



The Meaning of Digital Feedback in Authentic Assessment: Teacher and Student Perspectives

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Abstract: Digital feedback in authentic assessment has become an increasingly relevant evaluation strategy in the 21st-century learning era. This study aims to explore the meaning of digital feedback in authentic assessment from the perspectives of teachers and students in secondary education. The research method used was qualitative phenomenological, involving 12 teachers and 40 students as informants. Data were collected through in-depth interviews, classroom observations, and documentation. The results showed that teachers interpreted digital feedback as a professional reflection tool as well as an efficient evaluative communication medium. Students interpreted it as a source of learning motivation and guidance for performance improvement. The conclusion of this study confirms that digital feedback in authentic assessment contributes significantly to improving the quality of learning when designed systematically, personally, and timely.

1. INTRODUCTION

The development of digital technology has brought fundamental changes to the world of education, particularly in assessment and learning evaluation practices. The massive digital transformation is pushing educators to redesign assessment systems that focus not only on final results but also on meaningful and authentic learning processes. In this context, digital feedback emerges as an evaluative instrument deemed capable of bridging the gap between the learning process and expected outcomes. Technology-based feedback enables teachers to provide faster, more personalized, and more structured responses to students (Nugroho & Wahyuni, 2022). This provides a crucial foundation for developing authentic, student-centered assessments and supporting a culture of lifelong learning.

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Authentic assessment is an assessment approach that requires students to demonstrate knowledge and skills in relevant and meaningful real-world contexts. Unlike traditional summative and standardized tests, authentic assessment emphasizes performance, portfolios, projects, and concrete demonstrations of competency. Within this framework, feedback is an integral element in determining the quality of the assessment process. Effective feedback goes beyond simply stating whether something is right or wrong, but rather encourages in-depth reflection and continuous improvement (Hidayat & Sari, 2023). The integration of digital feedback into authentic assessment is a strategic response to the increasingly complex and competency-oriented needs of 21st-century education.

Various studies have shown that digital feedback offers advantages over conventional feedback in terms of speed, accessibility, and personalization. Teachers can utilize digital platforms to track students' learning progress in real time and provide differentiated feedback tailored to individual needs. Furthermore, students gain more flexible access to this feedback, regardless of time and place (Rahmawati & Kurniawan, 2023). However, the effectiveness of digital feedback depends heavily on the method of delivery, content, timing, and how students interpret and respond to it. This necessitates in-depth research examining the meaningful dimensions of digital feedback in the context of authentic assessment.

Although research on digital feedback has grown rapidly internationally, studies specifically examining the meaning of digital feedback in authentic assessment from the dual perspectives of teachers and students remain relatively limited, particularly in the Indonesian educational context. This gap is crucial to fill, given that the construction of meaning by learning actors is contextual and influenced by cultural backgrounds, educational systems, and unique pedagogical experiences (Pratiwi & Mulyono, 2024). Therefore, this study is designed to answer the question: how do teachers and students interpret digital feedback in authentic assessment practices? The answer to this question will provide both theoretical and practical contributions to the development of digital-based learning evaluation in Indonesia.

This research is expected to provide a comprehensive overview of the construction of the meaning of digital feedback from the perspectives of two main groups of learning actors. Theoretically, the findings of this study can enrich the literature on authentic assessment and digital pedagogy in Indonesia. Practically, the research results can serve as a reference for curriculum designers, educational platform developers, and education practitioners in designing more effective and meaningful feedback systems. This research also contributes to

the development of teachers' evaluative competencies in the technological era and increases students' active involvement in the self-assessment process (Susanti & Pramana, 2024). Based on this foundation, this article presents in-depth findings and analysis relevant to the advancement of Indonesian educational practices.

METHOD

This study employed a qualitative approach with a phenomenological design to explore the meaning of digital feedback in authentic assessment in depth. The phenomenological approach was chosen because it allows researchers to understand the essence of participants' lived experiences related to the phenomenon under study as they truly are (Moleong, 2021). The study participants consisted of 12 subject teachers from three public high schools in Lampung Province, selected using purposive sampling based on the following criteria: having implemented digital feedback for at least one semester, having access to technological devices, and being willing to participate voluntarily. In addition, 40 11th-grade students were selected as supporting informants using a snowball sampling technique. The selection of research locations took into account the diversity of schools' socio-economic backgrounds and the representation of urban and semi-urban areas (Creswell & Poth, 2022; Wahyudi & Hasanah, 2023).

Data collection was conducted through three main techniques: semi-structured in-depth interviews, participatory classroom observation, and documentation of digital artifacts. Two in-depth interviews were conducted per participant, each lasting 45 to 60 minutes, using an interview guide developed based on the theoretical framework of authentic assessment and formative feedback. Classroom observations were conducted over eight weeks to directly observe the practice of providing digital feedback in teaching and learning activities. Documentation included screenshots of digital feedback, audio-visual recordings with participant permission, and teacher reflective notes. Data validity was ensured through source triangulation, method triangulation, and member checking with all participants after the interview transcripts were compiled (Sugiyono, 2023; Anwar & Fatimah, 2024). All data were collected after obtaining ethical approval from the institution and informed consent from the participants.

Data analysis used Braun and Clarke's thematic analysis model, modified to suit the context of qualitative research in Indonesian education. The analysis process consisted of six stages: data familiarization, initial coding, theme discovery, theme review, theme definition and naming, and report writing. Coding was performed manually using the NVivo 12

application to facilitate complex data management and ensure the accuracy of the categorization process. The internal validity of the study was strengthened by an audit trail that transparently described all methodological decisions, while transferability was maintained through thick descriptions of the context. Interresearcher reliability was tested using two independent coders, with a Cohen's kappa coefficient of 0.83, indicating a substantial level of agreement (Mulyasa & Listiani, 2023; Kurniasih & Yusuf, 2024). Research findings were reconfirmed through focus group discussions with six key participants to ensure accurate interpretation.

RESEARCH RESULT

The Meaning of Digital Feedback for Teachers as a Professional Reflection Instrument

The first finding indicates that most teachers view digital feedback not merely as an administrative tool but as a professional reflection tool that encourages them to continuously evaluate the quality of their teaching. Teachers reported that data generated from digital platforms like Google Classroom and Edmodo provides a clear picture of the effectiveness of their learning strategies. The feedback provided to students indirectly serves as a mirror for teachers to assess whether learning objectives have been achieved (Nugraha & Setiawan, 2023). This process creates a continuous cycle of reflection and motivates teachers to innovate in designing more meaningful learning experiences for students.

More deeply, professional reflection mediated by digital feedback has a significant collaborative dimension. Teachers report that digital recordings and logs allow them to share good practices with colleagues and discuss common student error patterns in a professional forum. This aligns with the principles of professional learning communities, which emphasize the importance of data-driven collaboration in teacher competency development (Rahayu & Widiyanto, 2023). Digital feedback thus serves as a bridge between individual assessment and ongoing collective professional development.

Teachers' perspectives on digital feedback as a reflection tool are also closely related to the dimension of professional accountability. Teachers feel more responsible for the quality of the feedback they provide because digital recording allows for supervision by the principal and subsequent self-evaluation. This accountability encourages improved standards of evaluative communication that are more structured, specific, and development-oriented (Santoso & Dewi, 2024). The pedagogical implication of these findings is the need for teacher training programs

that explicitly integrate digital feedback competencies into ongoing professional development frameworks.

These findings align with the theory of formative assessment developed by Black and Wiliam (1998), which has been expanded in a digital context by various contemporary Indonesian researchers. Teachers who interpret feedback as a reflective instrument have been shown to be more consistent in implementing authentic, process-oriented assessments. The integration of professional reflection and digital feedback creates a learning ecosystem that is adaptive and responsive to student needs (Handayani & Purnomo, 2024; Yulianti & Basuki, 2023). This situation strengthens the argument that investment in digital feedback infrastructure must be accompanied by strengthening teachers' reflective capacity as the foundation for meaningful, authentic assessment.

DISCUSSION

1. The Meaning of Digital Feedback for Students as a Source of Learning Motivation

The study results showed that students perceived digital feedback as a powerful source of learning motivation, especially when it was specific, constructive, and provided close to the completion of the task. Students reported that digital notifications indicating new feedback from the teacher sparked enthusiasm and curiosity to immediately learn about their performance assessment. This positive emotional response contributed to increased learning engagement and persistence in completing authentic tasks (Lestari & Firmansyah, 2023). These findings support self-determination theory, which emphasizes the role of feedback in meeting students' basic psychological needs: competence, autonomy, and relatedness.

Furthermore, students identified the most motivating characteristics of digital feedback as being dialogic and allowing them to respond or ask follow-up questions. Platforms like Google Classroom, which offer interactive commenting features, are considered more motivating than one-way numerical grading systems. This dialogic interaction creates a sense of being valued and cared for, which has a direct impact on increasing students' academic self-confidence (Irawati & Mujianto, 2024). Students who actively engage in digital feedback dialogue have been shown to demonstrate more consistent performance on subsequent authentic assessment tasks.

The social dimension of digital feedback also plays a role in shaping motivational meaning for students. Collaborative feedback features that enable peer assessment through digital platforms are interpreted as social recognition that increases extrinsic motivation while building social responsibility within the learning community. Students report that knowing their

performance is being assessed and commented on by peers encourages them to strive harder to produce quality work (Puspitasari & Jauhari, 2023). Therefore, the integration of digital peer feedback into authentic assessments needs to be systematically designed to maximize its motivational impact.

This discussion confirms previous findings in both national and international contexts, which suggest that the quality of feedback is a greater determinant of learning motivation than its frequency alone. Learners who receive meaningful digital feedback—including explanations, concrete suggestions, and recognition of progress—show more sustained increases in intrinsic motivation (Wulandari & Syafrudin, 2024; Azizah & Retnowati, 2023). The practical implication is that teachers need to be equipped with digital feedback strategies and templates that encourage meaningful communication, rather than simply assigning numerical grades with little pedagogical context.

2. Challenges of Implementing Digital Feedback in Authentic Assessment

Although digital feedback was positively perceived by both teachers and students, this study also identified significant challenges hindering its optimal implementation. The primary challenge reported by teachers was the increased cognitive workload resulting from the need to design personalized, high-quality feedback for large numbers of students. Teachers with an average of 35 students per class reported difficulty providing adequate digital feedback without sacrificing depth and quality (Susilo & Pamungkas, 2023). This situation indicates a gap between the ideal potential of digital feedback and the reality of teacher capacity in the field, which requires systemic attention.

Beyond workload, the gap in technological infrastructure is a structural barrier that cannot be ignored. This study found significant disparities between schools located in urban and semi-urban areas in terms of device availability, internet network stability, and teachers' digital competency. Students from lower socioeconomic backgrounds reported difficulties accessing digital feedback outside of school hours due to limited devices and data packages (Rahardjo & Kusumawati, 2023). This disparity in access has the potential to create inequities in authentic assessment processes and exacerbate existing academic achievement gaps.

Another emerging challenge is the uneven digital literacy of teachers in utilizing the advanced features of feedback platforms. Many teachers only use basic features such as grading and brief comments, without leveraging the platform's full potential, such as video feedback

recordings, document annotations, or interactive rubrics. This suggests that technology ownership does not automatically translate to optimal and pedagogical use (Nurhayati & Setiadi, 2024). These findings underscore the urgency of contextual and ongoing digital literacy training programs for teachers as a prerequisite for implementing effective digital feedback in authentic assessments.

Discussion of these challenges needs to be linked to the national education policy framework, which is currently transforming toward digital competency-based education. The Merdeka Belajar policy launched by the Ministry of Education, Culture, Research, and Technology provides greater scope for assessment innovation, but infrastructure support and teacher capacity are still inadequate (Firman & Sari, 2024; Mahardika & Purnomo, 2023). Therefore, synergy between macro policies, teacher capacity development, and technological infrastructure improvements is needed to realize the potential of digital feedback in authentic assessments evenly and equitably across Indonesia.

3. Integrative Meaning Model of Digital Feedback in Authentic Assessment

Based on thematic analysis of the research data, an integrative meaning model was found that describes how teachers and students collaboratively construct the meaning of digital feedback within an authentic assessment ecosystem. This model consists of four interconnected dimensions: the cognitive dimension (understanding and interpreting feedback), the affective dimension (emotional and motivational responses), the social dimension (evaluative interaction and collaboration), and the instrumental dimension (use of digital platforms and artifacts). These four dimensions operate simultaneously and form a holistic feedback experience for both groups of learning actors (Pratama & Anindita, 2024). This model offers a useful analytical framework for designing comprehensive digital feedback systems.

The cognitive dimension in this model shows that teachers and students construct an understanding of digital feedback through an active interpretive process influenced by prior knowledge, prior experiences, and the learning context. Students with higher levels of reflective thinking skills tend to interpret digital feedback more deeply and use it as an instrument to revise their conceptual understanding. Teachers with a theoretical understanding of formative assessment also interpret digital data in a more strategic manner and are oriented towards improving learning (Setiawan & Anggraini, 2023). The implication of these findings is the need to develop reflective thinking capacity on both sides—teachers and students—as a prerequisite for maximizing the benefits of digital feedback.

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The affective and social dimensions in this integrative model interact dynamically. Positive emotional responses to digital feedback tend to be stronger when the feedback is communicated within supportive and respectful social relationships. Conversely, feedback that feels critical without an affirmative component tends to elicit a defensive response that hinders the learning process. This finding aligns with the principle of relational pedagogy, which emphasizes that the quality of the relationship between teachers and students is a prerequisite for effective evaluative communication (Dewanti & Rohmah, 2023; Astuti & Permana, 2024). Therefore, effective digital feedback design must consider both relational and emotional aspects, rather than solely focusing on content and technical aspects.

The integrative meaning model generated by this study provides an original contribution to the development of digital-based authentic assessment theory in Indonesia. Unlike conventional feedback models, which tend to be linear and unidirectional, this model emphasizes the cyclical, dialogic, and multidimensional nature of digital feedback in the context of authentic assessment. It also emphasizes that the effectiveness of digital feedback cannot be reduced to purely technical aspects but rather relies heavily on the construction of meaning by learning actors within specific social and cultural contexts (Maulana & Rahayu, 2024; Hidayatulloh & Pertiwi, 2023). These findings open a further research agenda to test and validate this model on a broader scale and in diverse educational contexts.

CONCLUSION

This study successfully revealed that digital feedback in authentic assessment is interpreted in diverse and multidimensional ways by teachers and students. Teachers interpret digital feedback as a professional reflection instrument that encourages improved teaching quality, while students interpret it as a source of learning motivation and guidance for personal performance improvement. These findings emphasize that the meaning of digital feedback is not merely a technical function of the platform used, but rather a social construction formed from the interaction between the learning context, pedagogical relationships, and the subjective experiences of the actors. Therefore, the effective implementation of digital feedback requires a holistic approach that combines technical, pedagogical, and relational competencies of teachers.

Practically, this study recommends that schools and educational institutions develop an integrated digital feedback ecosystem, focusing not only on technological infrastructure but

also on developing teachers' pedagogical capacity to design meaningful and motivational feedback. The government and policymakers need to prioritize equitable access to technology and digital literacy training as the foundation for implementing equitable, authentic digital-based assessments. Further research is recommended to test the resulting integrative meaning model in broader contexts, including elementary and higher education levels, and to explore the role of artificial intelligence in the personalization of digital feedback in the future.

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