

e-ISSN 3026-3468
p-ISSN 3026-2593**Article info**Received manuscript:
07/12/2024
Final revision:
26/12/2024
Approved:
26/12/2024This work is
licensed under
Creative Commons Attribution
License 4.0 CC-BY International
license**COLLABORATIVE STRATEGIES IN AUTHENTIC
ASSESSMENT: ADDRESSING OPPORTUNITIES AND
CHALLENGES IN POST-PANDEMIC INDONESIA****Ni Komang Sri Mariati***STKIP Agama Hindu Amlapura, Jalan Ngurah Rai, Karangasem,
Bali 80811, Indonesia*Correspondence E-Mail: sriimariati@gmail.comDOI: <https://doi.org/10.30598/baileofisipvol2iss2pp199-210>**ABSTRACT**

The transformation of learning in the post-pandemic era has heightened the demand for students' skills in navigating real-world situations. This phenomenon necessitates both teachers and students to optimally prepare for the learning process, with authentic assessment serving as a strategic approach to address these challenges. This article aims to identify the challenges and benefits of implementing authentic assessment in the context of post-pandemic education in Indonesia and propose collaborative strategies as an innovative solution. The study employs a qualitative descriptive method based on a literature review, analyzing articles from reputable journals. Data were collected through selection, presentation, and conclusion-drawing processes. The findings reveal that authentic assessment offers significant benefits for both teachers and students, such as enhancing the relevance of learning to real-world needs and developing critical skills. However, several challenges persist, including the substantial time and cost requirements, pressure on teachers to design effective assessments, and student anxiety over unfamiliar assessment formats. To address these challenges, collaborative strategies between teachers and students are proposed as an innovative approach. These strategies involve intensive communication, joint planning, and continuous evaluation to optimize the implementation of authentic assessment. The novelty of this study lies in developing a collaborative approach to respond to the specific challenges of the post-pandemic era. Recommendations include integrating collaborative strategies into the education curriculum and providing teacher training to enhance the effectiveness of authentic assessments. These findings make a significant contribution to the development of social sciences and humanities, particularly in the context of educational reform in Indonesia.

Keywords: *Authentic Assessment, Post-Pandemic Education, Collaborative Strategies, Teaching and Learning, Educational Challenges*

INTRODUCTION

The COVID-19 pandemic has brought about fundamental shifts in the field of education, forcing a sudden transition to remote learning and introducing various new challenges in learning assessment. UNESCO data reveals that over 1.5 billion learners worldwide were impacted by school closures, underscoring the need for innovation in teaching and assessment methods (Faizah & Sutopo, 2021; Fitria & Suminah, 2020). In Indonesia, a survey conducted by the Ministry of Education, Culture, Research, and Technology found that 74% of educators struggled to

effectively evaluate students' competencies during online learning (Syaifuddin, 2020). Against this backdrop, authentic assessment emerges as a critical approach due to its capacity to evaluate students' competencies based on their ability to apply knowledge in real-world scenarios (Villarroel et al., 2020). This study is crucial for addressing these challenges while leveraging opportunities for developing relevant assessments in the post-pandemic era.

Authentic assessment has garnered attention in educational literature for several decades. For instance, Ajjawi et al. (2019) define authentic assessment as an evaluation process requiring students to demonstrate performance in tasks that reflect real-world applications. Recent studies by Faizah & Sutopo (2021) and Forsyth & Evans (2019) highlight the role of authentic assessment in enhancing 21st-century skills, such as collaboration, communication, and problem-solving. However, implementing such assessments in countries like Indonesia continues to face obstacles, including resource limitations, lack of teacher training, and the time required to design and execute meaningful evaluations.

Previous research has highlighted the benefits of authentic assessment, particularly in fostering student engagement and enhancing learning relevance. For example, studies by Akbari et al. (2021) and Ayyoub et al. (2021) demonstrate that real-world task-based assessments can boost student motivation. Additionally, research by Matsumoto-Royo & Ramírez-Montoya (2021) shows that authentic assessments facilitate experiential learning, enhancing students' understanding of complex concepts. Furthermore, a study by Sufatrio et al. (2022) revealed that portfolio-based assessments, as part of authentic assessment, contribute to developing students' self-reflection skills. In Indonesia, research by Saibatun & Mardhatillah (2020) found that authentic assessment enhances critical thinking skills among high school students. Similar findings by Iqbal et al. (2021) indicate that authentic assessments can promote character development, such as responsibility and integrity, among students.

However, the implementation of authentic assessments faces challenges globally and in Indonesia. For example, Mardjuki (2018) identified key barriers, such as the time required to design authentic tasks and the gap in understanding between teachers and students regarding assessment objectives. Similarly, Fujii (2016) pointed out that logistical complexities in implementing authentic assessments increase the pressure on teachers, particularly in the post-pandemic context. These findings indicate the need for new, more effective strategies to address these challenges.

Previous studies have generally focused on the individual benefits of authentic assessment or the obstacles to its implementation. However, there is limited research on collaborative approaches that integrate teacher-student partnerships as solutions to these challenges. This study offers a novel perspective by emphasizing the importance of collaborative approaches as a mechanism to actively engage teachers and students in designing, implementing, and reflecting on the authentic assessment process. This perspective highlights how collaboration can help teachers manage the complexities of assessment design while providing students with more profound and relevant learning experiences. Consequently, this

research contributes to improving post-pandemic education quality through the innovative application of collaborative strategies.

The research opportunity lies in the lack of in-depth exploration of teacher-student collaboration to address challenges in authentic assessment, such as time constraints, cost, and students' unfamiliarity with new assessment methods. While the benefits of authentic assessment have been extensively discussed in the literature, there remains room to explore strategic approaches involving intensive collaboration as a practical solution. Thus, this study offers a fresh perspective by proposing a collaborative approach as a key strategy to address opportunities and challenges in authentic assessment in the post-pandemic era.

This research not only enriches the literature on authentic assessment but also provides practical recommendations for the development of social sciences and humanities, particularly in the context of education in Indonesia. By combining the challenges and benefits of authentic assessment through collaborative strategies, this study is expected to contribute significantly to improving the quality of learning and assessment relevant to real-world needs.

RESEARCH METHOD

This study employs a qualitative approach with a descriptive design to explore collaborative strategies in authentic assessment during the post-pandemic era. This approach was chosen for its ability to deeply investigate complex phenomena involving teacher-student interactions within the assessment process. Data collection was conducted through library research by analyzing scholarly articles, books, and relevant reports on authentic assessment and collaborative approaches in education (Bowen, 2019).

Data sources were drawn from reputable journals and academic platforms such as Google Scholar, Science Direct, Elicit.org, and Research Gate. The data collection process was carried out systematically in several stages. First, relevant articles and literature were selected using a checklist containing specific criteria to ensure the relevance and quality of the sources. The primary focus was on research discussing the challenges, benefits, and implementation of authentic assessment and collaborative approaches in education. Second, the collected data were analyzed using a combination of Miles & Huberman (2020) theory and thematic analysis techniques. This process included data reduction, data presentation in the form of tables or narratives, coding, theme grouping, and data interpretation.

Data validation was conducted through source triangulation by comparing findings from various literature sources to ensure the accuracy and consistency of the research results. The analysis results were synthesized to identify significant patterns and effective collaborative strategies for addressing the challenges of authentic assessment. Furthermore, the study considered the educational context in Indonesia to ensure the findings are both relevant and applicable.

With a systematic approach, this study not only aims to uncover the benefits and challenges of authentic assessment but also to offer practical solutions to enhance the quality of learning in the post-pandemic era.

RESULTS AND DISCUSSION

Challenges of Authentic Assessment in the Post-Pandemic Era

Authentic assessment has become a crucial topic in education, particularly in the post-pandemic era that demands skill-based learning. Research highlights that this approach not only helps students connect academic knowledge to real-world contexts but also encourages them to understand their abilities beyond academic settings (Akbari et al., 2021; Huang & Jiang, 2020). In other words, authentic assessment transforms how students learn, shifting from rote memorization to a more meaningful and relevant learning process. However, various challenges in its implementation require special attention to ensure the effectiveness of this approach.

One primary obstacle in implementing authentic assessment is the significant allocation of time and resources it demands. Teachers need more time to design, implement, and evaluate authentic tasks. This process includes monitoring student progress, providing constructive feedback, and assessing the final products or projects produced (Forsyth & Evans, 2019; Syaifuddin, 2020). This workload becomes even heavier in large classrooms, as each student requires individual attention. On the other hand, additional costs are often needed to provide relevant resources, such as learning materials and assessment tools. Schools with limited budgets, especially in remote areas, frequently struggle to meet these needs, hindering the full implementation of authentic assessment.

Apart from time and financial constraints, a lack of understanding among both teachers and students poses another challenge. Teachers often face difficulties in designing assessments that meet success criteria, particularly in ensuring that authentic tasks reflect desired learning outcomes (Mardjuki, 2018). Without adequate training, teachers may struggle to create relevant and beneficial tasks for students. On the other hand, students might not fully understand the purpose of authentic assessments, making it difficult for them to relate tasks to learning. This confusion can lead to a lack of motivation and participation in the learning process (Ghosh & Bowles, 2020). Research by Gao et al. (2019) emphasizes that adequate training and guidance for teachers are essential to bridging this gap.

The complexity of tasks in authentic assessment often leads to psychological pressure on students. These tasks typically require critical thinking, in-depth analysis, and solving complex problems, which can cause stress, especially if students find the tasks too challenging or lack guidance from teachers (Colthorpe et al., 2020). This pressure not only negatively impacts student motivation but also reduces the effectiveness of the learning process. Therefore, it is crucial for teachers to ensure that tasks are designed according to students' capabilities and accompanied by clear guidance.

Benefits of Authentic Assessment for Teachers and Students

Authentic assessment is an educational approach that is not only relevant but also highly beneficial for both students and teachers. This approach aims to create more meaningful learning by connecting classroom theory with real-world situations. One of its most evident benefits is its ability to develop 21st-century skills such as collaboration, communication, and problem-solving. For instance, when students work on group projects addressing environmental issues, they learn to share ideas, listen to others' perspectives, and collaborate to achieve solutions. Such projects also train them to think creatively and critically when facing challenges, skills that are highly valued in the workplace (Hussein, 2021; Inganah et al., 2023; Owens & Hite, 2022).

Additionally, authentic assessment helps students become more reflective. In this process, students are not only tasked with completing assignments but are also encouraged to understand their strengths and weaknesses. For example, by writing reflective journals or receiving direct feedback from teachers, they can evaluate what they have done well and identify areas for improvement. This reflection process provides students with the opportunity to learn how they learn, ultimately fostering independence and self-confidence (Sokhanvar et al., 2021; Su et al., 2022).

From the teacher's perspective, authentic assessment offers a more effective way to understand the extent to which students truly grasp the material. Compared to traditional tests that primarily assess memorization, authentic assessments allow teachers to observe how students process information and apply it in real-world situations. For instance, when students are asked to design a project that integrates mathematics, art, and environmental science, teachers can see how they combine various knowledge areas to produce creative solutions (Johansen et al., 2022; Trott et al., 2020). This approach not only helps teachers evaluate students' abilities more comprehensively but also provides insights into improving their teaching methods.

However, to fully harness the potential of authentic assessment, collaboration among all stakeholders is necessary. Teachers need adequate training to design appropriate tasks, and curricula must support the consistent use of this approach. This method is rooted in the principle that learning becomes more meaningful when students actively construct knowledge based on their own experiences (Devkota, 2021; Dharma & Adiwijaya, 2019). When students see that what they learn in class is relevant to real life, they are more motivated to learn and feel that education has a direct impact on their future.

With all its benefits, authentic assessment is an approach worth further development. This method not only prepares students for the workforce but also helps them become better learners—more independent and better equipped to face real-world challenges. As educators, it is essential to continue seeking ways to integrate this method into daily learning to create education that is both relevant and meaningful.

Collaborative Approach as a Solution to Authentic Assessment Challenges

Collaboration between teachers and students in designing assessment tasks is a crucial initial step in creating relevant authentic assessments. In this approach, teachers act not only as primary designers but also involve students to voice their ideas and preferences. This ensures that assigned tasks align with students' interests while remaining consistent with learning objectives. For instance, research by Francis et al. (2021) indicates that involving students in the task design process enhances their sense of ownership in learning, thereby fostering greater engagement. Additionally, this approach helps teachers understand potential challenges students may face, such as task difficulty levels or resource availability.

Engaging students in task design also provides opportunities to instill 21st-century skills, such as critical thinking and communication abilities. When students participate in discussions to determine project themes or assessment methods, they learn to articulate their ideas clearly and respect others' perspectives. This aligns with findings by Cochrane & Sinfield (2019), who assert that active collaboration enhances students' creativity and confidence.

The implementation of authentic assessments through a participatory approach can reduce teachers' workloads while increasing student engagement. In this model, students actively serve as learners and evaluators, while teachers function as facilitators. For example, students can provide peer feedback based on jointly agreed-upon criteria. This approach not only enriches students' learning experiences but also enables them to gain a deeper understanding of the evaluation process.

Research by Forsyth & Evans (2019) highlights that active student participation in the assessment process improves their comprehension of learning goals and instills a sense of responsibility. Teachers, on the other hand, can utilize the time saved from conducting evaluations to provide more in-depth guidance or focus on students requiring special attention.

Joint reflection between teachers and students is a vital component of the collaborative approach. This process involves discussing what worked well and identifying areas for improvement in assessment implementation. Such reflection allows students to evaluate their performance, recognize challenges faced, and understand how to enhance future outcomes. Simultaneously, teachers gain direct insights into the effectiveness of task designs and teaching strategies. Studies by Hussein (2021) and James & Casidy (2018) show that joint reflection helps teachers design assessments that are more responsive to student needs. This approach also fosters mutual trust between teachers and students, creating a supportive and inclusive learning environment.

Moreover, the collaborative approach significantly impacts student engagement and teacher efficiency. By involving students in all stages of assessment—from design to evaluation—they feel valued and motivated to participate actively. This is supported by research from Matsumoto-Royo & Ramírez-Montoya (2021), which found that students engaged in collaborative approaches tend to show increased motivation and better learning outcomes. From the teachers' perspective, the collaborative approach helps alleviate work-related pressures

often associated with authentic assessment implementation. By sharing responsibilities with students, teachers can focus more on critical teaching aspects, such as providing individualized guidance or developing effective teaching strategies (Afdhal et al., 2022). As a result, the learning process becomes more efficient and meaningful for all stakeholders.

A collaborative approach in authentic assessment offers a promising solution to address the various challenges encountered in implementing this method. However, its success heavily depends on how the approach is executed. Teachers must have a deep understanding of their role as facilitators, while students need to be supported to take on active roles without feeling overwhelmed. Furthermore, this collaboration requires support from school policies, such as teacher training and the provision of adequate resources.

A New Perspective on Utilizing Authentic Assessments Otentik

In modern education, authentic assessment offers an approach centered on developing students' abilities in real-world situations. This method emphasizes relevant and meaningful learning experiences while promoting active student involvement in the learning process. By integrating collaborative strategies and developing metacognitive skills, authentic assessment becomes an essential tool in addressing post-pandemic educational challenges.

For instance, authentic assessment in science subjects can involve students designing functional ecosystem models—a task that tests theoretical understanding while honing collaborative and problem-solving skills. This reflects the concept proposed by Foulger et al. (2022), which emphasizes “meaningful performance” in assessments, including analyzing, synthesizing, and applying knowledge in practical ways.

In the post-pandemic era, collaborative strategies such as peer assessment and group-based tasks offer opportunities to foster students' social skills. Research by Le et al. (2018) supports this, showing that collaborative assessments not only improve learning outcomes but also strengthen students' communication skills. Furthermore, this type of assessment plays a role in metacognitive development, encouraging students to reflect on their learning processes, as outlined by Ndiokubwayo et al. (2022). This reflection helps students understand and regulate their learning strategies, making them more effective independent learners.

However, the implementation of authentic and collaborative assessments requires systemic support. Teachers need training to manage challenging authentic tasks, while schools must provide adequate resources. Additionally, it is essential to continually evaluate the effectiveness of these approaches to ensure their impact aligns with the evolving needs of students. Authentic assessment has emerged as one of the prominent approaches in modern education, offering a new perspective for creating relevant and meaningful learning experiences. The emphasis on this form of assessment aligns with the need to produce individuals equipped to face real-world challenges.

This article discusses three main focuses: the use of authentic assessment for relevant learning experiences, the implementation of collaborative strategies in adaptive education, and

the development of students' metacognitive skills through collaborative assessment. Authentic assessment is oriented toward evaluating students' abilities in contexts that resemble real-life situations. According to Nordgren et al. (2021), authentic assessment measures "meaningful performance," encompassing the ability to analyze, synthesize, and apply knowledge. In its implementation, this type of assessment encourages students to connect theory with practice through tasks such as projects, case studies, and presentations.

For instance, in a science lesson, students may be asked to create a functioning ecosystem model, which evaluates not only their understanding of ecosystems but also their collaborative and problem-solving skills. Data indicate that students involved in authentic assessments tend to have higher learning motivation (Saibatun & Mardhatillah, 2020; Su et al., 2022). However, implementing authentic assessment also requires adjustments to the curriculum and teacher training to effectively support this approach. One of the main challenges is the time and resources needed to develop authentic and appropriate tasks.

The COVID-19 pandemic has reshaped global education, forcing educators to adopt new methods emphasizing flexibility and collaboration. In the context of assessment, collaborative strategies play a vital role in fostering student engagement. Models such as peer assessment and group-based tasks enable students to learn from one another while strengthening their social and emotional skills. For example, research by Schipper et al. (2020) shows that collaborative assessment enhances learning outcomes because students receive feedback from peers, which is often easier to understand than feedback from teachers. In the post-pandemic environment, these strategies also help address learning gaps caused by remote learning. However, the effectiveness of collaborative strategies depends on proper management. Issues such as unequal task distribution or conflicts among team members can hinder goal achievement. Therefore, it is important to provide clear guidance and foster a positive team-working culture.

Collaborative assessment not only evaluates material comprehension but also supports the development of students' metacognitive skills, such as self-reflection and planning. According to Sokhanvar et al. (2021), metacognitive skills involve two main components: knowledge of cognition and the regulation of cognition. In collaborative assessment, students are invited to plan tasks together, monitor their progress, and reflect on their work outcomes.

For instance, in group tasks involving problem-solving, students need to identify the best strategies to achieve a solution. This process facilitates the development of metacognitive skills as they actively think about the best ways to complete tasks (Hidayat, 2024). Studies by Villarroel et al. (2020) demonstrate that educational programs integrating metacognition significantly improve students' learning outcomes. However, it is important to note that not all students possess the same level of metacognitive awareness. Thus, educators need to provide scaffolding, such as reflection guides or assessment rubrics, to help students gradually develop these skills.

The use of authentic assessment, collaborative strategies, and metacognitive development demonstrates a strong synergy in creating holistic learning experiences. Authentic assessment provides relevant contexts, while collaborative strategies ensure active student

engagement. Meanwhile, developing metacognitive skills lays the foundation for lifelong learning. However, the successful implementation of these approaches requires systemic support, such as adequate teacher training, effective time management, and sufficient resource allocation. Moreover, it is essential to continuously evaluate and adapt these methods according to students' needs and the demands of the times.

CONCLUSION

The transformation of learning in the post-pandemic era has provided momentum for implementing authentic assessment as a key strategy to enhance the relevance of education to real-world contexts. This article highlights the benefits of authentic assessment for students, including enriched learning experiences, the development of professional life skills, and improved motivation and critical thinking abilities. For teachers, authentic assessment serves as an evaluation tool to support decision-making related to student assessment. However, the implementation of authentic assessment also presents challenges, such as significant time and cost requirements and the pressure on teachers to design effective assessments. On the other hand, students often face anxiety when dealing with unfamiliar assessments. Therefore, the ability of teachers to carefully design assessments is a critical factor in determining the success of the learning process and outcomes. As a solution, this article emphasizes the importance of collaborative strategies between teachers and students to address these challenges. These strategies involve intensive communication, joint planning, and continuous evaluation, ensuring the optimization of authentic assessment implementation. This collaborative approach offers an innovative framework relevant to the educational needs of post-pandemic Indonesia. This article makes a significant contribution to the development of social sciences and humanities, particularly in the context of educational reform. Its novelty lies in proposing collaborative strategies as a response to specific challenges in implementing authentic assessments. The resulting recommendations include integrating collaborative strategies into the educational curriculum and teacher training programs focused on improving the effectiveness of authentic assessment. These findings are expected to serve as a reference for future research to deepen understanding of authentic assessment implementation in various educational contexts and the development of relevant media and strategies for each subject.

ACKNOWLEDGMENTS

This paper and the research behind it would not have been possible without the exceptional support of my supervisor on campus who had taken the time to provide input on this research. Thank you to my colleagues who always help in searching for data and providing reading resources related to research topics.

REFERENCES

- Afdhal, A., Manuputty, F., & Ramdhan, R. M. (2022). Pendidikan Developmentalisme Moh. Sjafei: Membangun Konsep Pendidikan Berkebudayaan di INS Kayutanam (1928-1969). *Jurnal Mahasiswa BK An-Nur: Berbeda, Bermakna, Mulia*, 8(3), 130–139.
- Ajjawi, R., Tai, J., Huu Nghia, T. Le, Boud, D., Johnson, L., & Patrick, C.-J. (2019). Aligning assessment with the needs of work-integrated learning: the challenges of authentic assessment in a complex context. *Assessment & Evaluation in Higher Education*, 45(2), 304–316.
- Akbari, M., Nguyen, H. M., McClelland, R., & Van Houdt, K. (2021). Design, implementation and academic perspectives on authentic assessment for applied business higher education in a top performing Asian economy. *Education + Training*, 64(1), 69–88.
- Ayyoub, A. A., Bsharat, A., & Suleiman, M. (2021). The impact of alternative authentic assessment outcomes in Palestinian fourth grade math classrooms. *Studies in Educational Evaluation*, 70, 101056. <https://doi.org/https://doi.org/10.1016/j.stueduc.2021.101056>
- Bowen, G. A. (2019). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40.
- Cochrane, T., & Sinfield, D. (2019). A Model for Designing Authentic Learning. *Pacific Journal of Technology Enhanced Learning*. <https://doi.org/https://doi.org/10.24135/pjtel.v2i1.29>
- Colthorpe, K., Gray, H., Ainscough, L., & Ernst, H. (2020). Drivers for authenticity: student approaches and responses to an authentic assessment task. *Assessment & Evaluation in Higher Education*, 46(7), 995–1007.
- Devkota, K. R. (2021). Inequalities reinforced through online and distance education in the age of COVID-19: The case of higher education in Nepal. *International Review of Education*. <https://doi.org/https://doi.org/10.1007/s11159-021-09886-x>
- Dharma, I. P. S., & Adiwijaya, P. A. (2019). The Analysis On The Readiness Of English Teachers In Implementing Authentic Assessment In Senior High Schools. *Lingua Scientia*, 26(1), 48.
- Faizah, A., & Sutopo, D. (2021). The Implementation of Teachers' Pedagogical and Professional Competence in Authentic Assessment. *English Education Journal*, 11(4), 539–549.
- Fitria, H., & Suminah, S. (2020). Role of Teachers in Digital Instructional Era. *Journal of Social Work and Science Education*. <https://doi.org/https://doi.org/10.52690/jswse.v1i1.11>
- Forsyth, H., & Evans, J. (2019). Authentic assessment for a more inclusive history. *Higher Education Research and Development*, 38(4), 748–761. <https://doi.org/https://doi.org/10.1080/07294360.2019.1581140>
- Foulger, T. S., Jin, Y., Mourlam, D. J., & Ebersole, L. (2022). Equitable access to TPACK research: Tensions about using social media to disseminate scholarship. *Computers and Education Open*, 3, 100067. <https://doi.org/https://doi.org/10.1016/j.caeo.2021.100067>
- Francis, N. M., Lakhani, A., & Kendall, E. (2021). Teaching traditional indoor school lessons in nature: The effects on student learning and behaviour. *Landscape and Urban Planning*, 206, 103963. <https://doi.org/https://doi.org/10.1016/j.landurbplan.2020.103963>
- Fujii, T. (2016). Designing and adapting tasks in lesson planning: a critical process of Lesson Study. *ZDM*, 48(4), 411–423.
- Gao, R., Liu, J., Johnson, R., Wang, J., & Hu, L. (2019). Validating an ethical decision-making model of assessment using authentic scenarios. *Studies in Educational Evaluation*, 62, 187–196. <https://doi.org/https://doi.org/10.1016/j.stueduc.2019.05.003>

- Ghosh, S., & Bowles, M. (2020). Challenges and implications in achieving content validity of an authentic assessment task designed to assess seafarer's leadership and managerial skills. *WMU Journal of Maritime Affairs*. <https://doi.org/https://doi.org/10.1007/s13437-020-00209-9>
- Hidayat, U. S. (2024). Implementation of Honesty Canteen Program as Character Education Strategy in Elementary Schools. *Baileo: Jurnal Sosial Humaniora*, 1(3), 256–267.
- Huang, R., & Jiang, L. (2020). Authentic assessment in Chinese secondary English classrooms: teachers' perception and practice. *Educational Studies*, 47(6), 633–646.
- Hussein, B. (2021). Addressing collaboration challenges in project-based learning: The student's perspective. *Education Sciences*, 11(8), 434.
- Inganah, S., Darmayanti, R., & Rizki, N. (2023). Problems, solutions, and expectations: 6C integration of 21 st century education into learning mathematics. *JEMS: Jurnal Edukasi Matematika Dan Sains*, 11(1), 220–238.
- Iqbal, M. H., Siddiqie, S. A., & Mazid, M. A. (2021). Rethinking theories of lesson plan for effective teaching and learning. *Social Sciences & Humanities Open*, 4(1), 100172. <https://doi.org/https://doi.org/10.1016/j.ssaho.2021.100172>
- James, L. T., & Casidy, R. (2018). Authentic assessment in business education: its effects on student satisfaction and promoting behaviour. *Studies in Higher Education*, 43(3), 401–415. <https://doi.org/https://doi.org/10.1080/03075079.2016.1165659>
- Johansen, A., Mogstad, E., Gajic, B., & Bungum, B. (2022). *Incorporating creativity in science and mathematics teaching: Teachers' views on opportunities and challenges*.
- Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, 48(1), 103–122. <https://doi.org/https://doi.org/10.1080/0305764X.2016.1259389>
- Mardjuki, M. S. (2018). English Teachers' Perception on the Use of Authentic Assessment in 2013 Curriculum. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 2(2), 151.
- Matsumoto-Royo, K., & Ramírez-Montoya, M. S. (2021). Core practices in practice-based teacher education: A systematic literature review of its teaching and assessment process. *Studies in Educational Evaluation*, 70, 101047. <https://doi.org/https://doi.org/10.1016/j.stueduc.2021.101047>
- Miles, M. B., & Huberman, A. M. (2020). *Qualitative Data Analysis: An Expanded Sourcebook* (9th ed.). sage.
- Ndihokubwayo, K., Byukusenge, C., Byusa, E., Habiyaremye, H. T., Mbonyiriyuze, A., & Mukagihana, J. (2022). Lesson plan analysis protocol (LPAP): A useful tool for researchers and educational evaluators. *Heliyon*, 8(1). <https://doi.org/10.1016/j.heliyon.2022.e08730>
- Nordgren, K., Kristiansson, M., Liljekvist, Y., & Bergh, D. (2021). Collegial collaboration when planning and preparing lessons: A large-scale study exploring the conditions and infrastructure for teachers' professional development. *Teaching and Teacher Education*, 108, 103513. <https://doi.org/10.1016/j.tate.2021.103513>
- Owens, A. D., & Hite, R. L. (2022). Enhancing student communication competencies in STEM using virtual global collaboration project based learning. *Research in Science & Technological Education*, 40(1), 76–102.
- Saibatou, S., & Mardhatillah, M. (2020). Analysis Of Teacher Readiness In Applying The 2013 Curriculum In The Iv Grade Of Primary School. *Jurnal Ilmiah Teunuleh*.

<https://doi.org/10.51612/teunuleh.v1i1.15>

- Schipper, T. M., van der Lans, R. M., de Vries, S., Goei, S. L., & van Veen, K. (2020). Becoming a more adaptive teacher through collaborating in Lesson Study? Examining the influence of Lesson Study on teachers' adaptive teaching practices in mainstream secondary education. *Teaching and Teacher Education*, *88*, 102961. <https://doi.org/10.1016/j.tate.2019.102961>
- Sokhanvar, Z., Salehi, K., & Sokhanvar, F. (2021). Advantages of authentic assessment for improving the learning experience and employability skills of higher education students: A systematic literature review. *Studies in Educational Evaluation*, *70*, 101030. <https://doi.org/10.1016/j.stueduc.2021.101030>
- Su, W., Luo, D., Zhang, C., & Zeng, S. (2022). Evaluation of online learning platforms based on probabilistic linguistic term sets with self-confidence multiple attribute group decision making method. *Expert Systems with Applications*, *208*, 118153.
- Sufatrio, Vykopal, J., & Chang, E. C. (2022). Collaborative Paradigm of Teaching Penetration Testing using Real-World University Applications. *ACM International Conference Proceeding Series*. <https://doi.org/10.1145/3511861.3511874>
- Syaifuddin, M. (2020). Implementation of Authentic Assessment on Mathematics Teaching: Study on Junior High School Teachers. *European Journal of Educational Research*, *9*(4), 1491–1502.
- Trott, C. D., Even, T. L., & Frame, S. M. (2020). Merging the arts and sciences for collaborative sustainability action: A methodological framework. *Sustainability Science*, *15*(4), 1067–1085.
- Villarroel, V., Boud, D., Bloxham, S., Bruna, D., & Bruna, C. (2020). Using principles of authentic assessment to redesign written examinations and tests. *Innovations in Education and Teaching International*. <https://doi.org/10.1080/14703297.2018.1564882>