



Authentic assessment in online learning to develop students' character

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Abstract

This research aimed to determine: (1) the implementation of authentic assessment in online learning to assess students' character; (2) character developed through authentic assessment in attitude; and (3) strategies implemented to develop students' character through authentic assessment. The method used was a survey with questionnaire-based data collection techniques. The data sources were students of the Pancasila and Civic Education Study Program, including 80 students from the Indonesian Education University, 65 from Sebelas Maret University, and 120 from Padang State University. The data sources for the interviews were fifteen lecturers in civic education from the university. The data analysis technique used quantitative descriptive analysis with percentages and qualitative narratives. The results indicated that, first, more observations and notes or journals are used in assessing student character during authentic online learning assessments. Second, the dominant personality developed through an authentic evaluation of the attitude aspect is characterized by critical thinking, discipline, responsibility, honesty, collaborative collaboration, creative innovation, independence, hard work, religion, and democracy. Third, the strategy is to develop student character through authentic assessments by (1) preparing observation sheets for each class being taught; and (2) utilizing the menu in each campus' Learning Management System that can maintain digital character assessment track records.

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Introduction

The four main curriculum components, objectives, content, strategy, and evaluation, should ideally be incorporated into a learning plan at the school and university levels. Not only must a teacher or lecturer state the purpose of what is being taught and present the material by selecting appropriate strategies, but they also evaluate what has been presented. Assessment plays an important role in education, as its results can be used to determine students' skill levels and provide educators with feedback (Tosuncuoglu, 2018). Learning assessment is useful for determining the extent to which a student or students can apply what they have learned. One of the indicators of pedagogical competence is the ability to assess and evaluate learning processes and outcomes (Permendiknas No. 16 of 2007).

Aspects of knowledge, skills, attitudes, and character are evaluated as part of the assessment method. Each of these assessments utilizes a distinct structure and instrument. The success of learning is measured not only by the ability to acquire knowledge but also by skills and character. This is because education serves a dual purpose: cultivating intelligence and virtue. Character is related to the affective, whereas intelligence is related to the cognitive. Character assessment is also essential because previous assessments have only been used to collect and achieve learning, not as a tool to improve character (Karim et al., 2018).

Concurrently with assessing knowledge and skills during the learning process, an important character assessment is conducted. Assessing students' attitudes is a component of teaching and inculcating or forming their attitudes. Typically, attitude assessment is conducted by observing the attitudes and behaviors of students during learning. Consequently, the attitude assessment is performed alongside the observation during the learning. This type of evaluation is known as an authentic assessment. Authentic assessment is an assessment that measures authentic student learning outcomes or that can reveal students' real abilities as learning outcomes (Miller & Konstantinou, 2021).

Schools and colleges utilized face-to-face or online learning during the COVID-19 pandemic to support education. Several universities, notably Padang State University (UNP), Indonesian Education University (UPI) Bandung, and Sebelas Maret University, offered online instruction during the COVID-19 pandemic from 2020 to 2022 (UNS). Some colleges set up blended learning, which combines some in-person and online training with in-person instruction in a single class. As with learning in general, online learning must also

include an evaluation of student attitudes and character. Educators must create an assessment instrument and rubric to avoid subjective assessments when evaluating student character, whether on observation sheets or other attitude assessment instruments (Karim et al., 2018).

Given the preceding context, it is important to question whether authentic assessments administered during this online learning period are capable of fostering student character development. This study aims to describe and analyze the issue of authentic assessment, specifically the assessment of the attitude aspect, as an effort to develop the character of higher education students. The following research questions were derived from the issues mentioned earlier: (1) How is an authentic assessment conducted during online learning to evaluate student character?; (2) What characteristics are developed through authentic assessment of the attitude aspect?; and (3) What strategies are used to develop student character through authentic assessment?

Literature Review

Authentic Assessment

Authentic assessment evaluates student learning outcomes and progress on authentic tasks that align with learning objectives. Authentic assessment is considered capable of measuring students' knowledge and actual competencies. This assessment is contextualized with actual reality and provides students with a meaningful evaluation (Koh et al., 2012). In authentic assessment, students study course material and then apply it to meaningful, life-relevant actions (Komalasari & Masyitoh, 2022). Authentic assessment requires students to participate in activities in which they can realistically apply their acquired knowledge and skills to the real world. Authentic assessment entails assigning students multiple-choice questions, as in objective testing, and assigning them tasks related to the subjects they are studying. Students can engage more fully in real-world activities and experiences that directly impact their careers, thereby preparing them for future challenges (Gulikers et al., 2004).

In authentic assessment, students can demonstrate their understanding of the material in their own words (Saher et al., 2022). It has been empirically demonstrated that authentic assessment results in higher academic achievement than traditional assessment (Ghosh et al., 2020). Authentic assessment, on the other hand, is realistic and reflects information about students' actual abilities; it is based on problem-solving, is conducted in situations similar

to the context, requires students to demonstrate complex problem-solving skills, and allows for feedback, practice, and second chances to solve problems (Huang & Jiang, 2020).

Online Learning

Online learning is the process of browsing, managing, and distributing learning materials through web-based software. This learning system uses technological advancements to direct, design, and deliver learning content to facilitate two-way communication between students and teachers (Mukhtar, 2020). Online learning involves using electronic media to transfer learning materials or as a teacher media for classroom learning (Sunu, 2022). Although online learning utilizes technology, it cannot replace the educator essential role. The use of technology in learning is highly dependent on educators' pedagogical management of technology (Phungsuk et al., 2017).

Character Development

Character is a measure of a person's attitude and personality, and it is observable behavior that can be perceived as bad or good (Agboola & Tsai, 2012; Carr, 2016; Lopes et al., 2013; Vaccarezza & Niccoli, 2018). A person's character motivates and enables them to act as a moral agent (Berkowitz, 2012). Therefore, the character cannot be simplified as an identity because it is not a collection of virtues or personality traits. Character, on the other hand, is a system that enables a person to interact with the social world as a moral agent (Nucci, 2018).

A person's character is essential because he or she will always be attached to that person. The implementation of education influences the character of the subsequent generation. A variety of positive traits are necessary for a person's future development and survival (Mahanani et al., 2022). Character development can be accomplished through formal education incorporating environmental support, such as school personnel and parents. In addition, teachers can develop students' character through habituation by utilizing intensive interactions with students in the classroom (Abdurrahmansyah et al., 2022).

Students and the community benefit from character education, which enhances the context of their lives (Lerner, 2018). In this situation, the teacher plays a crucial role in the student's character development. However, character development presents a challenging obstacle for educators during a pandemic. During online learning, a teacher cannot directly observe the growth of students' attitudes and character. In addition, teachers

face numerous obstacles when implementing online learning, such as limited facilities and technological expertise, network limitations, and the absence of character education integration in the online learning environment (Yuhdi et al., 2021).

Methodology

Research Design

A survey describes the attitudes, opinions, or behavior of a representative sample of participants or all subjects (Creswell & Creswell, 2017). Surveys also describe the subjects' characteristics (Fraenkel et al., 2012). The type of survey commonly used is cross-sectional, which collects data from samples drawn based on specific demographic characteristics (Fraenkel et al., 2012). In this research, a survey was conducted to collect data on the implementation of strategies, multimedia, and authentic assessment in online learning to improve student character in lectures at the Pancasila and Citizenship Education Study Program at Padang State University (UNP), Indonesian Education University (UPI) Bandung, and Sebelas Maret University (UNS).

Data and Information Gathering Methods

The data collection technique is a self-evaluation questionnaire (attitude scale) supplemented by interviews and documents (Gay, 1991). In this research, the data were collected via an online interview, Google Forms, and email applications. The interview was conducted via Zoom cloud meeting to clarify and elaborate on the questionnaire results. Students' perceptions of implementing strategies, multimedia, and authentic assessments in online learning to strengthen student character in the Pancasila and Civics Education Study Program at UPI, UNS, and UNP were gathered using questionnaires. Self-evaluation is used to evaluate the character of online-learning students.

Interviews were used to collect qualitative data from lecturers at UPI, UNS, and UNP regarding the implementation of strategy, multimedia, and authentic assessment in online learning to strengthen student character, as well as the weaknesses and benefits of online learning in strengthening student character. Document analysis was used to collect additional data from lesson plans, lecture minutes, notes, transcripts, meeting minutes, etc. This document analysis is a secondary method of data collection. The instruments used for data collection were questionnaires and interview guides

containing a list of statements regarding: (1) character strengthening in online learning, including strategies, multimedia, and assessment of learning in online learning; and (2) student self-evaluation of character. The questionnaire was submitted through a Google Form link and then distributed to respondents from the Pancasila and Civics Education Study Program of UPI, UNS, and UNP students in classes 2020 and 2021.

There were 15 lecturers from UPI, UNS, and UNP among the respondents. There were also 265 students who responded, including 80 UPI students, 65 UNS students, and 120 UNP students.

Data Analysis Technique

The data analysis technique employed a descriptive quantitative analysis through percentages to determine the frequency of respondents’ responses and field phenomena. This step was also performed to determine the size and proportion of each question answer, making the resulting data easy to analyze. Interactive qualitative analysis (Fraenkel et al., 2012) includes the following steps for analyzing data from interviews and documentation studies: (1) data reduction, (2) systematic categorization of data, (3) presentation of data in tables or graphs, (4) cross-site analysis, and (5) presentation of findings and conclusions.

Results

Authentic Assessment during Online Learning in Assessing Students’ Character

Students’ responses to authentic assessment as a holistic-comprehensive assessment of knowledge, attitudes, and skills in online learning are depicted in Figure 1.

Figure 1 shows that more than half of the respondents (58%) strongly agree, and (41%) of the respondents agree. A few respondents (1%) disagree that authentic assessment as an assessment of students’ competence in knowledge, attitudes, and skills should be used in online learning in the Pancasila and Civic Education program.

The data in Figure 2 show that 32 percent of respondents respond “always”, 61 percent of respondents respond “often”, and only 7 percent of respondents respond “seldom” to the statement that authentic assessment is implemented in even semester lectures in Pancasila and Civic Education program of the three aforementioned universities.

Figure 3 presents the primary types of authentic assessment used in UNP, UPI, and UNS, with performance assessment accounting for 63 percent, assessment tests at 17 percent, attitude assessment at 11 percent, and product assessment at 9 percent.

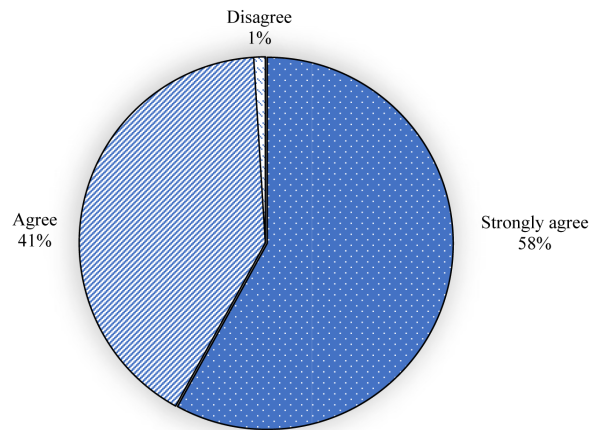


Figure 1 Responses to authentic assessment in online learning



Figure 2 Implementation of authentic assessment in online learning

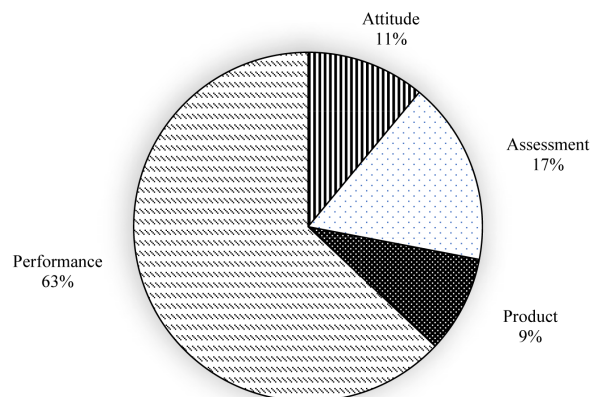


Figure 3 Types of authentic assessment in online learning

Meanwhile, in **Figure 4**, the distribution of respondents' feedback regarding the frequency of lecturer feedback on assessment results (comprising assessment tests, performance assessments, and attitude assessments) during the even semester of the academic year 2021/2022 is as follows: 65 percent of respondents indicated "often," 29 percent selected "always," and 6 percent opted for "seldom."

Figure 5 reveals the preferences of respondents in the even semester of the 2021/2022 academic year within the Pancasila and Civic Education program regarding attitude assessment methods. Among the respondents, 40 percent favored "self-assessment," while 29.7 percent chose "observation," and 20.4 percent indicated a preference for "field notes." Additionally, 9.4 percent of respondents leaned towards "peer assessment," 9.4 percent of respondents leaned towards "peer assessment." Notably, only 0.4 percent of respondents reported the utilization of "nothing" as the primary attitude assessment method during this period.

Character Developed through Authentic Assessment in the Aspect of Attitude

The most dominant character developed through authentic assessment in online learning in even semester year 2021/2022 in Pancasila and Civic Education program

As depicted in **Figure 6**, the prevailing attributes fostered through authentic assessment during the online lectures in the even semester of the year 2021/2022 are, in descending order of prominence: critical thinking, discipline, responsibility, honesty, collaborative cooperation, creativity and innovation, independence, hard work, religiosity, and democracy. Conversely, the character traits that saw limited development through authentic assessment in the context of online learning include serenity, the spirit of nationality, empathy, digital literacy, and tolerance

Strategies implemented to develop Students' Character through Authentic Assessment

Table 1 shows the results of interviews with lecturers on authentic assessment in online learning

Authentic assessment in online learning in the Pancasila and Civic Education program of UPI was conducted based on students' daily activities and roles in society. Lecturers give students tasks according to problems encountered in learning activities. Authentic assessment took the form of daily notes taken during learning as well as portfolio assessment. Attitude assessment was given in virtual class meetings; asynchronous knowledge assessment; and skills assessment through product or project assessment.

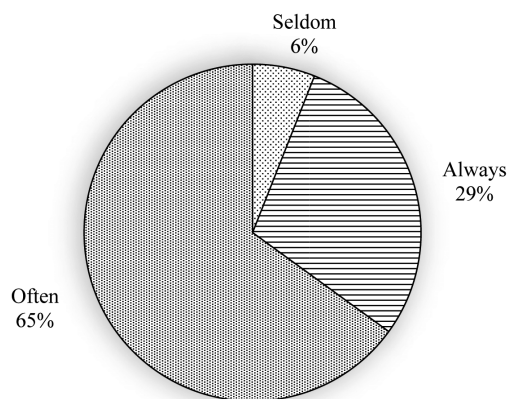


Figure 4 Students' responses to lecturers' feedback on authentic assessment

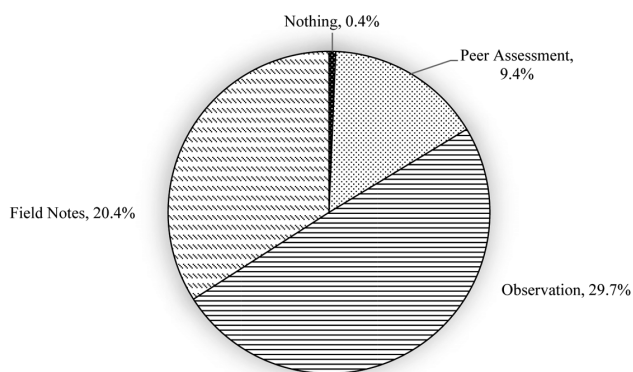


Figure 5 Strategies of attitude assessment in online learning

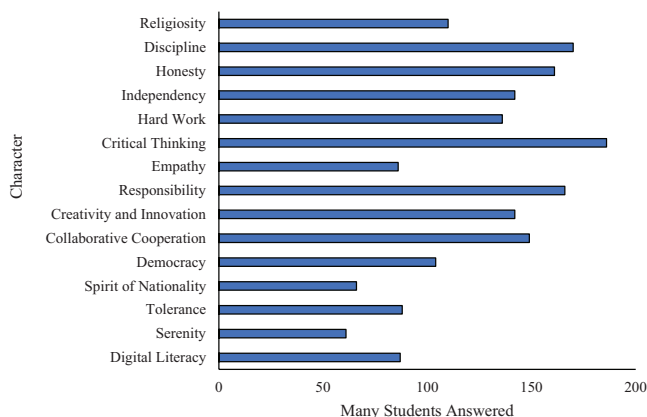


Figure 6 Character developed through authentic assessment

Table 1 The results of interviews about authentic assessment in online learning

Interview Subjects	Interview Results
Interviews with Lecturers of UPI	<p>Authentic assessment is done continuously on students in cognitive, affective, and psychomotor aspects. In terms of character development, we conducted evaluations at the beginning, middle, and end of the learning process. Character strengthening is conducted based on students' daily lives and societal roles, and the tasks given are in line with problems encountered in learning activities. The activities include listening, examining, analyzing, revising, writing, and explaining each problem in daily life orally, working in groups, etc.</p> <p>Authentic assessment was conducted through: 1. daily notes on learning, 2. portfolio assessment.</p> <p>The assessment includes an attitude assessment, a knowledge assessment, and a skills assessment. In virtual meetings, attitudes were assessed, as were communication methods both inside and outside of the virtual class. Knowledge assessment was done asynchronously using spot.upi. Students were given questions in both essay form and multiple choice form. Meanwhile, a skills assessment was done to assess students' products or projects using a rubric that had been made. The students made products or projects in the forms of videos, documents, and PowerPoint.</p>
Interviews with Lecturers of UNS	<p>To assess students' character, we prepared attitude-based assessments, for example, on active participation, discipline, and responsibility. We observed and looked at students' portfolios. We have an assessment form as proof, in addition to the results of the midterm and final tests.</p> <p>However, lecturers could include character assessments in the results of midterm and final tests. Therefore, the character assessment was limited.</p> <p>Character assessment was done in a separate paper by lecturers so they could take notes and observed students' characteristics such as active participation, discipline, and responsibility. If they found bad characters, they would cultivate the students with bad characters. The score of character was taken into consideration and combined with the scores of the midterm and final tests.</p>
Interviews with Lecturers of UNP	<p>Assessments were conducted in three domains: cognitive, affective, and psychomotor. The assessment process had been explained to students since the first meeting of the lecture, particularly when the contract for the lecture is delivered. Authentic assessment was implemented in the assessment of projects, portfolios, midterm tests, and final tests.</p> <p>Both attitude assessment and skills assessment were conducted through tasks and presentations. Lecturers prepared instruments for attitude assessment and skills assessment.</p> <p>Some lecturers also gave assessments through project-based oral exams.</p>

Source: Primary data (2022)

Authentic assessment in online learning in the Pancasila and Civic Education program of UNS was conducted through observation and students' portfolios. Character assessment was done on a separate piece of paper by lecturers so they could take notes on and observe students' characters. The assessment result is then combined with the midterm or final test score to determine the final score. The final score will be available in Siakad (a web-based application for the management of academic data). Authentic assessment in online learning was used in the Pancasila and Civic Education program of UNP to evaluate projects, portfolios, midterm tests, and final exams. Both attitude and skill assessments were carried out through tasks and presentations that have been prepared by lecturers.

Discussion

This study on authentic assessment in online learning to strengthen the character of students in the Pancasila and Civic Education program produced three findings: (1) authentic assessment implemented during online learning; (2) character developed through authentic

assessment in assessing students' character; and (3) strategies executed to develop students' character through authentic assessment.

First, authentic assessment of students' character or attitude during online learning is implemented in conjunction with the learning itself. Therefore, it is included as an assessment for learning. Authentic assessment is a meaningful assessment that is significant for students' learning outcomes in such domains as attitudes, skills, and knowledge. It is a comprehensive and contextual assessment, prioritizing the assessment of attitudes in addition to knowledge and skills (Rohayani et al., 2018). It is fundamentally an assessment demonstrated as a result of a comprehensive learning process. It fundamentally requires the realization of authentic instruction and authentic learning. It is assumed that authentic assessment provides students with holistic skills and validity. Authentic assessment is an actual assessment with a measurement that is significant to students' learning outcomes in such domains as attitudes, skills, and knowledge (Damayanti et al., 2017).

Authentic assessment is an assessment that requires students to demonstrate attitudes and to use knowledge and skills gained from learning, particularly to perform

real-world tasks (Frey et al., 2012). Implementation of authentic assessment can help teachers find out the extent of students' capability of applying their knowledge and skills in accordance with real-life contexts. The reason is that authentic assessment focuses on activities and tasks performed by students in terms of knowledge and skills in accordance with real-life contexts. Based on the characteristics of authentic assessment, such an assessment process must be an inseparable part of the learning process, as authentic assessment refers to a process based on reflection, learning, achievement, motivation, as well as teacher and student attitudes during the teaching-learning process (Komalasari & Saripudin, 2020; Saher et al., 2022).

Based on the findings, a lecturer launches Zoom Meetings and prays before class to kick off online learning. The lecturer asks students to turn on the camera and microphone if they want to speak. During the learning process, the lecturer observes the students on screen and assesses the attitudes and behaviors of those actively participating in the class. Students' active participation and engagement can mean anything showing students' active participation in learning (Febrilia et al., 2020). The lecturer collects data on attitude assessment by taking a note in a teaching journal or marking students' extreme attitudes, both extremely good and extremely bad attitudes. A teaching journal contains a teacher's note or information about observation results, both in-class and out-of-class, of students' strengths and weaknesses related to their attitudes and behaviors.

In the midterm or final test, an authentic assessment of attitudes was also implemented along with an assessment of knowledge. Such characteristics as responsibility, creative thinking, and honesty can be seen from task results—that students do not copy and paste from online resources, they complete tasks on time, and they think creatively to formulate the answers. Since all forms of tasks given frequently lead to opportunities for plagiarism, authentic assessment in assessing students' character can be implemented through tests (Susilowati, 2017). The authentic assessment describes that students are required to demonstrate attitudes, knowledge, and skills gained from learning to complete the given tasks. In other words, authentic assessment is an approach, a procedure, and an instrument of assessment in learning that implements attitudes (both spiritual and social), knowledge, and skills gained from tasks and independent learning (Taruh & Mursalin, 2018).

Therefore, an authentic assessment model can be an alternative to the best assessment that can be used to assess and build students' character in the learning

process. The reason is that authentic assessment is based on a reflection of life values and requires many approaches to solve problems. This assessment involves the measurement of performance that reflects students' competence as observed in their learning, achievement, motivation, and attitudes (Faizah et al., 2019).

Second, the character developed in authentic assessment in online learning is generally easy to observe, and its digital record is easy to track. The characteristics include discipline, responsibility, creative thinking, participation, and honesty. Authentic assessment is student-centered, integrated into learning, authentic, sustainable, individual, and comprehensive, and it can form elements of metacognition such as risk-taking, creativity, higher-order thinking skills, divergent thinking skills, responsibility to complete tasks, and a sense of belonging (Abidin, 2016). Responsibility is important to develop because it can help students organize a problem and activities so that they can build good relationships in a group, and they are expected to be responsible and capable of performing the tasks assigned to them (Primayonita et al., 2020). In addition, creative thinking is important to be developed too since it is useful to solve problems that will be encountered by students (Primayonita et al., 2020).

The development of creativity plays an important role in students' personality formation to face the globalization era. Andriani (2022) states that in the teaching-learning process, it is the teachers' role to develop students' creativity. However, they have to be aware that students not only receive information but should also be given a chance to solve problems they encounter. In addition to discipline and creativity, students need to have responsibility. High responsibility and discipline are required to get excellent and optimal results.

E-learning in universities indirectly encourages teachers to think about how to understand the teaching-learning process, which focuses on the effectiveness of the assessment process (Jerez et al., 2017). Implementation of authentic assessment can be a good alternative since authentic assessment is believed to be able to give students the skills to solve real-world problems and the chance to think, act, and work in a systematic manner (Susani, 2018). Authentic assessment contributes to character education because students are required to complete tasks related to the given knowledge and skills by demonstrating meaningful implementation in the real world (Mueller, 2005).

Holistic and sustainable authentic assessment will create a condition in which students improve continuously and train their capability for a better life, which is

possible in the expected character formation that includes all components of human life skills—hard and soft skills (Subrata & Rai, 2019). For that reason, authentic assessment is used to create various learning activities containing the character and to measure the success of the activities as well as the emergence of students' characters (Hasibuan et al., 2022). The use of authentic assessment is believed to be able to give students the skills to solve real-world problems and give them a chance to think, act, and work in a systematic manner. Regarding this statement, authentic assessment functions to form attitudes and morals, which subsequently can be said to form good characters in students. In authentic assessment, students will learn learning materials and transfer them to relevant attitudes in their lives. Authentic assessment strongly affects metacognition and information processing, which are keys to learning (Azim & Khan, 2012). In addition, authentic assessment sharpens higher-order thinking skills (Koh et al., 2012). This is because life gives many alternatives, problems, situations, and scopes that require analysis, problem-solving, and synthesis (Komalasari & Masyitoh, 2022).

The authentic assessment allows students to complete tasks that are interesting, useful, and relevant to their lives. Students may become more innovative and creative as a result of the tasks because they have the opportunity to develop themselves and develop more positive attitudes toward school activities and learning. The positive attitudes will affect thinking patterns so that they can enhance achievement (Karim et al., 2018).

Third, a strategy developed in authentic assessment to strengthen character is to make use of a menu or features of a learning management system (LMS) in which users can record or see digital track records of character. Since LMS can help lecturers deliver learning content and references that are directly accessible to students, evaluate the learning process, create teaching track records, follow learning schedules, and contact lecturers, users can record digital track records and see the records (Yana, 2019). In an online class, the LMS provides online classes for lecturers and students to strengthen the learning process. LMS supports an inclusive learning environment for academic purposes by facilitating online collaboration, discussion, and communication between lecturers and students (Bradley, 2021).

The use of LMS to strengthen character includes the use of a menu and features of LMS. Responsibility and discipline, for example, can be seen in punctuality in uploading tasks. Creativity and participation can be seen in tasks that are not copied and pasted from online resources. Meanwhile, honesty can be seen in students'

willingness to turn on the camera, permission to leave class or turn off the camera, presence in an online class when called by their lecturer, and willingness to bypass Turnitin.

Conclusion and Suggestion

Based on the results, the conclusion is explained in three points. First, authentic assessment implemented during online learning to assess the character of students in the Pancasila and Civic Education programs of UPI, UNS, and UNP mostly makes use of observation and notes or teaching journals. Lecturers make observations and take notes on their students' tendencies, attitudes, and behaviors. The notes are then considered to be data to assess the students' attitudes. This assessment is combined with knowledge and skills assessments for the final assessment. Second, the dominant character developed through authentic assessment includes critical thinking, discipline, responsibility, honesty, collaborative cooperation, creativity and innovation, independence, hard work, religiosity, and democracy, listed in that order. Meanwhile, the character traits rarely developed through authentic assessment in online learning include serenity, the spirit of nationality, empathy, digital literacy, and tolerance. Third, the strategies implemented to develop students' character through authentic assessment are: (1) preparing observation sheets in every class where lecturers teach—the observation sheets generally contain students' name lists or lists of students' groups; and (2) making use of a menu in the LMS enabling users to record digital track records of students' character. For example, responsibility and discipline can be seen in the records of when students submit their tasks.

Based on the conclusion, this study offers several suggestions. First, it is important to prepare complete observation sheets with an appropriate format that includes character points according to each course's learning outcomes. Second, the character developed and assessed should refer to attitudes formed beforehand or attitudes established in each course's learning outcomes. Third, it is necessary to enhance digital literacy so that the menu in the LMS used by lecturers can successfully record digital track records of students' characters. The records can be the basis for character assessment.

Conflict of Interest

The researchers have no conflicts of interest to declare.

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References

- Abdurrahmansyah, A., Sugilar, H., Ismail, I., & Warna, D. (2022). Online learning phenomenon: From the perspective of learning facilities, curriculum, and character of elementary school students. *Education Sciences*, 12(8), 1–18. <https://doi.org/10.3390/educsci12080508>
- Abidin, Y. (2016). Penilaian otentik sebagai sarana utama implementasi pendidikan karakter di sekolah [Authentic assessment as the main means of implementing character education in school]. *EduHumaniora Jurnal Pendidikan Dasar*, 3(2), 1–31. <https://doi.org/10.17509/eh.v3i2.2810>
- Agboola, A., & Tsai, K. C. (2012). Bring character education into classroom. *European Journal of Educational Research*, 1(2), 163–170. <https://doi.org/10.12973/eu-jer.1.2.163>
- Andriani, E., Sulistyarini, S., & Priyadi, A. T. (2022). Implementasi nilai karakter disiplin, kreatif dan tanggung jawab melalui PAIKEM di SDN 58 Tolong Kecamatan Sengah Temila Kabupaten Landak [Implementation of the value of character discipline, creative and responsibility through PAIKEM in SDN 58 Tolong District Sengah Temila Regency Landak]. *Jurnal Pendidikan dan Pembelajaran*, 11(5). <https://doi.org/10.26418/jppk.v11i5.55220>
- Azim, S., & Khan, M. (2012). Authentic assessment: An instructional tool to enhance students' learning. *Academic Research International*, 2(3), 314–320. https://ecommons.aku.edu/cgi/viewcontent.cgi?article=1008&context=pakistan_ied_pdcc
- Berkowitz, M. (2014). Quantum character. *Human Development*, 57, 354–359. <https://doi.org/10.1159/000368784>
- Bradley, V. M. (2021). Learning Management System (LMS) use with online instruction. *International Journal of Technology in Education*, 4(1), 68–92. <https://doi.org/10.46328/ijte.36>
- Carr, D. (2016). Virtue and character in higher education. *British Journal of Educational Studies*, 1–16. <http://dx.doi.org/10.1080/00071005.2016.1224806>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Damayanti, R. S., Suyatna, A. W., & Rosidin, U. (2017). Development of authentic assessment instruments for critical thinking skills in global warming with a scientific approach. *International Journal of Science and Applied Science: Conference Series*, 2(1), 289–299. <https://doi.org/10.20961/ijsascs.v2i1.16730>
- Faizah, U., Zuchdi, D., & Alsamiri, Y. (2019). An authentic assessment model to assess kindergarten students' character. *Research and Evaluation in Education*, 5(2), 103–119. <https://doi.org/10.21831/reid.v5i2.24588>
- Febriilia, B. R. A., Nisa, I. C., & Setyawati, D. U. (2020). Analisis keterlibatan dan respon mahasiswa dalam pembelajaran daring menggunakan Google Classroom di masa pandemi Covid-19 [Analysis of student engagement and response in online learning using Google Classroom during the Covid-19]. *FIBBONACI: Jurnal Pendidikan Matematika dan Matematika*, 6(2), 175–184. <https://doi.org/10.24853/fbc.6.2.175-184>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (Vol. 7). McGraw-hill
- Frey, B. B., Schmitt, V. L., & Allen, J. P. (2012). Defining authentic classroom assessment. *Journal Practical Assessment, Research and Evaluation*, 17(2), 1–9. <https://doi.org/10.7275/sxbs-0829>
- Gay, L. R. (1991). *Educational evaluation and measurement: Competencies for analysis and application* (2nd ed.). Macmillan Publishing.
- Ghosh, S., Brooks, B., Ranmuthugala, D., & Bowles, M. (2020). Authentic versus traditional assessment: An empirical study investigating the difference in seafarer students' academic achievement. *Journal of Navigation*, 1–16. <https://doi.org/10.1017/s0373463319000894>
- Gulikers, J. T. M., Bastiaens, T. J., & Kirschner, P. A. (2004). A five-dimensional framework for authentic assessment. *Educational Technology Research and Development*, 52(3), 67–86. <https://doi.org/10.1007/bf02504676>
- Hasibuan, U. K., Lubis, A. R., & Ramadhani, N. (2022). Penilaian otentik dalam pembelajaran bahasa dan sastra yang berorientasi pada pendidikan karakter [Authentic assessment in language and literature learning oriented to character]. *Jurnal Multi Disiplin Dehasen*, 1(3), 377–384. <https://doi.org/10.37676/mude.v1i3.2619>
- Huang, R., & Jiang, L. (2020). Authentic assessment in Chinese secondary English classrooms: Teachers' perception and practice. *Educational Studies*, 47(6), 663–646. <https://doi.org/10.1080/03055698.2020.1719387>
- Jerez, O., Baloian, N., & Zurita, G. (2017). *Authentic assesment between peers in online courses with a large number of students* [Paper presentation]. IEEE 17th International Conference on Advanced Learning Technologie (8001770, pp. 235–237). <https://doi.org/10.1109/ICALT.2017.160>
- Karim, A. A., Abduh, A., Manda, D., & Yunus, M. (2018). The effectivity of authentic assessment based character education evaluation model. *TEM Journal*, 7(3), 495–500. <https://doi.org/10.18421/TEM73-04>
- Koh, K. H., Tan, C., & Ng, P. T. (2012). Creating thinking schools through authentic assessment: The case in Singapore. *Educational Assessment, Evaluation and Accountability*, 24(2), 135–149. <https://doi.org/10.1007/s11092-011-9138-y>
- Komalasari, K., & Saripudin, D. (2020). Living values-based authentic assessment in civic education in fostering student character. *The New Educational Review*, 61(3), 168–180. <https://doi.org/10.15804/tner.2020.61.3.14>
- Komalasari, K., & Masyitoh, I. S. (2022). The effect of living values-based authentic assessment character development of high school student. *New Educational Review*, 67, 102–113. <https://doi.org/10.15804/tner.22.67.1.08>
- Lerner, R. M. (2018). Character development: Four facets of virtues. *Child Development Perspectives*, 13(2), 79–84. <https://doi.org/10.1111/cdep.12315>
- Lopes, J., Oliveira, C., Reed, L., & Gable, R. (2013). Character education in Portugal. *Childhood Education*, 89(5), 286–289. <https://doi.org/10.1080/00094056.2013.830880>
- Mahanani, P., Akbar, S., Kamaruddin, A. Y. B., & Hussin, Z. B. (2022). Educational analysis to develop character in Malaysia and Indonesia. *International Journal of Instruction*, 15(3), 377–392. <https://doi.org/10.29333/iji.2022.15321a>
- Miller, E., & Konstantinou, I. (2021). Using reflective, authentic assessments to embed employability skills in higher education. *Journal of Work-Applied Management*, 14(1), 4–17. <https://doi.org/10.1108/JWAM-02-2021-0014>

- Mueller, J. (2005). The authentic assessment toolbox: Enhancing student learning through online faculty development. *Journal of Online Learning and Teaching*, 1(1), 1–7. https://jolt.merlot.org/documents/vol1_no1_mueller_001.pdf
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2018). Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), 27–31. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>
- Nucci, L. (2018). Character: A developmental system. *Child Development Perspectives*. <https://doi.org/10.1111/cdep.12313>
- Phungsuk, R., Chantana V., & Thanin, R. (2017). Development of a problem-based learning model via a virtual learning environment. *Kasetsart Journal of Social Sciences*, 38(3) ,297–306. <http://doi.org/10.1016/j.kjss.2017.01.001>
- Primayonita, N. K. K., Agustina, I. G. A., & Jayanta, I. N. L. (2020). *Model creativity learning* meningkatkan keterampilan berpikir kreatif dan tanggung jawab pada mata pelajaran IPA.[The creativity learning model improves creative thinking skills and responsibility in science subjects]. *Jurnal Pedagogi Pembelajaran*, 3(2), 211–222. <https://doi.org/10.23887/jp2.v3i2.26551>
- Rohayani, I., Danial, E., Malihah, E., & Sundawa, D. (2018). Authentic assessment to enhance students' social responsibility character. *Proceeding of 1st Annual Civic Education Conferences. Advances in Social Science, Education and Humanities Research*, 251, 186–188. <https://doi.org/10.2991/acec-18.2018.45>
- Saher, A. S., Ali, A.M.J., Amani, D., & Najwan, F. (2022). Traditional versus authentic assessments in higher education. *Pegem Journal of Education and Instruction*, 12(1), 283–291. <https://doi.org/10.47750/pegegog.12.01.29>
- Subrata, I. M., & Rai, I. G. A. (2019). Penerapan penilaian autentik dalam pembentukan karakter siswa [Application of authentic assessment in student character building]. *Jurnal Emasains: Jurnal Edukasi Matematika dan Sains*, 7(2), 196–204. <https://garuda.kemdikbud.go.id/documents/detail/2937892>
- Sunu, I. G. K. A. (2022). E-Learning implementation in law and civics department:A comprehensive evaluation from students', teachers', and parents' perspectives. *Kasetsart Journal of Social Sciences*, 43(3), 699–706. <https://doi.org/10.34044/j.kjss.2022.43.3.22>
- Susani, R. G. (2018). The implementation of authentic assesment in extensive reading. *International Journal of Education*, 11(1), 87–92. <https://doi.org/10.17509/ije.v11i1.9113>
- Susilowati, N. E. (2017). *Implementasi pendidikan karakter pada matakuliah bahasa Indonesia* [Implementation of character education in Indonesian language courses]. *Jurnal Waskita*, 1(1), 99–112. <https://doi.org/10.21776/ub.waskita.2017.001.01.6>
- Taruh, E., & Mursalin. (2018). Development of authentic assesment tools in Physics Science learning. *Journal of Physics: Conference Series*, 1028(1), 012200. <https://doi.org/10.1088/1742-6596/1028/1/012200>
- Tosuncuoglu, I. (2018). Importance of assessment in ELT. *Journal of Education and Training Studies*, 6(9). <https://doi.org/10.11114/jets.v6i9.3443>
- Vaccarezza, S. M., & Niccoli, A. (2018). The dark side of the exceptional: On moral exemplars, character education, and negative emotions. *Journal of Moral Education*, 1–13. <https://doi.org/10.1080/03057240.2018.1534089>
- Yana, D., & Adam, A. (2019). Efektivitas penggunaan platform LMS sebagai media pembelajaran berbasis online learning terhadap hasil belajar mahasiswa [The effectiveness of the use of LMS platform as a learning media based on online learning on student learning outcomes]. *Jurnal Dimensi*, 8(1), 1–12. <https://doi.org/10.33373/dms.v8i1.1816>
- Yuhdi, A., Ayudia, A. M., Majid, I., Cahyo, A. N., Sartika, F., & Zulrahman, M. F. (2021). The decrease of the students' character during COVID 19 pandemic: A survey of students in Binjai. *Budapest International Research Critics Institute Journal: Humanities and Social Sciences*, 4, 8287–8294. <https://doi.org/10.33258/BIRCI.V4I4.2768>