IMPLEMENTATION OF DIGITAL-BASED ANDRAGOGY IN COMMUNITY EDUCATION IN INDONESIA

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ABSTRACT

Purpose: The aim of this research is to determine the application of the andragogy approach in digital learning through e-training for early childhood educators conducted by community education units in Indonesia.

Theoretical Framework: The theory applied or used in this article is andragogy and web based training platforms or e-training in adult learning.

Design/Methodology/Approaches: In this investigation, descriptive quantitative methods using percentages were used. There were participants in this study who were 110 people in the category of early childhood educators at the basic competency level.

Findings: The findings revealed that the majority of participants agreed that adult learning management had been effectively implemented during this pandemic by utilizing technology such as Zoom Meeting, Google Classroom, and WhatsApp. However, some adults over the age of 40 have difficulties adapting to digital media. Therefore, learning must adapt to conditions, which are not only held fully online but also can be conducted in a blended way.

Research, Practical & Social Implications: In this study, the results have an impact on local government policies or regulations of educational institutions and skills in managing to learn for adults.

Implications/Originality/Values: For this study the application of digital media used by training participants (adults), shows that the digital immigrant generation needs to adjust and adapt to online learning innovations, but if the intensity of the use of technology is high, adults will quickly be able to master the technology well. The impact of training through online digital platforms is shaping adult learning independence.

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Andragogy; Digital; Education; Learning; Society; Technology.

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IMPLEMENTAÇÃO DE ANDRAGOGIA DE BASE DIGITAL NA EDUCAÇÃO COMUNITÁRIA NA INDONÉSIA

RESUMO
Objetivo: O objetivo desta pesquisa é determinar a aplicação da abordagem da andragogia na aprendizagem digital por meio de treinamento eletrônico para educadores da primeira infância conduzido por unidades de educação comunitária na Indonésia.

Enquadramento Teórico: A teoria aplicada ou utilizada neste artigo é a andragogia e plataformas de formação baseadas na web ou e-training na educação de adultos.

Desenho/Metodologia/Abordagens: Nesta investigação, foram utilizados métodos quantitativos descritivos usando porcentagens. Participaram deste estudo 110 pessoas na categoria de educadores infantis no nível de competência básica.

Resultados: Os resultados revelaram que a maioria dos participantes concordou que a gestão da aprendizagem de adultos foi efetivamente implementada durante esta pandemia, utilizando tecnologias como Zoom Meeting, Google Classroom e WhatsApp. Porém, alguns adultos com mais de 40 anos apresentam dificuldades de adaptação aos meios digitais. Portanto, a aprendizagem deve se adaptar às condições, que não só são realizadas totalmente online, mas também podem ser conduzidas de forma híbrida.

Implicações de pesquisa, práticas e sociais: Neste estudo, os resultados têm impacto nas políticas governamentais locais ou regulamentos de instituições educacionais e nas habilidades de gerenciamento de aprendizado para adultos.

Implicações/Originalidade/Valores: Para este estudo a aplicação das mídias digitais utilizadas pelos participantes do treinamento (adultos), mostra que a geração imigrante digital precisa se ajustar e se adaptar às inovações do ensino online, mas se a intensidade do uso da tecnologia for alta, os adultos rapidamente serão capazes de dominar bem a tecnologia. O impacto da formação através de plataformas digitais online está a moldar a independência da aprendizagem de adultos.


IMPLEMENTACIÓN DE LA ANDRAGOGÍA DIGITAL EN LA EDUCACIÓN COMUNITARIA EN INDONESIA

RESUMEN
Propósito: El objetivo de esta investigación es determinar la aplicación del enfoque de andragogía en el aprendizaje digital a través de la capacitación electrónica para educadores de la primera infancia realizada por unidades de educación comunitaria en Indonesia.

Marco Teórico: La teoría aplicada o utilizada en este artículo es la andragogía y las plataformas de formación basadas en web o e-training en el aprendizaje de adultos

Diseño/Metodología/Enfoques: En esta investigación se utilizaron métodos cuantitativos descriptivos utilizando porcentajes. Participaron en este estudio 110 personas en la categoría de educadores de primera infancia en el nivel de competencia básica.

Hallazgos: Los hallazgos revelaron que la mayoría de los participantes estuvo de acuerdo en que la gestión del aprendizaje de adultos se había implementado de manera efectiva durante esta pandemia mediante el uso de tecnología como Zoom Meeting, Google Classroom y WhatsApp. Sin embargo, algunos adultos mayores de 40 años tienen dificultades para adaptarse a los medios digitales. Por lo tanto, el aprendizaje debe adaptarse a las condiciones, que no solo se llevan a cabo completamente en línea, sino que también se pueden realizar de manera combinada.

Implicaciones de investigación, prácticas y sociales: en este estudio, los resultados tienen un impacto en las políticas gubernamentales locales o las regulaciones de las instituciones educativas y las habilidades para gestionar el aprendizaje de los adultos.

Implicaciones/Originalidad/Valores: Para este estudio, la aplicación de los medios digitales utilizados por los participantes de la capacitación (adultos), muestra que la generación de inmigrantes digitales necesita ajustarse y adaptarse a las innovaciones del aprendizaje en línea, pero si la intensidad del uso de la tecnología es alta, los adultos rápidamente podrán dominar bien la tecnología. El impacto de la formación a través de plataformas digitales en línea está dando forma a la independencia del aprendizaje de adultos.

Palabras clave: Andragogía, Digital, Educación, Aprendiendo, Sociedad, Tecnología.
INTRODUCTION

Digital andragogy has been implemented such as in universities, course education or training, and learning with formal education settings. However, Pramudia (2020) said the application of digital for adults requires several considerations based on age category, educational background, and a learning experience. Concerning this research, the position of digital learning for adults is an effort to transform knowledge and skills through a virtual space that is formed. Hufad et al. (2019) and Velez et al. (2021) said the learning process is built on the principles of adult learning needs (2019, 2021). Applying contextual work on "restorative andragogy" created by combining principles of adult education with restorative justice. In-person, online only and hybrid courses are the three types of training. This strategy serves as a theoretical framework for efficient teaching and learning. In addition, andragogy learning also seeks to provide facilitation services for students so that the learning system runs well, this is in line with what was stated by Nedi et al. (2022) that service quality is used to measure and see the role of service in ensuring the system runs well.

The definition of digital andragogy is still the subject of analysis by experts. Digital andragogy is the affordability of digital technology that can be accessed by facilitating the interaction of adults to interact with peers or with educators. As a control in learning and as a transformation of knowledge from educators to students, certain working methods must be made apparent for educators and students in order to achieve this goal. Hough (1984) said andragogy is discussed as a relevant participatory adult education technique. Beside that Pamungkas et al. (2022) and Hough (1984) adults are proven to be competent, capable learners, and one of the most efficient ways to accomplish this is through the andragogical process.

In accordance with the Ministry of Education and Culture's Circular No. 15 of 2020, "Guidelines for the Implementation of Home-Based Learning in an Emergency Situation Due to the Spread of Covid-19, Sparrow (2020) said encouraging policies are important in the education sector to carry out online learning. Jauhari (2020) said every level of education already requires online education, both at the level of general institutions, inclusive institutions, and special needs institutions at the elementary, middle, and upper levels. Firman et al. (2020) and Salsabila (2020) said online learning is learning that uses the internet to provide various access to learning. Utilizing technology and the internet can modify how knowledge is transmitted and provide an alternative method of learning during this pandemic period.

However, in practice, online learning has not been implemented perfectly, especially in the assessment process. This happens because not all Indonesian people have the facilities to
access the internet properly, this is in accordance with what was stated by Yusof (2022) that the practice of online formative assessment feedback is at a low level due to a lack of knowledge about software applications and facilities. Additionally, the majority of individuals are classified as digital immigrants or people who were born prior to the mainstream adoption of digital technology and requires a long adaptation to digital technology. Therefore, research on the application of digital andragogy in the community education unit environment is very important to be explored, in hopes it will produce new ways of learning for adults in a digital learning environment.

Arifin et al. (2020), Ngozwana et al. (2020) and Loeng (2018) said the Covid-19 pandemic condition is a challenge for adults to learn since they will face learning situations in digital learning settings. Learning assumptions in the andragogy approach, such as the desire to learn, self-perception, experience, readiness to learn, learning orientation, and motivation must be implemented in virtual conditions. Other studies, Farmer (2013) said on digital andragogy show that technology can strengthen and improve adult learning by emphasizing student-centered, experience-based, problem-oriented, and collaboration, also supported by varied learning resources. That research, however, has not adequately addressed how learning has changed in the wake of the COVID-19 pandemic, which has greatly affected the current learning conditions since it has been conducted in a full virtual setting. Therefore, the goal of this study is to ascertain how the andragogy approach is applied in digital learning through early childhood educator training programs run by community education units in Indonesia.

**MATERIAL AND METHODOLOGY**

In this investigation, descriptive quantitative methods using percentages were used. The aim is to obtain an overview of the implementation of andragogy in online learning settings through training activities for early childhood educators using the e-training model. There were participants in this study who were 110 people in the category of early childhood educators at the basic competency level. The population in this study were all early childhood educators spread across six cities and regencies in West Java province (see Table 1).
Table 1. Research Population.

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bekasi City and Regency</td>
<td>20 people</td>
</tr>
<tr>
<td>Karawang Regency</td>
<td>20 people</td>
</tr>
<tr>
<td>Depok City</td>
<td>20 people</td>
</tr>
<tr>
<td>Tasikmalaya Regency</td>
<td>20 people</td>
</tr>
<tr>
<td>Bandung</td>
<td>20 people</td>
</tr>
<tr>
<td>Purwakarta Regency</td>
<td>10 people</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>110 people</strong></td>
</tr>
</tbody>
</table>

Source: Prepared by the author (2022)

Table 1 shows that the population used in this study are online training participants with basic-level competencies represented by districts/cities. The researcher compiles the research instrument in the form of a questionnaire which will be answered by the respondents. The questionnaire used Google Forms by considering the pandemic conditions to reduce face-to-face meetings. The indicators for the questionnaire are as follows.

Table 2 shows relevant with the opinion from Dubois et al. (2000) said the indicators of adult learning assumptions that are implemented in the e-training program for early childhood educators. Answers from respondents were then processed into percentage form, with the following categories: 0-20% is not good, 21-40% is not good, 41-60% is quite good, 61-80% is good, and 81-100% is very good. If the statement regarding the application of andragogy is 21-40%, the application of andragogy in digital learning is not effective.

Table 2. Indicators of Research Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andragogy</td>
<td>The need to know</td>
</tr>
<tr>
<td>Learning Management in the Age of Digitization</td>
<td>Self-concept</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
</tr>
<tr>
<td></td>
<td>Readiness to Learn (Readiness to Learn)</td>
</tr>
<tr>
<td></td>
<td>Orientation to Learning (Orientation of Learning Activities)</td>
</tr>
<tr>
<td></td>
<td>Motivation</td>
</tr>
</tbody>
</table>

Source: Prepared by the author (2022)

RESULTS AND DISCUSSION

The Covid-19 pandemic has indeed become a problem for the people of Indonesia and around the world. By starting an unstable economy, it has an impact on other fields. The spread of the coronavirus in Indonesia is happening very quickly, until now in April 2022 there were 6.03 million cases and 156,000 deaths. Therefore, the Government has begun to urge people to carry out their activities at home to reduce the number of Covid-19 patients, including in the education sector. The government has made efforts by issuing Circular Letter Number 4 of

Reisslein et al. (2005) said the Ministry of Education and Culture gives all institutions the freedom to choose online learning media for their students. Finally, the institution was temporarily closed which caused students to have to study from home. Internet and learning are two things that cannot be separated in education today. Furthermore, Wang et al. (20212) and Handarini (2002) said an open, distributed learning system called online learning makes use of pedagogical resources (educational aids) made feasible by network-based technology and the internet to speed up the learning process through engagement and interaction. Then Arnesti et al. (2015) and Suwarni (2021) said however, the existence of this policy does not cover that some students in remote areas find it difficult because internet access is still rare.

The execution of educational programs is carried out through a variety of formats, including learning for adults, while online learning policies are in place. The pandemic's success of internet education has assisted in halting the spread of COVID-19 cases. Online learning benefits adult learners as well, where they can freely carry out the learning process anywhere and anytime, because of the tendency for early childhood educators to have a solid time every day even though it is done online. Asynchronous learning that is applied in this online training (e-training), makes students more independent. As the assumption of adult learning, namely readiness to receive knowledge based on the wishes or interests of students. However, Ardan (2020) said the difficulty is not all adults are ready to accept their knowledge because it requires a direct explanation of the materials.

Gusti et al. (2020) said the use of digital media has been used in training programs based on convenience in transferring knowledge to trainees. The forms of application of online learning conducted in training are very diverse, but both students and instructors in training can have the media used, such as Google Classroom, Zoom, WhatsApp, Google meet, Google form, Edmodo, and other facilities in the implementation of learning.

The use of digital media to support adult learning through e-training programs has been conducted since the pandemic, until now. The trend of using the technology used is shown in Fig. 1.
Fig. 1. Trends in Utilizing Adult Digital Learning Resources.

Based on Fig. 1, it shows that adults learn to be more familiar with the WhatsApp application and Zoom meetings. This factor is influenced by the skills of adults, they are seeing the simplicity in using it. Utilizing digital media also depends on the age-related complexity and difficulty of technological use, as shown in Fig. 2 below.

Fig. 2. Technology Complexity Level Statement By User Age

Based on Fig. 2 above, it can be seen that the level of complexity of using technology is dominated by the age of 40-45 years. Adult learners need time to adapt to technology. In addition, the response to the application of Andragogy in digital learning (e-training) has been answered by 110 respondents, with various opinions and their dominance. The findings of the responses are shown as a percentage of each research indicator, which includes learners' motivation, ready to learn, orientation to learning, and need to know (curiosity), as shown in Fig. 3.
Based on Fig. 3, the average statement is above 70% is included in the good category. Thus, online learning, which is implemented through e-training has already applied the assumptions of adult learning.

The training instructor also always conveys the reasons for the importance of the learning process for participants, so that this attracts participants to take part in learning even though using the media. Adults feel a loss if they skip the sequence of the learning process. This shows that the participants’ curiosity about learning is already high.

Another indicator shows that most of the participants agree that learning for adults using media is appropriate. The highest point is on the experience indicator, where some participants agree that the participant’s experience has been used as a learning resource. The training instructor provides opportunities for participants to explore cases and provide solutions. Therefore, participants feel that their literacy skills develop every time they take part in the lesson.

Even so, learning activities have various obstacles that hinder the implementation of the training program. It is undeniable that some institutions still have problems implementing online learning. Constraints faced are usually the availability of media or access to use learning applications, instructors who have difficulty using learning applications due to the influence of age, and miscommunication between instructors and trainees. Meanwhile, training participants faced a number of challenges, including a lack of access to learning media, inadequate facilities, and inappropriate learning styles.

Arghode et al. (2017) and Halawa (2016) said adults using media in the learning process in the 21st century are called digital andragogy. Critical thinking, communication, cooperation, and creativity are the four consistent components that must be achieved. These are not new
skills, but the bottom line is that they have taken on new significance. Digital andragogy is a learning practice that equips and encourages students to take advantage of accessible digital technology to interact and facilitate learning. The following are tips for digital andragogy to run well as shown in Table 3.

<table>
<thead>
<tr>
<th>Instructor Action</th>
<th>Trainee Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and deliver content and assignments that contain an understanding</td>
<td>Doing independent tasks</td>
</tr>
<tr>
<td>Learning applications made clear</td>
<td>Motivate yourself to grow</td>
</tr>
<tr>
<td>Tasks and activities need to be designed collaboratively</td>
<td>Collaborate with colleagues to exchange experiences and expertise</td>
</tr>
<tr>
<td>Providing creative and innovative solutions</td>
<td>Experience as a learning resource in learning</td>
</tr>
<tr>
<td>Develop reflection</td>
<td>Develop contextual creativity</td>
</tr>
<tr>
<td>Utilizing various communication models and media</td>
<td>Utilizing various communication models and media</td>
</tr>
</tbody>
</table>

Source: Prepared by the author (2022)

Table 3 depicts a specific method of working that is made clear to educators and students because the locus of control in learning gradually shifts from teacher to student. This provides details of working for successful digital andragogy. Digital andragogy plays an important role that is very much needed in terms of tasks and functions in facilitating the community to meet their needs. This is in accordance with the opinion expressed by Pimada et al. (2020), Silva et al. (2009) and Hufad et al. (2020) said digital models can identify these various needs by achieving what the community needs through analysis which then becomes valid and reliable data for training programs.

CONCLUSION

Based on the assumption that adults learn, the application of digitalization allows adults to be fully independent in learning and has responsibility for themselves to complete the training program. The application of digital media used by training participants (adults), shows that the digital immigrant generation needs to adjust and adapt to online learning innovations, but if the intensity of the use of technology is high, adults will quickly be able to master the technology well. The impact of training through online digital platforms is shaping adult learning independence.
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