DIGITAL PORTFOLIOS AS ASSESSMENT TOOLS FOR ACADEMIC WRITING AND METACOGNITIVE DEVELOPMENT: A CASE STUDY OF STUDENT AND LECTURER PERCEPTIONS, OUTCOMES, AND IMPLEMENTATION CHALLENGES IN AN INDONESIAN UNIVERSITY

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ABSTRACT

The gap in student-centered assessments in practice in English Language Teaching (ELT) poses a challenge in the application of 21st-century skills and Indonesia's Merdeka Belajar-Kampus Merdeka (Freedom to Learn-Independent Campus) policy, which emphasize innovation and student-centeredness. The practice of ELT, however, continues to be product-oriented and lacks the development of metacognition. Although the development of digital portfolios is considered a resource promising, research in the Indonesian ELT context examining the micro-level implementation and influences of digital portfolios is limited. This study investigated the implementation of a digital portfolio in an Indonesian university's English Education Department. It aimed to analyze: 1) student and lecturer perceptions of its role in academic writing and metacognitive awareness; 2) evidence of metacognitive development (planning, monitoring, evaluating) in portfolio artifacts; and 3) the challenges in its execution as an assessment tool. A qualitative single-case study design was employed. Data were collected over one semester through semi-structured interviews with 16 students and one lecturer, non-participant observation, and document analysis of the students' digital portfolios (Padlet), which were assessed using a reflective writing rubric. The portfolios showed contradictory results that they provided opportunities for some students to exert control and experience advancement, whereas, for others, they provided too much of a cognitive load due to the lack of clarity within reflection tasks and the technical difficulties involved. Cognitive overload and technical difficulties along with unclear reflection tasks overshadowed the self-assessment opportunities in the portfolios. The challenges involved a lack of lecturer recognition regarding the potential for unsustainable workloads, the digital gap, inflexible academic calendars, and the subjectivity of assessing a learner's metacognition. The catalyst emerged through the lecturer's strategic sequencing which clarified the purpose of the portfolio thereby operationalizing self-regulated learning within the framework of problem-oriented learning.

Keywords: digital portfolio, assessment, academic writing, metacognition, indonesian elt, higher education.

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INTRODUCTION

Within higher education today, there is a shift in focus from the transmission of knowledge to fostering the skills necessary for the 21st century. The English Language Teaching (ELT) sector is capturing the focus of this shift. ELT is moving away from traditional, summative assessments that focus only on the end products and isolated components of language (Lee, 2017). There is a focus on the development of alternative authentic assessments that track and document the nature of learning. The end goal is to develop a student's ability to think critically and independently, and most importantly, to engage in metacognition, which is the planning, monitoring, and evaluating of learning (Flavell, 1979; Schraw, 1998). Metacognitive knowledge is, as Wenden (1991) stated, the missing component in language learning that helps learners gain autonomy and become strategic planners in and out of the classroom.

The government's groundbreaking Merdeka Belajar-Kampus Merdeka (MBKM) policy is a result of this shift and is one of the most noteworthy innovations in education in Indonesia. This policy aims to provide more innovative student-centered learning and assessment away from rigid models (Kemdikbud, 2020). Aside from knowledge, the policy aspires to produce graduates who are adaptive, creative, and lifelong learners. However, pertaining to Indonesian universities, and especially to English Language Education Departments, this policy seems more like a vision statement than a directive.

For academic writing and other core skills, the focus tends to be on a final draft assessment that neglects the more developmental outcomes along with the metacognition MBKM is trying to promote. This misalignment is vital, students leave the university with a diploma, but as Mistar & Umamah (2014) point out in their study on learner autonomy in Indonesia, they lack the self-regulatory skills to tackle the complex language challenges that lie ahead.

A digital portfolio is one of the promising pedagogical tools that suits the objectives of MBKM while fulfilling the criteria for process-oriented writing assessment. A digital portfolio is defined as an intentional and electronical collated collection of a student's work that depicts their efforts, growth and achievement over a period of time (Barrett, 2007). A digital portfolio goes beyond being a simple storage unit of student work, which is an authentic assessment, as it showcases the learning process taken and the steps involved (Lam, 2018). Ideally, the digital portfolio would promote student self-assessment, as students would choose and explain their reasons for the artifacts. It reflects on the learning assessment process which is core to metacognition. They would build on the metacognitive processes: planning, monitoring, and evaluating (Yancey, 1998). Even though the theoretical insights surrounding the use of portfolios is strong, it is surprising that there is limited empirical research that considers the use of portfolios in the educational context of Indonesian ELT (Fadhilawati, 2021; Mukminin et al. 2020).

Studies, such as those by Anderson (2020), have concentrated on broad aspects of students' attitudes or general improvements in writing, but have yet to examine the process-oriented analysis of the implementation of digital portfolios and their impact on the micro-level development of metacognitive skills with respect to academic writing. This remains a gap in the literature. Addressing this gap is important because metacognitive skills, such as planning, monitoring, and evaluating form the basis of self-regulated learning and central to process-based writing pedagogy. Without clarity on how digital portfolios influence these cognitive processes, educators lack the empirical foundation needed to evaluate their effectiveness or design appropriate portfolio tasks. In Indonesian, the higher-education context, particularly under MBKM policy that emphasizes autonomy and reflection, this absence of evidence also constrains instructional innovation and policy implementation.

In response to this gap, this study uses a qualitative case study approach to analyze the use of a digital portfolio in the English Language Education Department of a public university in Indonesia. This study investigates how this assessment tool

relates to academic writing development, student metacognition, and their learning environment. This study focuses on the following research questions: (1) What are the perceptions of the students and the lecturer on the role of the digital portfolio in the development of academic writing and metacognitive awareness? (2) What evidence of metacognitive development students exhibits through the digital portfolio artifacts in terms of planning, monitoring, and evaluating? (3) What are the challenges and enablers in this context in executing the digital portfolio as an assessment tool? The aim of this research is to provide an understanding which can inform practice and policy, with evidence from Indonesia in the international conversation on innovative practices in language assessment.

METHODS

2.1. Research Design

This study used a qualitative single-case study design with embedded units of analysis. The upper case boundary was defined as the implementation of the digital portfolio within the Academic Writing course of the English Language Education Department at a public university in Bali, Indonesia, over one academic semester. The embedded units within this case were the different groups of participants: the students, the lecturer, and the digital portfolios. This approach was justified because the study aimed to achieve not statistical generalization but an understanding of a phenomenon in its context, one in which the phenomenon of portfolio-based assessment and the context of a university in Indonesia were not distinctly separable (Creswell & Poth, 2018).

2.2. Research Context and Participants

The research context and participants for this study involved an Academic Writing course taken by undergraduate students in their third year at the English Language Education Department. What made this context unique was the use of a digital portfolio on a Padlet platform as the main form of assessment for the semester, as opposed to traditional final exams. It replaced the weight of the final exams. The purposive sampling technique involved gathering the data near the end of the sampling period (Patton, 2015). For data triangulation, participants were grouped into three strata. For the first group, 16 undergraduate students, also from the same cohort, were sampled on the dimensions of maximum diversity. This was on the basis of the three sampling dimensions: academic standing (high, middle, and low performers based on final portfolio grade), English grade (prior semester grades), and gender, to balance the department's profile. The informant was the lecturer (n=1) assigned to the design, delivery, and assessment of the digital portfolio in the course. The students' digital portfolios (n=16) were included as data. The portfolios contained drafts of writing, reflective entries prepared for assignments, and a final reflection, which served as a metacognitive reflection artifact.

2.3. Data Collection Methods and Instruments

Data collection took place over one academic semester. Three methods were used, each with an instrument. As a first step, a non-participant observation was scheduled in the middle of the semester during a class session that was designed for portfolio development / reflective writing. Guided by an observation protocol, the researcher documented how the portfolio process was facilitated, how the lecturer guided the students, and students' interactions. As a second step, semi-structured interviews were scheduled with all student participants and the lecturer at the end of the semester. Each group received different interview protocols. The student protocol focused on experiences, challenges, and writing and metacognitive awareness growth, while the lecturer protocol was concerned with pedagogical rationale, student outcomes, and challenges in implementation. This was the only way to capture the insights that the observers could not access (Kvale, 2008). As a second step, As a third

step, a document analysis of the e-portfolios that were submitted at the end of the semester was checked. An analysis guide was used along with a bespoke reflective writing rubric designed to code for levels of metacognition (planning, monitoring, evaluating) that guided a systematic review of the portfolios.

2.4. Data Collection Procedure

The data collection took place in two steps. Phase 1 took place at the Mid-Semester period, which included the non-participant observation. The detailed field notes at this time using the observation protocol was taken. Phase 2 took place at the End of Semester period and included two activities at the same time: conducting the semi-structured interviews, audio-recording them, and then transcribing them verbatim using *speech to text* application, as well as archival of the final e-portfolios of the student participants who consented to this. All participants were assigned pseudonyms.

2.5. Data Analysis

A multi-stage thematic analysis was employed as described by Braun and Clarke (2006). In Stage 1: Familiarization, the interview transcripts, observation notes, and portfolio contents were read and reread multiple times. In Stage 2: Generating Initial Codes, the researchers began to code the data systematically. In the interview transcripts, the researchers coded as 'perceived value of reflection' and 'technical barriers' under abstraction. In the portfolio reflections, the rubric for metacognitive indicators and notes were used. The observation notes for the 'lecturer scaffolding' behavior were coded. In Stage 3: Searching for Themes, the codes and proposed candidate themes abstracted across different data sources were consolidated. In Stage 4: Reviewing Themes, the researchers ensured the candidate themes formed a whole by aligning them to the whole data set. In stage 5, defining and naming the themes, and stage 6, writing the report.

RESULTS AND DISCUSSION

3.1 Results

3.1.1 The Nature of Student Engagement

TABLE 1/The Nature of Student Engagement with the Digital Portfolio

Theme & Data Source	**The Empowerment Narrative**	**The Overwhelm Narrative**	**The Lecturer's Perspective (Triangulation)**
Student Interview Quotes (Ver batim)	S04: *'Before, when I submitted an essay, I got a grade and that was it. But with the portfolio, I could scroll through my Padlet and see my own improvement. It made me feel like a real writer.'* S07: *'This is my portfolio, my collection. It feels like an achievement, not just a course requirement.'*	S12: *'It was confusing and felt like extra work. I didn't know what to write in the reflections. I just repeated, 'This essay was hard,' and 'I hope my grammar is better.' It didn't feel useful.'*	A: *'About half the class truly thrived. They loved the autonomy and their portfolios became personal learning stories. But the other half, they were lost. They saw the portfolio as a complicated checklist.'*
Portfolio Document Analysis (Ar	- Meticulous Organization: Clear sections for drafts,	- Basic/Minimalist Structure: Often disorganized or	Observation: Co nfirmed the split in portfolio

tifact Evidence)	reflections, final versions. - Personalization: Per sonal introductions, explanatory captions. - High-Quality Reflections: Scored L evel 3/4 on the rubric. - Result: *'In my first essay, my evidence was weak. For my second one, I searched for three journal articles. You can see the difference.'* (Shows monitoring & evaluation).	minimal effort in presentation. - Low-Quality Reflections: Score d Level 1/2 on the rubric. - Result: Unclear statements like *'I tried my best'* and *'This task was difficult'* with no examples.	quality. Noted that structured scaffolding provided mid-semester led to a 'noticeable improvement' in the reflections of some struggling students.
Underlying Factors	- Evidence of growth across drafts. - Role as 'architect' of their learning. - Reflection forced self-analysis and evaluation.	- Managing writing, technology, and reflection simultaneously. - Unclear expectations for 'reflection.' - Challenges with Padlet platform and internet access. - Seen as 'extra work' rather than integral to learning.	Instructions were insufficient. Need: Step-by-step scaffolding, especially for students with lower self-efficacy and self-regulation skills.
Primary Student Profile	High and mid-achievers, students with higher self-efficacy and self-regulation skills.	Students struggling with course content, those with lower self-efficacy in writing and digital literacy.	Observed that the overwhelmed students were often those who 'waited for step-by-step instructions and struggled with self-directed learning.'

The first research question asks about the perceptions of students and the lecturer concerning the portfolio's role. Eight students, and especially those classified as high and mid-level achievers based on their final portfolio grades, the digital portfolio proved to be a game changer. Curation of their work on Padlet allowed them to shift from passive recipients of grades to active architects of their learning narrative. The most common expression from this group centred on the appreciation of making their progress visible. High-achieving student (S04) expressed this by saying*, 'Before, when I submitted an essay, I got a grade and that was it. It felt like the end. But with the portfolio, I had to keep all my drafts. For the first time, I could scroll through my Padlet and see my own improvement from my messy first draft to the final one. It made me feel like a real writer, not just a student who does assignments.'* The invisibility of the 'cosmetic' on the Padlet essays led to more metacognitive processes. Students reported that the evaluation of which drafts to include and the reflective justifications they had to write compelled self-analysis and evaluative processes they would have otherwise sidestepped.

Building a portfolio instils confidence in students as they create collections of their work. A student (S07) expressed this feeling saying, *'This is my portfolio, my collection. I chose the design, I decided how to organise my thoughts. It feels like an achievement, not just a course requirement.'* Such ownership was striking in the document analysis, as well. Mentally organised Padlet portfolios of empowered students included organised sections for drafts, reflections, and final copies as well as personal narratives and explanations serving as introductions. It illustrates a commitment to the work. In the reflections, students repeatedly achieved Level 3 (Proficient) and Level 4 (Advanced) scoring bands on the rubric with growth reflections that included the most telling details. One of these was, *'In my first argumentative essay, my evidence was weak and just my own opinion. For my second one, I searched for three journal articles to support each of my points. You can see the difference when you compare the two essays side-by-side in my portfolio.'* Such a statement provides evidence of self-assessment and shows how students can even strategize their growth.

Similarly, for some students, particularly those struggling with course material and those entering the course with lower confidence in their writing, the stress associated with the digital portfolio was considerable. The source of the overwhelm comprised three issues: the cognitive load linked to a new process, frustration with the technology, and ambiguity in their reflection. There is an overwhelming cognitive load in having to manage multiple drafts, use the Padlet interface, and complete a set of reflective commentaries in addition to the academic writing task, which is itself already quite complex. A student (S12), who found the course difficult, expressed a sentiment in these words: *'It was confusing and felt like extra work. First, I have to stress about writing the essay itself. Padlet is one more thing I have to worry about, and then I have to write a second text about the essay itself, and I don't even know what to include in the reflections. I just wrote, 'This essay was hard,' and 'I hope my grammar is better,'. It didn't feel useful.'* His portfolio reflections were quite consistent with this sentiment, scoring at Level Level 2 (Developing), which included generic reflections of *'I tried my best'* and *'This task was difficult'* without any detail towards rationalisation.

Despite the minor importance of the technological aspect, it was actually an obstacle. While Padlet is straightforward to use, for students with poor internet connectivity and lacking digital skills, it was a source of anxiety. Observation notes from the mid-semester activity noted a number of students struggling to embed documents and create new columns, often spending more time on the mechanics of the platform than on the reflective content. The more challenging issue of the 'reflection' was due to its abstract nature. Lacking an understanding of what good reflective writing entailed and how it would assist them, many students perceived it as a perplexing add-on task, rather than a component of the learning process.

Mr. A, the lecturer, noted the split as well. He provides external confirmation of the student experience. He remarked, *'It was good to observe the split. About half the class really thrived. They loved the autonomy and their portfolios became personal learning stories. You could see their metacognitive muscles strengthening with each entry. But the other half, they were lost. They viewed the portfolio as a complicated checklist. The instructions I provided at the beginning, which I thought were clear, were insufficient for them.'* Mr. A further observed that the students who became overwhelmed were those who required more support as they self-directed their learning. *'I learned a lesson,'* he said. *'I couldn't just tell them to 'reflect'; I had to demonstrate how. It wasn't until midway through the semester, during the activity you attended, that I supplied them with examples and sentence starters for their reflections. I noticed a change in the quality of reflections submitted by the struggling students after that. Some had already formed a negative impression.'*

3.1.2 A Spectrum of Metacognitive Development Evident in Reflective Writing

TABLE 2/ Spectrum of Metacognitive Development in Portfolio Reflections

Metacognitive Level & Rubric Score	Defining Characteristics	Quote from Portfolio (From Document Analysis)	Supporting Interview Data (Triangulation)
Level 1: Descriptive (Rubric Score: 1-2 / Beginning-Developing)	Focus on the product and emotional experience. - Unclear, general statements about the task. - No analysis and examples. - Low scores in Awareness of Process and Analysis of Strengths/Weaknesses.	S09): *'This essay was about the effects of social media. It was a hard topic. I spent a long time writing it. I hope the grammar is correct.'* (S14): *'I finished my descriptive essay. I think it is good.'*	S14) Interview: *'I didn't know what else to write. I wrote the essay, I checked it, and I submitted it. The reflection was just repeating that.'*
Level 2: Strategic (Rubric Score: 3 / Proficient)	Engages in the monitoring phase of metacognition. - Identifies a problem in their writing. - Connects the problem to a strategy for improvement. - High scores in Evidence of Monitoring & Adaptation.	S05): *'I noticed my paragraphs were disconnected and jumped between ideas. So, for my revision, I tried using more linking words like 'furthermore' and 'on the other hand'. I also wrote an outline for each paragraph before I started writing.'*	Lecturer Interview: *'When I read a reflection like (S05)'s, I can see the gears turning. He's internalizing feedback and understanding the issue. That's the heart of becoming a self-regulated writer.'*
Level 3: Evaluative (Rubric Score: 4 / Advanced)	- Synthesizes learning across the semester. - Evaluates growth trajectory and understanding. - Sets goals for future development. - High scores in Depth of Self-Evaluation & Future Goal Setting.	(S02) - Final Reflection: *'Comparing my first essay to my final essay is a revelation. The most important thing I learned is that revision is not just about correcting grammar. It's about rethinking ideas. My goal for next semester is to apply this same revision process to my literature reviews...'*	(S02) Interview: *'Having everything in one place on Padlet forced me to see the whole process. It made me realize that learning isn't a straight line. That final reflection wasn't just for the lecturer. It was a letter to my future self about what I still need to learn.'*

A detailed study of the reflective pieces using the custom reflective writing rubric revealed, not an outcome, but a whole range of metacognitive engagement. This included some descriptive reflections and some advanced reflections which show a

high degree of self-regulation. This constitutes evidence, in a document-based form, to answer the second research question, moving from perceptions to what students actually evidenced in their work. Many students who felt overwhelmed had many of their initial portfolio pieces at the descriptive level, and this became a dominant trend. These reflections fell within the range of 1 (Beginning) and 2 (Developing) on the rubric and served to document activities / a collection of high level, general feelings. There was little evidence of planning / analysis. The emphasis on learning was either on the product or the feelings and emotions surrounding a task, not the process of learning. Reflecting on her first essay, a student (S09) wrote, '*This essay was about the effects of social media. It was a hard topic. I spent a long time writing it. I hope the grammar is correct.'* It shows the minimal awareness of the writing process. For instance, it only captures the complexity of the task with *'It was a hard topic'* and states the judgment of *'I hope the grammar is correct'* without providing evidence. Another student (S14) was similarly weak. He wrote, *'I finished my descriptive essay. I think it is good.'* This positive statement, which earned him a low score on *'Analysis of Strengths & Weaknesses'* criterion, has no illustration as to why the essay is 'good.' It also shows a lack of self-regulated thinking. In his interview, S14 confirmed it when he said, *'I didn't know what else to write. I wrote the essay, I checked it, and I submitted it. The reflection was just repeating that.'* This shows a lack of understanding of the reflection task and was an indication that he approached it as task summary rather than as an analysis of the self.

At the halfway mark on the spectrum, the first signs of strategic thinking started to appear. Reflections at this stage, usually rated a Level 3 (Proficient), showed students actively participating in the monitoring phase of their metacognition. They began recognising issues within their writing and relating them to strategies for enhancement. This change in focus from what they did to how they resolved a given problem. Consider a student (S05) reflecting on his argumentative essay as an example: *'I realised my paragraphs were skipped around to different ideas. My lecturer on the first draft also pointed this out. So, in my revision, I tried to use more transition words like 'furthermore' and 'on the other hand'. I also outlined each paragraph before writing.'* In this case, the entry moves from the identification of a problem, *'disconnected paragraphs,'* to the adaptation of a targeted strategy, *'used more linking words'* and *'short outline.'* It is an example of self-monitoring and adaptation. For this type of reflection, interviews with Mr. A, the lecturer, suggest to her this is a reflection of success. 'Reading a reflection like S05, I see the gears turning,' he stated. *'He's not just receiving my feedback, he's processing it and trying out many approaches to resolve it. That's self-regulated writing.'*

Several final reflections from students showed the most metacognitive development and achieved a Level 4 (Advanced) score. These reflections included overarching self-assessments and self-judgments that went beyond tasks in order to cross multiple assignments. Over the semester, these students integrated their learning and established goals for their continued development. This reflects the highest form of metacognition, the ability to evaluate, adjust, and plan for learning. An example of this is a student's final portfolio reflection (S02): *'Comparing my first essay to my final essay is a revelation. Initially, my thesis statements were broad, and my evidence was anecdotal. Now, I see I can construct a claim and document an argument. Most importantly, I learned that revision is not a matter of correcting grammar, and, looking at my portfolio's timeline, I can see when I learned that. My goal for next semester is to apply the same revision to my literature reviews. I also want to work on synthesising many sources into a paragraph.'* This reflection is filled with a kind of self-awareness. It outlines the strengths and weaknesses of her work. Most importantly, it illustrates the shift in understanding the core concept of revision. It also moves past the current course. During her interview, S02 explained how the portfolio helped her become aware of this, *'Having everything in one place on Padlet forced me to see the whole process. I couldn't ignore my early struggles because they were right there, next to my later work. It made me realise that learning isn't a straight line, but you can see the curve bending upwards. That final reflection wasn't just for the lecturer, it was a letter to my future self about what I still need to learn.'*

3.1.3 The Implementation Gap

TABLE 3/ Challenges in Executing the Digital Portfolio

Hurdle Category	Specific Challenge	Evidence from Lecturer Interview	Evidence from Student Interviews & Observation	Impact on the Portfolio Process
Pedagogical Hurdles	1. Unsustainable Workload & Feedback Timeliness	Mr. A: *'I found myself spending hours just navigating between Padlet boards, and my comments became more rushed. This defeated the purpose of a process-oriented approach.'*	(S11): *'By the time the lecturer commented, I had already moved on. It felt like the feedback was for him, not for me to use.'*	Rendered the formative feedback loop ineffective, undermining the core 'process-oriented' rationale.
	2. Ambiguity in Reflective Tasks	Mr. A: Introduced prompts and exemplars mid-semester after observing poor reflections.	(S12): *'The instruction was just 'reflect on your writing process'. I needed examples, but at first, we didn't get any.'*	Led to the proliferation of low-level, descriptive reflections (Finding 2), as students lacked understanding of metacognitive tasks.
Technical Hurdles	1. Internet Access	Mr. A: Acknowledged the issue as a contextual constraint affecting equity.	(S15): *'The internet was so slow I couldn't even load the Padlet... I had to stay on campus late to finish.'*	Created inequity and added stress, limiting access and flexibility for students with poor connectivity.
	2. Platform Usability & Digital Literacy	Mr. A: *'I spent a portion of our workshop time acting as IT support. This digital literacy gap is real, and it creates an uneven playing field.'*	Observation Notes: Students struggled with docs, columns, and privacy settings.	Diverted time and cognitive energy away from writing and reflection towards solving technical problems.
Systemic Hurdles	1. Academic Schedule	Mr. A: *'The syllabus is already overflowing. Finding the space for the portfolio's*	Student interviews reported feeling overwhelmed by the	Compressed the recursive writing process, creating time pressure that

	process felt like fitting a square peg in a round hole. We were always rushing.'	portfolio's continuous demands alongside other courses.	contradicted the tool's developmental nature.
2. Subjectivity in Assessing Metacognition	Mr. A: *'How do you grade a student's internal thought process? It often felt like a subjective judgment call.'*	(S04): *'It feels like my grade depends on how well I can talk about my feelings and mistakes, not just on my final writing.'*	Raised concerns about fairness and validity, potentially valuing the performanc e of reflection over authentic metacognitive development.

Implementing the digital portfolio was difficult, even with strong reasons and the benefits it provided many students. Interviewing the lecturers, observing students, and taking notes showed a stark 'implementation gap' where the benefits of the portfolio theoretically used, and reality checked within the limited context of higher education in Indonesia showed a gap in benefits. This is the synthesis of the barriers that limited the effectiveness of the tool in terms of pedagogy, technical, and systemic barriers, and it addresses the third research question directly. The burden for both the lecturer and the students lay within the pedagogical sphere. For the lecturer, Mr. A, one of the biggest challenges was the time intensive nature of the formative assessments. *'The workload was unsustainable. With 40 students in the class, each producing multiple drafts and reflections, providing feedback on everything became impossible. I found myself spending hours just navigating between Padlet boards, and my comments became more rushed and less substantive as the semester progressed. This defeated the purpose of a process-oriented approach.'* This was a sentiment echoed in student interviews as well. A student (S11) remarked, *'I uploaded my first draft quickly, hoping for feedback. But by the time the lecturer commented, I had already moved on and was working on the next assignment. It felt like the feedback was for him, not for me to use.'* The students, especially those feeling swamped, repeatedly commented on the reflective task's lack of clarity. Multiple students expressed uncertainty on the appropriate parameters defining a 'strong' reflection.

A student (S12) said the instruction was simply to *'reflect on your writing process.' 'But what does that mean?'* They said, *'Should I mention my grammar? My ideas? My feelings? I wanted examples, but we didn't have any at first.'* The absence of scaffolding, as seen in the mid-semester workshop, triggered the spread of the low reflections documented in Finding 2. It was only when structured prompts and exemplars were provided by Mr. A that quality of reflections began to improve for the struggling cohort in the middle of the semester. Students felt inequity and frustration when using Padlet despite it being frictionless for most users. Students reported issues accessing Padlet and using it. In the interviews, students described slow internet and limited data as unnecessary burdens. Many students reported that commuting and working from places with less performant internet made Padlet difficult to use. A student (S15) claimed that he would have liked to work on his portfolio from home, but he had to stay late on campus when the internet would not let him finish it. Usability issues within the Padlet platform also contributed to the frustration students felt. Many students observed using Padlet to finish their assignments and had to be monitored under non-participant observation. They described the system to upload different file types as confusing, disabling certain columns for editing as well as privacy settings. They communicated their frustrations with problems that students had to solve. Mr. A pointed out that troubleshooting issues of digital systems used for work shifted the focus of their writing and discussing strategies.

There were deeper issues within the academic structure that constrained the implementation. An issue was the tension between the nature of developing an academic portfolio and the fixed tightly packed calendar of the 16-week semester. While the portfolio process is ideally one of drafting, reflecting, responding, and revising, all of that was expected to be done in a time frame designed for more product-focused assessments. *'The syllabus is already overflowing with learning outcomes that we must cover,'* Mr. A said with frustration. *'Finding the space for the portfolio's process felt like fitting a square peg in a round hole. We were always rushing.'* Those time pressures within the system were felt by students, and many voiced the sense of the portfolio's ongoing demands, in and out of other courses. Another issue was the assessment of the portfolios, especially the metacognitive aspects. Mr. A worried over the subjectivity of grading a reflection. *'Thought processes can be so internalized, how do you grade a self-reflection fairly and consistently? I once tried developing a rubric, but distinguishing a 'Proficient' from 'Advanced' level self-evaluation felt very much like a shot in the dark. It's a completely different feeling than marking an essay for grammatical accuracy and for the structure of the argument.'* Such a view was shared by some of the students, arguing that the assessment was unfair. Despite being a high achiever, a student (S04) argued, *'It feels like my grade is based on how well I articulate my emotions and where I went wrong, not on my final piece.'* This shows an issue in assessing metacognitive skills, the tendency to reflect on the performance of integration rather than the cognitive work that the assessment is supposed to reflect.

3.1.4 The Lecturer's Role

TABLE 4/ The Lecturer's Role

Data Source	Initial Approach: Abstract Instructions (Early Semester)	Evolved Approach: Explicit Scaffolding (Mid-Semester Onwards)	Impact on Student Metacognition
Lecturer Interview (Rationale & Reflection)	Mr. A: *'In the first few weeks, I thought students would know what 'reflection' is. I was too abstract. I would say, 'Reflect on your learning,' or 'Think about your writing process.''*	Mr. A: *'I learned that I couldn't just tell them to 'reflect'; I had to show them how. The structured prompts were a game-changer. They gave the struggling students an entry point.'*	Metacognition must be taught and modelled, not just assigned.
Non-Participant Observation (In-Action Strategy)	Observation notes confirmed unclear instructions led to student confusion and off-task behavior during portfolio work.	Observed Scaffolding Prompts: • *'Compare your first and second drafts. What was the most important change you made, and what was your reason?'* (Prompts Monitoring & Evaluation) • *'While writing this essay, what problem did you have? What was your problem-solving strategy and how effective was it?'* (Prompts Monit	Documented the instruction of metacognitive strategies, moving students from confusion to engaged analysis of their own work.

		oring & Adaptation) • *'Reflecting on your portfolio, what do you consider your strengths? What is your most persistent challenge, and what is one goal you can set for the next assignment?'* (Prom pts Evaluation & Future Goal Setting)	
Portfolio Document Analysis (Re sulting Evidence)	Early Submissions S10: Predominantly Level 1- 2 reflections. Characterized by descriptive statements *'I worked hard on this essay,'* with no strategic.	Later Submissions S10: Level 3 (Proficient) reflectio ns. *'I saw I had a problem with my conclusion. So, my strategy was to discuss the implications. I asked myself, 'So what?' For my next essay, my goal is to write the conclusion first'*	Students progressed from describing tasks to analyzing problems, evaluating strategies, and setting future goals.
Overarching Implication	The digital portfolio alone failed to foster metacognition, it was perceived as an add-on task.	The lecturer's strategic scaffolding transformed the portfolio into a tool for making thinking visible and developing self-regulated learners.	Success hinges on the lecturer's role as a 'thinking strategist' who provides the framework for metacognitive development.

The implementation of the digital portfolio was not a self-executing intervention, but its success was because of the implementation of the pedagogical approaches designed by Mr. A to assist students through the unfamiliar terrain of metacognitive reflection. This finding also illustrates the principle that the effectiveness of the tool was mostly a function of the surrounding instructional support, thus partially closing the gap described in RQ1 regarding the perceptions of the portfolio's role and RQ3, which describes the challenges in implementation. The first implementation did not have this kind of scaffolding. Mr. A stated in his interview, *'In the first few weeks, I thought students would know what 'reflection' is. I was too abstract. I would say, 'Reflect on your learning,' / 'Think about your writing process.' I noticed the confusion right away in their first portfolio entries, they were descriptive.'* This was confirmed by the analysis of early portfolio submissions which were scored at Level 1 or 2 on the reflective rubric and included the statement, *'I worked hard on this essay,'* which lacks any evaluative / strategic element. During the non-participant observation at the mid-semester activity, a turning point was captured. When Mr. A encountered a deficiency in the quality of initial reflections provided, he forwent delegation of the task to the students and pivoted to teaching instead. The observation notes describe how he transitioned from providing unclear instructions to guided steps aimed to trigger metacognitive functions. She provided detailed examples and facilitated a discussion around them, including questions such as the following: 'Compare your first and second drafts. What was the most important change you made, and what was your reason?' (Prompting Monitoring and Evaluation) 'While writing this essay, what problem did you have? What was your

problem-solving strategy and how effective was it?' (Prompting Monitoring and Adaptation) 'Reflecting on your portfolio, what do you consider your strengths? What is your most persistent challenge, and what is one goal you can set for the next assignment?' (Prompting Evaluation and Future Goal Setting).

Mr. A explained this evolution of his teaching approach as, *'I learned that I couldn't just tell them to 'reflect'; I had to show them how. I saw a change for the better with prompts. They offered the students whose work was too 'open-ended' a starting point. Having a question to respond to made them engage with their work in a different way.'* The results of this approach were evident in the students' portfolios. Reflection prompted the most significant improvement in metacognition, especially for students initially placed in the lower tiers. A student (S10) stood out as he had awesome reflections later. He focused on the issue of the conclusions in Drafts 1 and 2, and on the question *'So what?'* that he posed to himself. Having a summary was a shift to a critique. *'Pursuing the next essay, I aimed to write the conclusion first to establish the end point of the essay to work toward. I would consider this a Level 3 (Proficient) score or higher, because this entry demonstrates a chain of metacognition: isolating a particular challenge, using a particular approach, assessing the approach, and setting a target for the next move—responding directly to the scaffolding.'* This is why the digital portfolio did not foster metacognition on its own, it served a purpose. The lecturer's scaffolding, providing direct prompts, guiding the person through reflective practice, building a self-assessment spiral, was what turned this vessel into a filled vessel for metacognitive engagement.

3.2 Discussions

The balance between student empowerment and student overwhelm maps closely onto Bandura's (1997) social cognitive theory, particularly the self-efficacy and self-control aspects. Students experiencing the type of empowerment fit the description of self-regulated learners provided by (Zimmerman (2002), that is self-control to adjust learning at multiple levels. The portfolios provided (Hattie and Timperley (2007) 'process feedback' by showing students their work to understand their progress along a developmental trajectory, not just post-evaluative comments on final products. Overwhelmed students' experiences fit the cognitive load theory (Sweller, 1988) because the demands of writing, managing technology, and reflective writing were so integrated that their cognitive resources were disengaged to metacognitive work. The range of metacognitive development within the portfolio artifacts illustrates the applicability of Flavell's (1979) model within the Indonesian ELT context. The transition from descriptive to strategic to evaluative reflections captures Schraw's (1998) metacognitive awareness framework for learning and indicating progress. The descriptive reflections at Level 1 relate to what Veenman (2012) refers to as 'off-line metacognition,' where students have a less awareness of the learning at hand. The reflections at Level 2 showcase what Winne and Hadwin (1998) refer to as 'metacognitive monitoring,' where students recognize challenges and apply problem-solving The Level 3 evaluative reflections display what Butler and Winne (1995) classify as 'knowledge-building,' advanced self-regulation through self-assessment and planning for the future.

The challenges in implementing this study resemble obstacles delineated by Fullan (2007), especially the conflict between innovative assessment practices and the institutional settings. The workload and timeliness of feedback issue is in parallel with Boud and Molloy (2013) fundamental constraints unsustainable feedback practices in process-oriented assessment. The technology issues, chiefly the digital divide and platform usability, are in parallel with Selwyn (2016) critique on educational technology which is context blind and inequitable within educational systems. The contradiction between the recursive nature of the portfolio and the packed academic schedule relates to Tyack and Tobin (1994) the 'grammar of schooling' concept. Difficulties in assessing metacognition points to central issues regarding the assessability of internal cognitive processes that Brookhart (2013) raised on higher-order thinking assessment. The influence of lecturer scaffolding as evidenced in the findings is the most important. This aligns with the ideology of Vygotsky (1978) and the influence of scaffolding in helping cognitive development.

This is also evident when lecturers shift from instructions to metacognitive scaffolding. This is also part of what Palincsar and Brown (1984) describe as a component in the formation of strategic thinking and that is bringing cognitive processes to the level of the learners and making it accessible. The prompts that triggered the monitoring and adjustment represent what Shuell (1990) describes as 'cognitive coaching.' This is where instructors provide the framework within which students develop self-regulation. This is important in extending Lam's (2018) work on portfolio implementation, which suggests that the tool on its own is inadequate without what van de Pol et al. (2010) describe as 'contingent scaffolding.' This is scaffolding that responds to the learner's needs and levels of readiness.

The difficulties surrounding the implementation of innovative assessment mirrors what Carless (2015) notes regarding the tension within the examination cultures in Asia. Students' early difficulties with reflective writing corresponds with what Cortazzi and Jin (1996) observed on learning styles and on Indonesian students' more knowledge reception and less knowledge construction in the reflective portfolio. Nevertheless, the development of metacognitive skills for many students within the context of subjective marking shows that cultural fundamentalism lacks explanatory power and, as Li (2012) suggests, students from scaffolded diverse educational settings can develop self-regulation. This study explains that determining whether a digital portfolio is an effective assessment tool is a multifaceted question. It defends Lee (2017) assertion about more process-oriented approaches to writing assessment while documenting more constraints, as Habibi and Sofwan (2015) pointed out in the context of assessment practices in Indonesia. It can be inferred that successful implementation requires what Wenger (1998) calls a 'community of practice.' In such a case, assessment is viewed and practiced as a shared pedagogical enterprise instead of just a tool for measurement. The digital portfolio can respond to the demands for more autonomy in learning that Mistar and Umamah (2014) pointed out as gaps concerning Indonesian students.

CONCLUSION

With regard to the first question about stakeholder perceptions, the response is multifaceted and even contradictory. High-achieving and self-efficacious students regarded the digital portfolio as transformative, fostering ownership, visibly tracking learning progress, and empowering them to design their learning narrative, but to students with lower self-efficacy and self-regulation the digital portfolio equivoked feelings of being overwhelmed, confused, and cognitively overloaded. This was also noted by the lecturer, who stated that a portfolio's success hinges on a student's readiness to take responsibility for their learning. This indicates that the digital portfolio is not a wholly positive endeavor, but rather one whose effect is conditioned by the learner's characteristics.

Regarding the second research question, the analysis of the portfolio artifacts showed documented evidence of a developmental range concerning metacognitive exposure. It showed how the students' reflective writing evolved from Level 1 descriptions that were focused on the product toward Level 2 strategic reflections that involved some monitoring, problem setting, and identification of approaches that were used and addressed, and to Level 3 evaluative reflections that spanned across the semester, assessed and synthesized personal growth, and established goals for the future. This range has empirical evidence that digital portfolios can capture the micro-aspect development of metacognitive skills of planning, monitoring and evaluating as proposed by Flavell, to assess cognitive processes that were previously thought to be purely internal.

With regards to the third research question, the study uncovered substantial implementation gaps driven by interconnected pedagogical, technical, and systemic challenges. Within the pedagogical challenges, unsustainable lecturer workloads and the resultant feedback delays, the initial ambiguity in reflective tasks, and the absence of timely feedback contributed to students' disengagement. The digital divide and issues surrounding platform usability contributed to diverted learning cognitive load.

Within the systemic challenges, the tension between the recursive, process-oriented nature of the portfolios and the rigid, condensed structure of the semester posed challenges to the tool's integration, alongside the subjectivity of assessing metacognition. Most importantly, the study revealed that the greatest facilitator to addressing these challenges was the lecturer's role as a strategic metacognitive scaffold. Moving from instructions to guided scaffolding with the help of structured prompts was the element that reframed the portfolio as a tool in transforming self-regulated learning, rather than a task to finish. This study has several implications. For one, pedagogical practice must learn that the successful implementation of portfolios requires more than the adoption of a tool and instead requires an adaptation of the pedagogy that considers the sustained scaffolding of metacognition, the balancing and differentiation of scaffolding for learners of disparate abilities, and the use of technology. For policy at the institutional level, and especially with regard to Indonesia's MBKM policy, this study signals that to support the vision of the policy, there must be institutional changes beyond mere professed good will. These changes include revising calendars for process-oriented assessments, training on alternative assessments, and building digital equity.

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