discussion features, interactive modules, and task reflections, 'Setara Daring' helps learners develop critical attitudes and reflective thinking. However, better technical support and ongoing training for teachers are needed to address the existing implementation challenges

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