UNVEILING THE ESSENCE: EXPLORING THE IMPORTANCE OF DIGITAL CHARACTER LABORATORY THROUGH A COMPREHENSIVE NEED ASSESSMENT

Nisa A'rafiyah Tri Wulandari[1], Ary Purwantiningsih[2], Andayani[3], Mutia Kamalia Mukhtar[4], Siti Utami Dewi Ningrum[5]

[1, 2, 3, 4, 5]*Universitas Terbuka (INDONESIA)*

Abstract

Character development in individuals is crucial for their holistic growth and success in various aspects of life. With the increasing demand for online and distance learning platforms, creating innovative and effective tools that foster character development in digital environments is essential. This study presents a comprehensive need assessment of digital character laboratory development for learners in higher education. This study aims to identify the key requirements and challenges in designing a digital character laboratory that promotes the development of positive values, ethics, and social skills among learners. The need analysis is based on a comprehensive review of existing literature and empirical studies, i.e. a survey. The survey involved 371 lecturers, teachers and students. The study found that 47.9% of respondents knew a character laboratory, but 71.97% said they did not have a character laboratory. As many as 53.72% of respondents stated that the character laboratory could benefit the learning process. These data indicate that the character laboratory needs to be developed. Moreover, other data shows that time is one of the obstacles for 75.53% of respondents to use the character laboratory. Thus, digital character laboratories are urgently needed to be developed. In addition to asking about the challenges of using a character laboratory, the survey consisting of 34 instruments also explored what values and social skills can be developed through a virtual character laboratory. The findings of this need analysis will contribute to developing a robust framework for character digital laboratory design in open and distance learning settings. The framework will address pedagogical considerations, technological requirements, and assessment strategies to ensure the effectiveness of character development interventions. Moreover, it will guide educators and instructional designers to create immersive and interactive learning experiences that nurture learners' personal and social growth.

Keywords: character development, digital laboratory, open and distance learning, need assessment, values, and social skill

1   INTRODUCTION

The unresolved moral issues have the potential to disrupt and threaten national stability, hindering the state's goal of achieving social justice. Conversely, a society with good morality, aligned with religious, cultural, and societal values, holds great potential as a social asset (Syahra, 2003). In other words, morality can serve as an alternative solution to various societal issues (Portes, 1998). In this regard, the development of societal morals is urgently needed.

Moral development can be facilitated through education, as schools, in particular, have proven to be effective vehicles for fostering societal morality (Althof & Berkowitz, 2006). Recent research indicates that higher and secondary educational institutions can contribute to character development through laboratories (Dwiyanti et al., 2019; Jaya, 2012; Nawrath, 2010).

Conceptually, a character laboratory is a place where society develops structures that provide routines that ensure (mainly through teaching) that individuals will have pragmatic abilities to avoid irresolvable moral conflicts (Nawrath, 2010). However, in its implementation, the concept of a character laboratory has not been well-defined, and there is no clear consensus on the various activities or venues referred to as character laboratories (Sundawa, 2020; Novianty et al., 2016; Akhyar & Sutrawati, 2022). Based on the analysis of recent research findings, character laboratories need to be developed to move beyond the conceptual level. Nevertheless, it is important to recognize that the development of a digital character laboratory is not a straightforward task. Therefore, in the context of developing a digital character laboratory, a needs analysis becomes highly relevant.

By conducting a needs analysis, researchers can establish and define instructional requirements within a digital character laboratory, such as objectives, users, and content (Reigeluth & An, 2020; Thiagarajan et al., 1974). Furthermore, through a proper needs analysis, researchers can gain deeper insights into the challenges and opportunities inherent in developing an effective, interactive, and engaging digital character education solution. This preliminary study encompasses five stages: front-end analysis, learner analysis, task analysis, concept analysis, and specifying instructional objectives (Thiagarajan et al., 1974). Consequently, this research aims to provide a more comprehensive guide for designing and implementing digital character laboratories that align with the demands of our times.

2   METHODOLOGY

This study aims to identify the key requirements and challenges in designing a digital character laboratory that promotes the development of positive values, ethics, and social skills among learners. The need analysis is based on a comprehensive review of existing literature and empirical studies, i.e., a survey (Creswell, 2014). The survey involved 371 lecturers, teachers, and students. The survey questionnaire consists of three parts, namely (1) personal data, (2) an overview of the laboratory, which includes definitions, opportunities, challenges, and target users and (3) the urgency of developing a digital-based character laboratory. This questionnaire

was distributed via Google form to several lecturers in UT Regions, students, and the public. Then the data was analyzed through five stages as shown below.
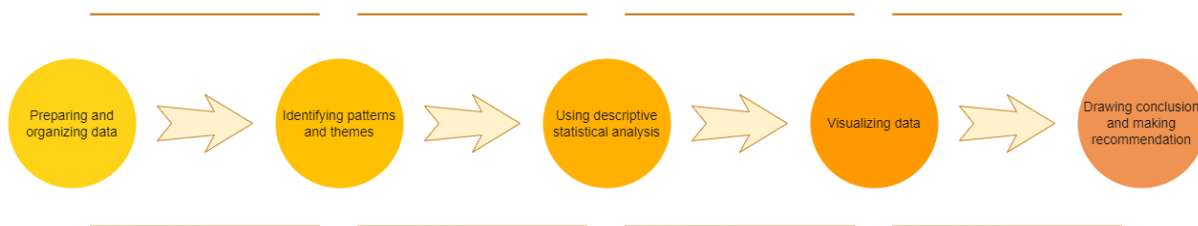

Figure 4 Quantitative data analysis stages

2   FINDINGS AND DISCUSSION

1.1   Definition of Digital Character Laboratory

To define a digital character laboratory, five stages were conducted: front-end analysis, learner analysis, task analysis, concept analysis, and specifying instructional objectives (Thiagarajan et al., 1974). These five analyses were conducted through a survey involving 337 respondents and focus group discussions with laboratory managers. The survey took place from June to July 2023, and the respondent data are shown in Figure 2.
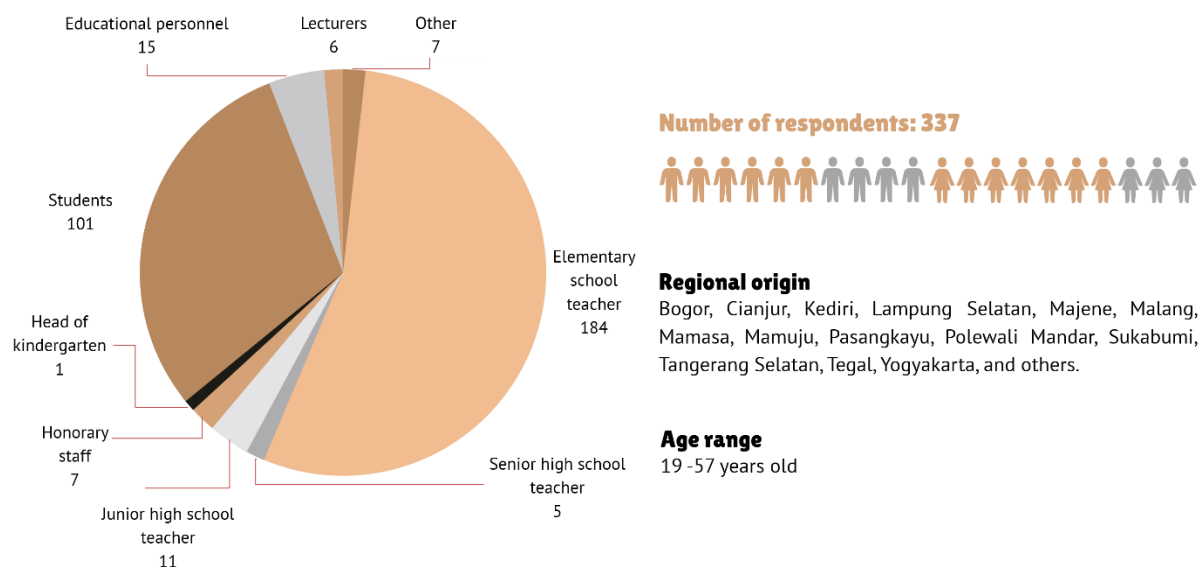

Figure 5 Survey Respondent Data for Needs Analysis

Based on the survey, the following results were obtained:

Table 1: Survey Results on the Overview of Character Laboratories

Indicator	Results
Awareness of character lab definition	48.22% Aware 21.30% Not Aware 30.18% Uncertain
Usage of character laboratory	Based on 163 respondents who were aware of the character laboratory definition, 38.65% did not use character laboratories 61.35% used character laboratories

Based on these results, there is an indication that students and educational practitioners require character laboratories that are easily accessible. One innovative solution is the development of digital character laboratories. Building on the survey results, the number of respondents who were aware of the character laboratory definition is fewer compared to those who were not aware or uncertain. This data alone does not reveal whether those who were aware could accurately explain the definition of a character laboratory. Moreover, when considering the general understanding of a laboratory, the definition can vary when applied to social sciences or education specifically.

To address this, a focus group discussion (FGD) was conducted with the managers of the Pancasila Laboratory at the State University of Malang on July 18, 2023, to define digital character laboratories. Based on the FGD, a character laboratory is a place for developing and disseminating various character education-related products. These products may include books, models, measuring tools, or activities designed to promote character education. The managers of the Pancasila Laboratory also suggested creating a platform accessible to many parties since, until that point, there had been no integrated platform providing information or products related to character education.

Based on the above analysis, a digital character laboratory can be defined as a platform or software designed to help users understand and internalize character values such as integrity, empathy, and responsibility through videos, simulations, games, and other interactive content. A digital character laboratory can also provide users with opportunities to face ethical and moral dilemmas and offer in-depth feedback on the choices they make. The users of a digital character laboratory can vary depending on the purpose of use and the target audience. Based on the needs analysis conducted, the developers have formulated that the aim of a digital character laboratory is to enhance the effectiveness and accessibility of character education

programs through a comprehensive and integrated platform. Therefore, the target users for the digital character laboratory to be developed are students and teachers.

1.2   Values and Social Skills Presented in Digital Character Laboratories

The survey conducted by the researchers also gathered data on the knowledge and skills that can be learned in character laboratories. Based on the available data, over 90% of respondents stated that (1) leadership training, (2) the development of empathy and social skills, (3) creativity and innovation development, (4) ethics and integrity development, (5) communication and teamwork skills, (6) personality development and self-control, and (7) problem-solving and decision-making development are essential materials to include in character laboratories. The study results also indicated that these values and social skills are highly relevant and beneficial in the context of Indonesia—a country rich in cultural, ethnic, religious, and linguistic diversity. In other words, character education in Indonesia requires a holistic and adaptive approach to address various social, cultural, and economic challenges. Here is an elaboration of why these six topics need to be included in digital character laboratories:

First, leadership training is a crucial aspect of character education in present-day Indonesia. Amidst social, political, and economic diversity, nurturing leaders who can understand, appreciate, and lead with integrity is imperative. In the context of building an inclusive and harmonious society, leadership values such as integrity, justice, and responsibility become essential to cultivate.

Second, the development of empathy and social skills plays a vital role in addressing inequalities and social conflicts that persist in Indonesia. Digital character laboratories can provide users with opportunities to interact with virtual characters facing various life challenges, enabling users to practice understanding others' perspectives, feelings, and needs. In a diverse society like Indonesia, strong empathy and social skills are foundational for building a fair and compassionate community.

Third, the development of creativity and innovation is highly relevant in the context of economic and technological growth in Indonesia. Digital character laboratories can present creative challenges that encourage users to think "out of the box" and seek innovative solutions to the problems they encounter. In the digital era, the ability to create new solutions, adapt to

changes, and innovate is highly sought after. To support digital transformation in various sectors, Indonesia needs a creative and innovative generation.

Fourth, the development of ethics and integrity is crucial in addressing corruption and ethical violations in Indonesia. Digital character laboratories can present scenarios that require users to make ethical and integrity-based decisions. They must consider the consequences of their actions in the context of the common good. This is a significant step in building a more moral and ethical society.

Fifth, communication and teamwork skills are essential for the development of education in Indonesia. The ability to communicate effectively, actively listen, and collaborate in teams are skills needed in various aspects of life, both in education and in the workforce.

Sixth, personality development and self-control are also highly relevant to creating strong and responsible individuals. Through digital character laboratories, users can understand themselves, identify their strengths and weaknesses, and develop self-confidence.

Seventh, problem-solving and decision-making skills are highly relevant in addressing complex issues in Indonesia, ranging from environmental problems to food security.

In addition to the above-mentioned topics, 67% of 117 respondents who have used character laboratories stated that the integration of character education programs into the educational curriculum is crucial. Integrating character education programs into the educational curriculum is of utmost importance in shaping individuals with ethical values, social skills, and strong leadership. Firstly, this ensures that character education is not a separate component of the education process but is integrated with existing subject matter. Furthermore, integrating character education programs into the curriculum allows formal educational institutions to focus more systematically and purposefully on achieving desired character development goals. Integrated programs can be designed to systematically develop social competencies, leadership, and ethics needed in users' personal and professional lives. This creates a cohesive learning environment where character values like integrity, empathy, and creativity are not only taught but also applied in daily contexts.

1.3   The Urgency of Developing Digital Character Laboratories

The development of digital character laboratories is an urgent matter in the field of education. This urgency can be observed through seven factors agreed upon by more than 83% of respondents.

Firstly, digital laboratories can enhance the learning experience of users. Through interactive and realistic technology use, users have the opportunity for more profound, practical, and meaningful learning experiences. They can engage in real-world situations and gain a better understanding of character values in everyday contexts.

Secondly, digital laboratories are valuable tools for research in character education. To understand the effectiveness of character education, it is essential for researchers to have access to tools for testing and experimentation. Digital laboratories provide an ideal platform for developing instruments, collecting data, and conducting in-depth research on character education's impact.

Thirdly, digital laboratories help improve users' understanding of complex concepts and ideas related to character education. Concepts like empathy, integrity, and leadership can be more easily understood through realistic simulations and interactions in a digital environment. This allows users to internalize these values more effectively.

Fourthly, digital laboratories are useful for developing interactive and engaging character education content. Through these laboratories, character education content can be designed to capture users' attention and make learning more enjoyable.

Fifthly, digital laboratories provide opportunities for innovative and creative projects. In a continuously evolving world, users need the ability to think creatively and develop innovative solutions. These laboratories are places where users can practice and develop these skills.

Sixthly, the development of digital laboratories attracts more students and researchers to educational institutions. Educational institutions that provide modern facilities and advanced learning tools tend to be more attractive to prospective students and researchers. This can enhance the overall reputation and appeal of the institution.

Seventhly, digital laboratories provide a competitive advantage to educational institutions in the field of education and research. In an increasingly competitive educational landscape,

having state-of-the-art facilities and technology can set institutions apart from others. This is a wise investment for enhancing the institution's profile and image.

Another factor that makes the development of digital character laboratories urgent is the issue of time. Based on 171 respondents who have used character laboratories, 73.68% consider time to be a significant challenge, 21.05% find it to be a considerable challenge, and 5.26% find it to be a considerable non-challenge. By developing digital laboratories, users can access them anytime and anywhere, eliminating time as a barrier. Based on the above descriptions, the development of digital character laboratories in the context of character education is an urgent necessity. It not only benefits users in terms of improved learning experiences and a deeper understanding of character concepts but also serves as a vital tool for research and the development of more effective character education. Furthermore, digital laboratories provide educational institutions with a competitive edge, attracting more users and researchers. This is a wise investment for the future of character education and education as a whole.

3   CONCLUSION

Digital character laboratories are an educational innovation with tremendous potential to help users understand and internalize character values such as leadership, empathy, creativity, and integrity. They also facilitate the development of social skills, communication, and problem-solving abilities. In an era marked by increasingly complex social challenges, the development of digital character laboratories becomes highly urgent to ensure that character education remains a primary focus in shaping future generations with a strong moral foundation and social skills. This is especially crucial when considering the constraints of time and the expansion of digital access.

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