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STUDENT AGENCY IN DIGITALLY MEDIATED PERSONALIZED LEARNING: VOICES FROM INDONESIAN EFL STUDENTS IN HIGHER EDUCATION

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Abstract
This study uses a student agency framework to examine the enactment of agency dimensions and levels within digitally mediated personalized learning (DMPL) in an Indonesian EFL bichronous (synchronous and asynchronous) setting. This qualitative case study triangulated classroom observations with an open-ended questionnaire administered to 21 undergraduates from a Content Writing course in the English department of a private university in Jakarta, who are participating in an internship program and enrolling in courses. The analysis involved a thematic investigation of individual, relational, and contextual dimensions of student agency, as well as the student agency level. The results show that students primarily demonstrated high agency, with minimal occurrences of low agency across the three project-based activities (QUEST, Playlist, and Genius Hour). It implies the need for instructional design, a sociocultural perspective, and for the teacher to set up a dynamic system of empowered learning in DMPL within the EFL writing classroom. For future direction, it suggests a longitudinal study of multicultural classrooms to examine the development of student agency over time and across courses and to discover potential factors that boost and sustain it.

Keywords: agency, digitally mediated personalized learning, EFL, higher education

Introduction
Promoting student agency in higher education is essential for equipping students with the 21st-century competencies demanded by global industry. The first rationale is that practicing student agency cultivates self-regulation and 21st-century skills, including critical thinking, creativity, collaboration, digital competence, and leadership (Battelle for Kids, 2019; Birru, 2024). When students practice their agency through goal-setting, learning tracking, self-assessment, and reflection, they sharpen the metacognitive routines that underpin these skills. The next rationale concerns disruptive technology, calling for adaptive teachers to

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comply with educational transformation in higher education. To illustrate, in implementing personalized learning (PL), teachers develop more flexible instructional designs to meet students' individual needs, values, and abilities. In this regard, the focus of learning shifts from the teacher to the students, thus altering the teacher's role from a source of knowledge to a facilitator in flexible collaborative learning, as reported by Damşa et al. (2010), Prain et al. (2013), and Stenalt (2021). The last rationale stems from the flexibility offered by the educational transformation itself. This transition promotes student agency and engagement by enabling them to set goals, choose learning strategies, and monitor their progress in PL (Deed et al., 2014; Klemenčič, 2015). Consequently, teachers provide more flexible activities (e.g., a writing playlist project), immediate feedback, and opportunities for structured reflection throughout the learning process. Panadero (2017) and Prain et al. (2013) prove that these activities enhance student self-assessment and metacognitive development, thus fostering student agency. It is clear that flexibility in the activity cycle enables students to monitor and adjust their learning path. Reflective learning helps them enhance their metacognitive practices and sense of ownership, which directly promotes student agency.

To date, studies on student agency in global higher education have been broad in scope; they overlook English as a Foreign Language (EFL) courses and place sole emphasis on the student agency dimension. Take the example of the studies by Nieminen et al. (2022), Luo et al. (2019), and Rasulova and Ottoson (2022), which focused on the individual dimension of student agency in higher education. They provide a robust account of individual agency (e.g., psychological paradigms, perceived learning experiences, and self-regulated learning strategies) but undertheorize other aspects of agency. Another study by Adhikari (2024) focused solely on the relational aspect of student agency in higher education EFL, specifically engagement and activities. Thus, this investigation examines multidimensional student agency in higher education within the EFL classroom, particularly in digitally mediated personalized learning (DMPL).

Moreover, in Indonesia, particularly in EFL and online contexts, previous studies have not linked personalized learning to the sociocultural dimension of student agency. For instance, Mulyani and Novianti (2022), Pratiwi and Waluyo (2023), and Rohadi et al. (2023) focused on students' individual agency in the EFL classroom. However, their studies examined different aspects, including achievement and resilience (Mulyani & Novianti, 2022), digital autonomy (Pratiwi & Waluyo, 2023), and online instruction (Rohadi et al., 2023). These studies are valuable for building theory on agency in technology-mediated contexts, as they were conducted during the COVID-19 pandemic and remote online learning. However, they raise questions about the long-term development of student agency because they were conducted during an emergency. In another online context, Bumela (2021) proposed a new writing pedagogy using innovative tools, such as a verbal approach, reading for emotions, and aesthetics to activate students' individual agency, particularly in EFL academic writing. However, the study is largely programmatic and reflective. All in all, these studies do not explore other dimensions of student agency. Therefore, applying sociocultural perspectives in this investigation is imperative. Besides, it aligns with the Indonesian Merdeka Belajar Kampus Merdeka (MBKM) curriculum, which emphasizes autonomy, flexibility,

and authentic learning (Direktorat Jenderal Pendidikan Tinggi, 2020; Wahyuningtyas et al., 2022).

Sociocultural perspectives, as indicated earlier, play an essential role in yielding a more profound understanding of how digitally mediated personalized learning (DMPL) can increase student agency and strengthen learning communities. Thus far, the implementation of DMPL has been studied in different ways and from multiple perspectives, promising consistent benefits for student agency, such as enhancing flexibility, collaboration, autonomy, and personalization, supported by bichronous (synchronous–asynchronous) integration. However, these benefits are not inherent to the modality itself; they depend on other variables. To illustrate, findings from Cahyani et al. (2021), Bond and Bedenlier (2019), and Xie et al. (2018) demonstrate these possibilities, yet overlook the variability of learner readiness, instructional quality, and contextual constraints that shape actual outcomes. Further, Yuyun et al. (2024) provided evidence that personalized project-based learning depends on well-structured pedagogical design rather than on technology alone. Thus, the literature suggests that deliberate learning design and bichronous learning are effective in supporting DMPL, thereby cultivating metacognition (individual) and dialogic engagement (relational).

Building on this, this study employs the dimensions of student agency presented by Jääskelä et al. (2017), including individual, relational, and contextual. The first dimension, encompassing meaning-oriented learning, self-efficacy, competence beliefs, and participation activities, focuses on individual agency. The second dimension, covering power relationships, peers as resources for learning, and the emotional atmosphere, highlights the relational aspect. Finally, the last dimension, offering opportunities for active participation, influence, and decision-making, emphasizes the context. These three-layered dimensions are essential for further investigating student agency from individual and sociocultural perspectives. They serve as enablers of agency, boosting students' engagement, persistence, interactions, autonomy, and ownership in their learning experience. To see the manifestation of student agency within DMPL in the EFL classroom, the analysis uses the spectrum of teaching practices by Larsen-Freeman et al. (2021).

To sum up, it is clear that the available studies are still far from well-established if they are to be included in studies of student agency in DMPL within the EFL context. Both the coverage and the depth are by no means fully comprehensive. Hence, it is imperative to examine Indonesian university students' agency and their levels in DMPL within the EFL classroom, particularly how online bichronous project-based activities enact agency in EFL writing. This point provides teachers and instructional designers with strategies to cultivate student agency. Therefore, this study has two research questions:

1. How are the individual, relational, and contextual dimensions of practicing student agency manifested in digitally mediated personalized learning (DMPL)?
2. How are levels of student agency demonstrated in the EFL writing classroom?

Literature Review

Student agency

The framework of student agency is originally grounded in psychology and social-cognitive theory (Bandura, 1982). Larsen-Freeman et al. (2021), Marín et al. (2020), and Zeiser et al. (2018) share a similar idea on student agency as ownership, choice, and engagement in learning. However, their conceptualizations rest on different epistemological assumptions. Bandura's (1982) social-cognitive view treats agency as an individual psychological capacity, grounded in self-efficacy and intentional action. Zeiser et al. (2018) remain close to this cognitive tradition, emphasizing self-efficacy and persistence in acquiring and internalizing new knowledge. Marín et al. (2020) extend this view into technology-enhanced contexts, where agency is demonstrated through responsibility and choice within a digital environment. Larsen-Freeman et al. (2021), however, offer a more complex and sociocultural orientation, viewing agency as dynamic, relational, and shaped by interactions and learning conditions. These perspectives are broadly compatible but differ in emphasis. Cognitive models locate agency within the individual, whereas sociocultural models locate agency in the interplay between learners, tools, and contexts.

Jääskelä et al. (2017) define agency in higher education as students' experience of gaining access to individual, relational, and contextual resources, as depicted in Figure 1. This model offers a multidimensional framework for student agency, enabling students to engage in purposeful, intentional, and meaningful learning. This multidimensional view is relevant to language learning, which involves social interaction, and it shows how learners' choices and actions are shaped not only by personal motivation but also by peer dynamics, teacher scaffolding, and opportunities in the learning environment. By integrating these domains, the model provides a more comprehensive lens for examining agency in DMPL within EFL settings.

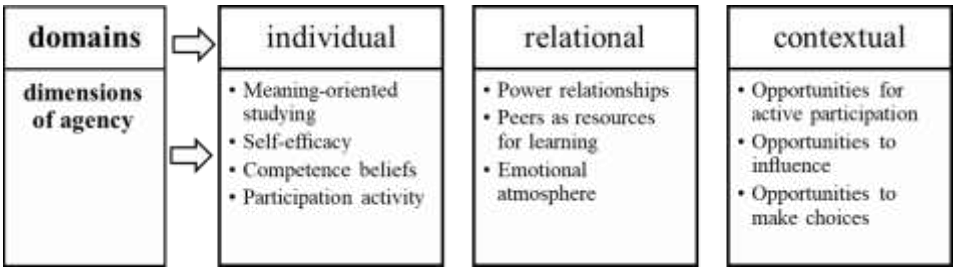

Figure 1. Dimensions of agency in three resource domains (Jääskelä et al., 2017)

As seen in Figure 1, Jääskelä et al. (2017) categorize the framework of student agency into individual, relational, and contextual domains. The multifaceted dimensions of agency show how students' internal and external elements connect. Intrinsic elements help students self-regulate, adapt, and excel in different higher education environments. Intrinsic motivation (Ryan & Deci, 2000), self-efficacy, and competence beliefs (Schunk & Zimmerman, 2011) support engagement and social interaction (Packer & Goicoechea, 2009). Agency also has external dimensions: relational and contextual. Students encounter power interactions with both horizontal equality among peers and vertical collaboration with teachers or

institutions. These relationships enhance agency (Mercer, 2012; Vygotsky, 1978) by promoting self-direction, motivation, and engagement (Tormey, 2021) and assisting problem-solving (Liao, 2019). At the contextual level, students are not merely passive users (e.g., Lipponen & Kumpulainen, 2011) but can also influence curriculum and instructional methods throughout the learning process (Hökkä et al., 2017; Lipponen & Kumpulainen, 2011). In critical pedagogy (e.g., Essabari & Hiba, 2025), however, practicing agency is challenging to an extent, especially when institutional constraints and a tight curriculum are in place, such as in examination-oriented EFL settings. Thus, Oruç (2024) suggested that implementing a negotiated curriculum provides choice, participation, assessment, collaboration, and student-driven initiatives. These features improve engagement, motivation, self-confidence, and enjoyment, even in a test-oriented environment.

Thus far, as mentioned earlier, existing EFL student agency is overly psychologically oriented with a single dimension (individual) and technology-focused. Hence, to identify multidimensional agency and the level of student agency in EFL classrooms, this study uses a spectrum of teaching practices ranging from low to high agency proposed by Larsen-Freeman et al. (2021). Figure 2 presents a clear and useful framework that connects categories of student agency with enabling conditions and illustrative activities to foster student agency and promote students' belief in their capacity for improvement. This framework contributes to the sociocultural dimensions of agency, such as scaffolding, feedback, and collaborative activities, to create meaningful engagement.

Learner Agency	
High	Low
Teachers specify course goals and lesson objectives.	Students are invited to set meaningful personal goals in partnership with their teachers.
Content is derived from the curriculum/ coursebook.	Students generate their content.
Teaching is teaching-centered.	Teaching is learning-centered.
The teacher follows a fixed lesson plan.	The teacher responds to what is taking place in the lesson.
The teacher follows a fixed lesson plan.	The teacher responds to what is taking place in the lesson.
Students are required to use English exclusively during lessons.	At times, students use a language other than English.
Activities are closed.	Activities are more open-ended.
Students reproduce the language introduced by the teacher.	The teacher responds to what is taking place in the lesson.
Students develop the ability to adapt the language they learn in the classroom to the contexts or conditions in which they need to communicate.	Students form a learning community where they are challenged and learn together.
The teacher asks all the questions.	Students are encouraged to ask questions of the teacher and of one another.

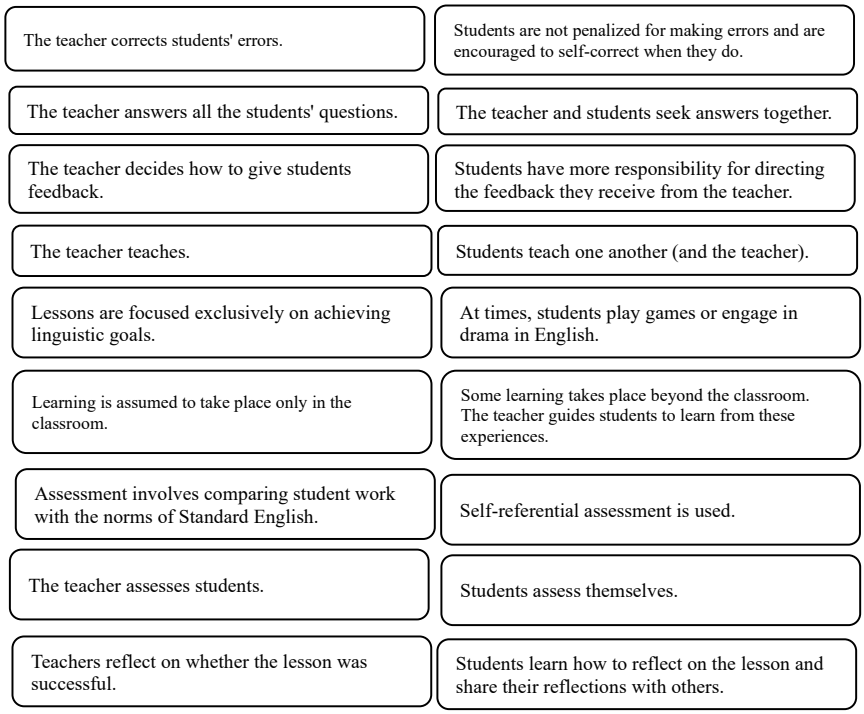

Figure 2. A range of teaching practices from low-agency to high-agency (Larsen-Freeman et al., 2021).

Student agency in Digitally Mediated Personalized Learning (DMPL)

In DMPL, the role of technology is implemented by the integration of synchronous and asynchronous (bichronous) online learning. This dual modality integrates synchronous proximity with asynchronous depth, offering advantages for implementing DMPL. Some scholars accentuate advantages of this combination, such as flexibility, collaboration, autonomy, self-regulation, personalization, and adaptability. For instance, Cahyani et al. (2021) noted that pedagogical flexibility enables students to participate in real-time interactions while simultaneously accessing content and tasks at their own pace. In this study, learning flexibility is essential due to the implementation of an internship program for 7th-semester students in the English Department. Other scholars, such as Bond and Bedenlier (2019) and Xie et al. (2018), stated that dual modality enhances collaborative learning through synchronous discussions and peer review. Perveen (2016), Raymond et al. (2016), and Xie et al. (2019) found that asynchronous exploration and reflection foster autonomy and self-regulation. Yuyun et al. (2024) exemplified the use of various digital tools in both modalities to personalize project-based learning activities and accommodate diverse student preferences and pacing needs. However, these advantages may fuel debate over teachers' control and the inequities it creates. Brod et al. (2023) note that teachers tend to control learning pace and limit student choice and voices during synchronous activities. Yakovleva and Kulikova (2022) reminded teachers that asynchronous spaces may increase inequities in self-regulation and digital literacy. Thus, it is worth noting that bichronous online learning strategies should be paired with instructional designs that encourage metacognitive awareness and dialogic learning (Alexander, 2019; Bray & McClaskey, 2013; Marín et al., 2020).

Moreover, some features of DMPL, such as goal-setting, collaboration, assessment, reflection, choice, and flexibility, support the student's role as the center of learning, thereby boosting student agency. These features are interconnected to dynamically shape, monitor, and evaluate students' personalized learning and to promote student agency, as shown in previous studies. Bray and McClaskey (2013) illustrated how students set personal goals at the beginning of PL instruction. Students benefit from this initial phase of learning, such as improving their awareness of ownership and motivation, and allowing them to track their development and modify their learning strategies (Lee & Hannafin, 2016). Yakovleva and Kulikova (2022) and Yuyun et al. (2025) added how adaptive tracking tools complement goal setting and support students' abilities during self-directed learning in DMPL. However, this learning track may raise a discrepancy between high- and low-achieving students, as discussed by Brod et al. (2023). Other features, such as collaborative and participatory features, encourage individual and collective agency among varied students (Marín et al., 2020; Jääskelä et al., 2017).

Further, Yuyun et al. (2025) illustrated that peer discussion, feedback, and assessment are used in a dynamic collaboration to establish a feedback loop that promotes autonomy, impact, and sustained engagement. Many scholars (e.g., Yakovleva & Kulikova, 2022) doubt, however, whether collaboration tools can guarantee equitable participation or shared agency. Thus, Jääskelä et al. (2017) and Zmuda et al. (2015) suggested that the teacher's role in providing a systematic design with structured supports and culturally responsive scaffolding is necessary to minimize students' potential challenges in negotiating the complexities of self-directed learning, especially in diverse or digitally mediated contexts. To improve students' metacognitive regulation, Yuyun et al. (2025) and Yakovleva and Kulikova (2022) demonstrated the effectiveness of structured reflective practices. To add to this, Marín et al. (2020) and Patrick et al. (2013) stated that students incorporate their input and reinforce their identity and voice through flexible and differentiated pathways. Lastly, Nieminen et al. (2022) position learning analytics as a crucial element, depicting how continuous, data-driven feedback facilitates flexible learning pathways and adaptive pacing.

From the preceding discussion, it is clear that previous studies imply that cultivating agency through personalization involves more than merely providing choices; it requires a learning environment that supports flexibility with guidance, reflection with practice, and personal goals with collaborative meaning-making.

Student agency in the Indonesian EFL classroom

Autonomy, flexibility, and authentic learning are the focus of the current Indonesian Merdeka Belajar-Kampus Merdeka (MBKM) curriculum (Direktorat Jenderal Pendidikan Tinggi, 2020; Wahyuningtyas et al., 2022). This paradigm provides space to improve student agency at the tertiary level, particularly in the practice of an internship program for EFL students. This program requires more flexible learning to accommodate students' learning pace, needs, and preferences. Thus, teachers develop flexible instructional activities to promote student agency. Further exploration of Yuyun et al.'s (2024) scaffolded projects, such as the QUEST inquiry model, Genius Hour, and Playlist, is undertaken to investigate student agency in DMPL within EFL content writing. In their study, Yuyun et al.

(2024) noted a transformation in the writing process from a procedural task into a reflective and communicative practice. This shift promotes agency using structured reflection, peer interaction, and iterative revision. Bray and McClaskey (2013) and Lee and Hannafin (2016) confirmed that students' voices in reflective practices promote their agency. In the DMPL context, as discussed in the previous section, bichronous online learning offers flexibility for implementing Yuyun et al.'s (2024) scaffolded projects, enabling students to take ownership, engage, self-regulate, and develop metacognition. As a result, it boosts the individual, relational, and contextual dimensions of agency in learning.

Method

Research design

This qualitative study used a case study design to investigate how the individual, relational, and contextual domains of student agency are manifested in DMPL and to identify the levels of student agency demonstrated in EFL classrooms. This study involved a single group of 7th-semester EFL students enrolling in the Content Writing class at the English Department of a private university in Jakarta, Indonesia. This specific group provides a comprehensive and contextually grounded understanding of student experiences and outcomes, capturing nuanced pedagogical and learner dynamics in DMPL within the EFL classroom. As a classroom teacher, the researcher served as an insider researcher, physically present to observe students' interactions (Stake, 1995) in DMPL within the EFL classroom. This insider researcher captured students' behaviors, interpretations, and perspectives (Woods & Sikes, 2022) on the three dimensions of student agency to gain a greater understanding of the class and its learning culture (Unluer, 2015). This study managed a research protocol, such as the observation protocol, to minimize bias (Fleming & Zegwaard, 2018).

Setting and participants

The selection criteria in the study are to comply with DMPL and the EFL contexts. Selecting 21 EFL students having diverse origins, ages, learning styles, interests, and preferences is the first rationale of DMPL and the EFL contexts. These 7th-semester EFL students, aged 18-20, have various learning styles: visual, aural, read/write, and kinesthetic. These heterogeneous characteristics form key parts of instructional strategies in DMPL to accommodate students' learning pace and paths. The second rationale is choosing the Content Writing course due to its flexibility. This course integrated synchronous and asynchronous (bichronous) online classroom environments, using the video conferencing platform Zoom and a learning management system (LMS). This elective course is available to seventh-semester students who have engaged in an internship program under the MBKM curriculum. This online bichronous learning was to facilitate student mobility and learning flexibility, allowing them to acquire excellent skills and an in-depth understanding of a particular phenomenon (Creswell & Clark, 2018). The last rationale is the student's reliability in completing self-reflection. These selected students had extensive experience with both online synchronous and asynchronous teaching and learning activities over the past three years under the department policy requiring the use of the LMS for all courses. Regarding ethical considerations, the consent form was distributed to participants at the beginning of

the research. They were also assured that their personal data would be kept entirely confidential.

Data collection

The classroom observation and an open-ended questionnaire were applied to examine the individual, relational, and contextual dimensions of student agency manifested in the DMPL, as well as the levels of student agency demonstrated in teaching and learning practices in EFL classrooms. This study adopted Jääskelä et al.'s (2017) framework of student agency and Larsen-Freeman et al. (2021)'s spectrum of teaching and learning practices to address the first and second research questions. Students were provided with a consent form before the classroom observation and the administration of the open-ended questionnaire. This study conducted two series of observations to capture the practice of student agency in DMPL activities across three project-based activities: the QUEST inquiry model, Genius Hour, and Playlist. This study organized online synchronous and asynchronous observations to increase the reliability of evidence, reduce bias, and minimize the risk of missing crucial events during the observation protocol (Cohen et al., 2007). The online synchronous observations (individual and class conferences) were facilitated by Zoom video conferencing and recorded. The online asynchronous observation was conducted through LMS analytics. Further, an open-ended self-reflection questionnaire was administered to 21 English Department students at the end of their respective projects to complement the observations.

Data analysis

To analyze the collected data from field notes (video recordings and LMS activity traces) and students' responses (reflections), the five-phase process outlined by Bingham and Witkowsky (2022) was adopted. In this adopted process, inductive and deductive analyses were conducted simultaneously. Phases 1 and 2 involved deductive analysis to organize data into predetermined categories derived from literature or theory and aligned with the research purpose or questions. Phases 3 and 4 were inductive analysis to understand and interpret data through open or initial coding, pattern coding, and theme generation. The last phase integrated deductive and inductive analyses to explain the data by relating it to the theories and literature. Figure 3 illustrates the five-phase process of Bingham and Witkowsky (2022) for analyzing the individual dimension of student agency.

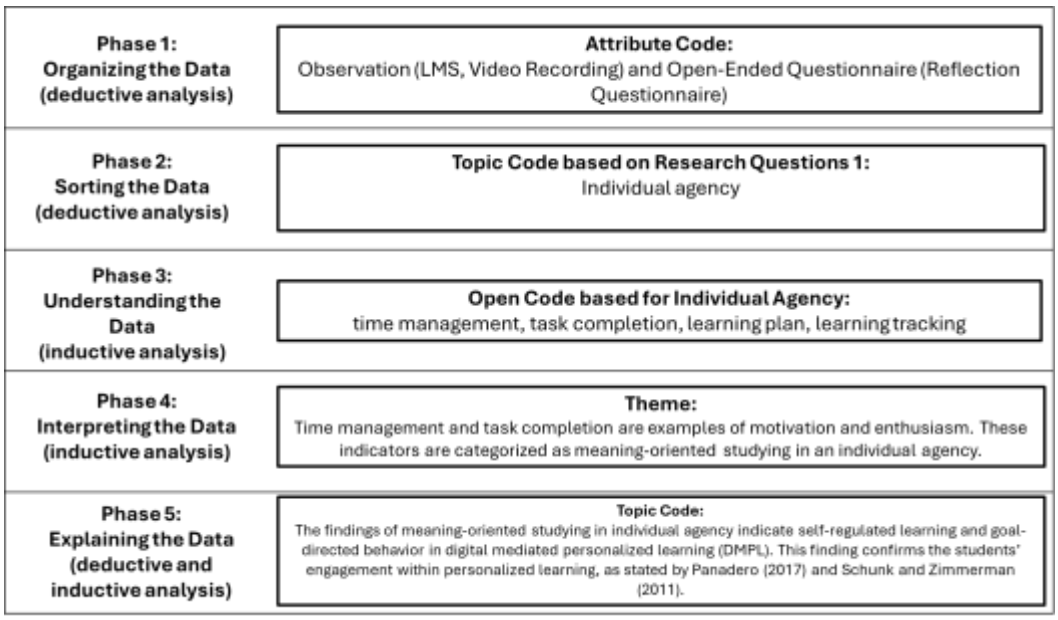

Figure 3. An illustration of the five-phase process in qualitative data analysis (Bingham and Witkowsky, 2022)

Following Bingham and Witkowsky (2022), the first analysis identified the student agency dimensions outlined by Jääskelä et al. (2017). As illustrated in Figure 3, in Phase 1, codes for participants, categories, and indicators of the 'individual' dimension of agency were created. In Phase 2, the sorted data from field notes and students' self-reflection responses regarding individual agency were then aligned with research question 1. In Phase 3, segments, such as time management, task completion, learning plan, and learning tracking, were initially coded to identify emerging ideas related to meaning-oriented studying. To interpret the data in Phase 4, themes such as time management and task completion were generated as examples of motivation and enthusiasm; learning plan and learning tracking were identified as examples of goal setting. These themes were further developed into findings that reflect meaning-oriented study within an individual agency, as evidenced by time management, reading references, completing assignments, and participating in the LMS forum. This finding implies that students' motivation and enthusiasm enable them to learn and develop their skills by catching up on LMS activities, tracking their learning progress, and staying motivated while taking a concurrent internship program. Finally, the findings were further analyzed by synthesizing the theoretical framework and contextualizing it within the literature.

The second analysis aimed to identify the level of student agency in EFL teaching and learning practices, drawing on the work of Larsen-Freeman et al. (2021). The same data analysis procedure was implemented using the five-phase process described by Bingham and Witkowsky (2022, in Bingham, 2023). Following Larsen-Freeman et al. (2021), the coding instrument's categories and indicators were organized along a range of teaching practices, from low agency to high agency, with explicit examples to guide coders in their data analysis. For instance, setting meaningful personal goals, content generation, a learning-centered approach, open-ended activities, a learning community, forum discussions,

feedback, students' self-assessment and self-reflection, the teacher's response, teacher assistance, and collaboration between the teacher and students were coded as evidence of a high level of agency. The curriculum/coursebook material, the teaching-centered approach, the fixed lesson plan, and the closed activities were identified as evidence of low agency.

Trustworthiness

To improve the credibility of the study's results, the researcher utilized methods recommended by Lincoln and Guba (1985) and reduced risks to credibility through triangulation. In this study, triangulation was conducted through methodological triangulation (observation and open-ended questionnaire within reflective journals), theoretical triangulation (drawing on related theories of student agency, personalized learning, and EFL), and data source triangulation (utilizing both individual and group data).

Findings and Discussions

Findings

The data from classroom observation field notes and an open-ended questionnaire on students' self-reflection are analyzed using both the framework of student agency proposed by Jääskelä et al. (2017) and that of Larsen-Freeman et al. (2021). The initial analysis implemented the framework proposed by Jääskelä et al. (2017) to identify the individual, relational, and contextual domains that facilitate the practice of student agency. The second analysis used the student agency-level criteria proposed by Larsen-Freeman et al. (2021) to identify student agency levels in the bichronous online EFL classroom. These analyses complement each other to address the first and second research questions. It is worth noting that the participants are referred to as S1, S2, S3, and so on.

Manifestation of individual resources and opportunities for practicing student agency

Individual domains include four dimensions: meaning-oriented studying, self-efficacy, competence beliefs, and participation activity. In this study, the manifestations of meaning-oriented studying are evidence of students' agency through intentionality, goal setting, and intrinsic motivation or enthusiasm, as shown in Table 1. The findings reveal that students' intentionality and goal-setting were observed through the Individual Learning Planner and a weekly progress report. Students demonstrated intentionality and goal-setting by managing their time, reading references, completing assignments, and participating in the LMS forum. In this regard, students believe they have learned and developed their skills. This belief was shown through their motivation and enthusiasm to catch up on LMS activities, track their learning progress, and stay motivated while taking a concurrent internship program.

Table 1. Manifestation of the individual agency through meaning-oriented studying

No	Dimension	Example Quotes
1.	Meaning-oriented studying	
	Intentionality	*Yes, I can better use my time by reading references, immediately applying them, doing assignments, and*

No	Dimension	Example Quotes
		discussing them in forums with friends to gain more knowledge. (S2)
	Goal setting	*Yes, the benefit I get is that I better understand other topics through friends and lecturers across various sources, which enhances my critical thinking*. (S2)
	General motivation and enthusiasm	*I tried to track what they had done so far*. (S17)

In Table 2, students demonstrated their self-efficacy by taking on challenges they identified in their Weekly Progress Reports, self-assessments, and reflections at the end of the QUEST, Playlist, and Genius Hour Projects. For instance, students repeatedly revisited the material and sought extra resources when they encountered challenges comprehending the content-writing theories. This key practice is to increase their understanding of writing a critical review during the Playlist Project. Besides, when managing time to complete the task, students found it challenging to arrange due dates or manage their to-do lists. Students also improved their self-efficacy by creating digital content and publishing their work. From the evidence, this study indicates that self-efficacy fuels the beliefs and behaviors that enable students to choose, act, persist, reflect, and influence. These core actions make agency real and sustained.

Table 2. Manifestation of the individual agency through self-efficacy

No	Dimension	Example Quotes
2.	Self-efficacy	
	Beliefs	*When completing tasks and assignments using the Playlist Project, I encountered challenges comprehending the foundational materials essential for my subsequent critical review. Consequently, I revisited the material repeatedly and sought supplementary resources to enhance my understanding of the subject*. (S14)
	Being capable	*Made me more confident to publish the writing I made*. (S10)

Students' self-agency is also demonstrated by their competence beliefs, which refer to perceptions of having sufficient knowledge and skills, accomplishing desired goals, and possessing the necessary know-how, as shown in Table 3. This study shows that students' competence beliefs are formed by their understanding of course content and the LMS instructions. The teacher elaborated and provided the course syllabus, course description, and project description (in the form of documents and audiovisual presentations) via video conference and in the LMS. Having understood the course content and instructions, the students possessed sufficient knowledge and skills to complete project-based activities. To illustrate, prior to the Genius Hour project, students brainstormed the components required to create the content, including the topic, the necessary application for publishing, the content itself, and the process or steps. Ultimately, they achieved their goal by producing their writing artifacts (digital content). This DMPL also enables students to boost their competence beliefs by self-evaluating their knowledge and skills to accomplish desired tasks and learning outcomes through self-assessments and reflections at the end of the respective project. Through competence, students can

successfully perform tasks, change what they choose to do, how persistently they act, and how skillfully they self-regulate, thus directly strengthening agency.

Table 3. Manifestation of the individual agency through competence belief

No	Dimension	Example Quotes
3.	Competence beliefs	
	Perceptions of sufficient knowledge and skills	*I can acknowledge the knowledge I gained from that module*. (S4)
	Beliefs about means of gaining desired goals	*My skills are getting honed in creating creative content and promoting the blog I have made to people. It can be a place to share my thoughts on topics that I like and can be used for business* (S16).
	Having know-how	*The QUEST Inquiry-Based Learning Model helped me learn more about content writing and how we build and develop it*. (S18)

The last agency dimension of the individual domain is represented through participation activities. In implementing personalized learning in the Content Writing class, EFL students showed their participation activities through initiative and engagement in learning. As depicted in Table 4, this study demonstrated that students who participated in interactive learning situations, such as the LMS Forum and WhatsApp group discussions, took the initiative in discussions and were responsible for completing assigned tasks. Through participation, students have meaningful opportunities to make choices, act on them, and see the consequences, which builds a feeling of control and ownership over learning.

Table 4. Manifestation of the individual agency through participation

No	Dimension	Example Quotes
4.	Participation activity	
	Participate in interactional learning situations.	*The benefit is that I can interact with my friends and share our opinions on a topic*. (S16)
	Initiatives in discussion	*Additionally, I also found that it allows me to comment, give suggestions, references, give my perspective about that topic, etc*. (S19)
	Responsibility for completing the assigned task	*All projects required me to work to the required deadlines*. (S10)

Manifestation of relational resources and opportunities for practicing student agency

Relational domains include power relationships, peers as resources for learning, and emotional atmosphere. Through class observations and an open-ended questionnaire, the relational domain of student agency in this study is consistently revealed through power relationships, peers as educational resources, and the emotional atmosphere. Power relationships refer to equality among students, to the reciprocal relationship between teachers and students, or to transformative agency. Peers as resources for learning includes reciprocal peer support. Meanwhile, an emotional atmosphere is one of trust and safety.

Both classroom observation and an open-ended questionnaire consistently reveal students' agency in power relationships, the teacher's collegial role, peers as resources for learning, and the emotional atmosphere in the DMPL context of the Content Writing class. As seen in Table 5, regarding power relationships, students had equal opportunities and received equal treatment from the teacher. For instance, all students could post their learning progress, share their artifacts, ask for and provide feedback, meet with the teacher, and access resources to complete all phases of the project-based activities. Additionally, the teacher plays a collegial role in this study by providing synchronous online individual conferences to assist students in accomplishing their projects. This data indicates that power relationships among students or with the teacher shape who makes decisions, whose voices count, and how much influence students have over learning. Importantly, equitable and negotiated power relationships create conditions that allow agency to emerge and flourish.

Table 5. Manifestation of the relational agency through power relationships

No	Dimension	Example Quotes
1.	Power relationships	
	Equality among students Reciprocal relation between the teacher and the students	*I think having a room for discussion where all opinions are respected and equal is important*. (S12)

Student agency in this study is also evident through peers as learning resources, as shown in Table 6. Reciprocal peer support occurs when students receive support from their peers and provide support to others. It was observed through the LMS learning analytics and found in the open-ended questionnaire that students received and provided feedback to one another through peer review in the three projects. This finding implies that reciprocal peer relationships strengthen student agency by creating social, cognitive, and motivational conditions that enable students to make choices, act on them, and sustain self-directed learning.

Table 6. Manifestation of the relational agency through peers as resources for learning

No	Dimension	Example Quotes
2.	Peers as resources for learning	
	Reciprocal peer support	*I can get a lot of feedback from my classmates to improve my content. We can also have a short discussion to use our critical thinking skills*. (S7)

Moreover, Table 7 shows how student agency in DMPL can be seen in an emotional atmosphere, including a trusting and safe environment. To this end, the teacher's approachability and the course's emotional climate facilitate the implementation of personalized learning in the Content Writing class. In this study, the teacher provided a space for discussion and feedback through WhatsApp groups, emails, and video conferences (both classical and individual). Such flexibility helps create a positive environment and promote student agency. From students' experiences, they found that creating digital content during the Genius Hour project cultivates their curiosity, engagement, motivation, flexibility, and availability as the learning experience becomes more enjoyable through peer collaboration. Thus, a student discovered a love of writing and learned how to make

content through the Playlist Project. These results suggest that a conducive and positive classroom environment supports students' initiatives and resilience in learning.

Table 7. Manifestation of the relational agency through the emotional atmosphere

No	Dimension	Example Quotes
3.	Emotional atmosphere	
	Trust and a safe environment	*Because of the Genius Hour Project, my learning experience has become enjoyable. It doesn't feel like I'm working on the project alone; instead, it feels like I am working on it as a team*. (S20)

Manifestation of contextual resources and opportunities for practicing student agency

The findings indicate that students' participation, influence, and decision-making were apparent throughout the three project-based activities, as illustrated in Table 8. This study reveals students' active participation in discussions and collaborative meaning-making through LMS forums, WhatsApp groups, and classical video conferences. For instance, the students shared relevant references to address their preferred topics during the QUEST phase of Understand. They also interacted with other students to exchange their viewpoints during the QUEST phase of Educate. Then, they shared their writing artifacts during the QUEST phase of the Solution to invite feedback from others. Finally, students could offer feedback on their peers' writing artifacts. These QUEST phases allow students to develop a sense of mutual support within the learning communities through active participation in collaborative activities.

Table 8. Manifestation of the contextual agency through opportunities for active participation

No	Dimension	Example Quotes
1.	Opportunities for active participation	
	Engage in discussion and collective meaning-making	*I can offer feedback to my classmates and help cultivate a collaborative environment built on shared growth and understanding*. (S14)
	Space for questions and comments	*The education phase provides a platform for interacting and exchanging insights with my peers, fostering a sense of mutual support within the learning community*. (S14)

Student agency in DMPL is fostered through opportunities for influence, including self-direction (or teacher influence), the ability to affect learning progress, and the capacity to influence peers. Table 9 shows how students demonstrated self-direction through Individual Learning Plans (ILP) and Weekly Progress Reports (WPR). ILP and WPR also allow students to monitor their learning progress by controlling their learning path and pace. Additionally, students demonstrated their agency through peer review during the writing Playlist Project. It gave them real responsibility, feedback channels, and collaborative roles that made their choices matter. Additionally, this project developed students' self-

regulation using structured instruction. Thus, they could track their writing process and produce the expected writing artifact.

Table 9. Manifestation of the contextual agency through opportunities for influence

No	Dimension	Example Quotes
2.	Opportunities for influence	
	Sense of self-direction (or being influenced by the teacher) in the course	*It helped me learn new things, especially about blogging. Starting with the app to use, what content to include in the blog, how to write a good blog, how to help my audience find my blog online, etc. I also learned how to design my blog to be more colorful and eye-catching, to catch readers' attention and encourage them to read it from beginning to end. I also learn how to make a good poster and infographic*. (S19)
	Opportunities to influence the course progress	*Through implementing the Playlist Project, students are equipped with a systematic approach to monitor and manage their tasks and assignments. This innovative project serves as a compass, offering comprehensive guidance on the specific steps required for each task. By providing these directions, students benefit from instructions that light their path through the project, ensuring they understand their objectives and actions*. (S14)

As shown in Table 10, students demonstrated their agency in DMPL through opportunities to make choices. Providing choices allows students to make decisions, take ownership, and shape their learning environment. To illustrate, students had the option to select topics and artifacts during the QUEST project and to choose topics for their digital content during the Genius Hour project. In this regard, students demonstrate initiative, commitment, motivation, and grit in completing their projects. Their intrinsic motivation and commitment grew, driving self-direction due to their passions or aims. Importantly, when students negotiate or offer choices in group work, they gain voice and leadership, extending individual agency into social contexts.

Table 10. Manifestation of the contextual agency through opportunities for choices

No	Dimension	Example Quotes
3.	Opportunities for choices	
	Choices between various working methods	*Playlist Project helped me to think critically in selecting suitable articles for research or to support my personal blogging in the Genius Hour Project.* (S18)

Student agency level is demonstrated in the teaching and learning practices in EFL classrooms

The second analysis in this study examines student agency levels in the bichronous online EFL classroom using the student agency-level criteria proposed by Larsen-Freeman et al. (2021). The results from classroom observation and the open-ended questionnaire reveal prominent practices of high student agency and fewer practices of low student agency.

The results show that high student agency is evidenced by indicators, such as partnership in setting meaningful personal goals, content generation, a learning-

centered approach, open-ended activities, a learning community, forum discussions, feedback, students' self-assessment and self-reflection, the teacher's response, teacher assistance, and collaboration between the teacher and students. These manifestations of high student agency occurred in the three domains of agency. To illustrate, Table 11 shows how students demonstrated high agency when invited to set meaningful personal goals in partnership with their teachers by completing the Individual Learning Planner and a Weekly Progress Report.

Table 11. Manifestation of high student agency through meaningful personal goals

No	Indicators	Example Quotes
1.	Students are invited to set meaningful personal goals in partnership with their teachers.	*Through implementing the Playlist Project, students are equipped with a systematic approach to monitor and manage their tasks and assignments. This innovative project serves as a compass, offering comprehensive guidance on the specific steps required for each task. By providing these directions, students benefit from instructions that light their path through the project, ensuring they understand their objectives and actions*. (S14)

Table 12 shows students' experiences while working on the respective projects. Students generated their content by selecting topics, writing artifacts in the QUEST project, and choosing topics for their digital content in the Genius Hour project. These activities demonstrated a learning-centered approach that is open-ended and flexible. A high level of student agency in teaching and learning was also demonstrated.

Table 12. Manifestation of high student agency through content generation, a learning-centered approach, and open-ended activities

No	Indicators	Example Quotes
2.	Students generate their content.	*It helped me learn new things, especially about blogging. Starting with the app to use, what content to input into the blog, how to create a good blog, and how to ensure my audience can find my blog on the internet, etc. I also learned how to design my blog so it would be more colorful and eye-catching, to catch readers' attention and encourage them to read from beginning to end. Additionally, I learned how to create effective posters and infographics*. (S19)
3.	Teaching is learning-centered.	*The benefit I gained from the Genius Hour Project was brainstorming the components needed to create the content. This includes the topic I wanted to write, the application needed to publish the content, and what I wanted to discuss further in the content itself*. (S13)
4.	Activities are more open-ended.	*Through the QUEST Inquiry-Based Learning model, I learned about content writing in a structured way, making it easier for me to understand and apply the lesson*. (S20)

As seen in Table 13, the teacher establishes a learning community where participants are challenged and learn together by providing a space for discussion and feedback through WhatsApp groups, LMS forum discussions, emails, and video conferences (both classical and individual). In this learning community, students provide and receive feedback through peer review on the three projects and take on greater responsibility for directing the given feedback, self-assessment, and reflection. These activities allow students to teach one another (and the teacher). It is worth noting that some learning takes place beyond the classroom, supported by the teacher's guidance. These interconnected activities demonstrate that the teacher's essential role is to design a sequence of meaningful activities.

Table 13. Manifestation of high student agency through a learning community

No	Indicators	Example Quotes
5.	Students form a learning community where they are challenged and learn together.	*Within the Genius Hour Project framework, students gain invaluable opportunities for collaborative learning within an online learning environment. This innovative project requires students to engage in reflective learning and helps them to design their learning process. By doing so, the project fosters a sense of collaborative exploration and provides students with a structured way to monitor their progress and manage their assignments effectively*. (S14)
6.	Students are encouraged to ask questions of the teacher and of one another.	*Additionally, I also found that it allows me to comment, give suggestions, references, give my perspective about that topic, etc*. (S19)
7.	Students have more responsibility for directing the feedback they receive from the teacher.	*I also learned a lot from other friends' posts (they gave me some insight) and realized some things about the topic they had already discussed and posted about*. (S19)
8.	Students teach one another (and the teacher).	*I think by having a room of discussion where all opinions are respected and equal*. (S12)
9.	Some learning takes place beyond the classroom. The teacher guides students to learn from these experiences.	*Because of the Genius Hour Project, my learning experience has become enjoyable. It doesn't feel as though I'm working on the project alone; instead, it feels as though I'm working on it as part of a team. Through the playlist project, I discovered my passion for writing and gained experience in creating content. Through this playlist project, I have taken my first step into the world of content writing*. (S20)
10.	Students learn how to reflect on the lesson and share their reflections.	*I have difficulty managing my time to complete the task, and I need to learn to manage it better. I should improve my time management, to-do list, and critical thinking*. (S7)

Interestingly, some findings were revealed only through classroom observation, such as the teacher's response to what is happening in the lesson, the teacher's assistance, the teacher's collaboration with students in seeking answers, and students' self-assessment. These data show that high student agency was visible in the teaching and learning activities of this study, as they collectively create

choice, competence, voice, and a facilitating structure. These core conditions produce high student agency.

Meanwhile, low student agency was identified through classroom observation, as shown in Table 14. The manifestation of low student agency is apparent in the teacher's role in defining course goals and lesson objectives, as well as in requiring students to use only English in lessons.

Table 14. Manifestation of low student agency

No	Indicators	Example Observation
1.	Teachers specify course goals and lesson objectives.	The teacher provided a syllabus, a course description, and a project description (documents and an audiovisual presentation) in the LMS. Additionally, the teacher elaborated on the course and project descriptions during an online synchronous video conference.
2.	Students must only use English during lessons.	The teacher and students use English in the whole session during an online synchronous video conference.

Specifying course goals and lesson objectives is necessary due to the institutional and curricular constraints in the Indonesian university context. In this regard, students are not flexible in designing the learning, which is the core of personalized learning. Another finding is that the use of 'English only' in the classroom may lower student agency by limiting their ability to strategically use language resources for comprehension, expression, and collaboration. This monolingual policy disregards students' translanguaging practices and restricts their use of their full language repertoire for meaning-making, greater understanding, and stronger engagement with the material.

Discussion

This study exhibits Jääskelä et al.'s (2017) tripartite model of student agency across three project-based activities: QUEST, Playlist, and Genius Hour. The student agency, manifested in the three dimensions (individual, relational, and contextual), is apparent in the DMPL context of the EFL classroom. Furthermore, this study reveals the levels of student agency in DMPL within EFL teaching and learning practices: high and low. This finding offers new views of the levels of student agency in the Indonesian EFL context at the tertiary level.

The individual dimension of student agency, as represented by meaning-oriented studying, self-efficacy, competence beliefs, and participation in activities, points to the need for instructional designs that systematically support self-regulated learning and goal-directed behavior in DMPL. This study illustrated the use of an individual learning plan, a weekly progress report, self-reflection, self-assessment, and forum discussions in EFL instruction to accommodate students' self-regulated learning and goal-directed behavior. These tools allow students to actively engage in planning, monitoring, and improving their learning strategies. This point confirms the students' engagement within personalized learning, as stated by Panadero (2017) and Schunk and Zimmerman (2011). However, the tools are different as the previous studies offered real-time analytics, documentation, and formative assessments. In addition, this study corresponds with Larsen-Freeman et

al. (2021) and Marín et al. (2020) on students' sense of agency, competence, and purposeful engagement, which are manifested through goal-setting, choice-making, and metacognition. In the Indonesian EFL context, this study makes an essential contribution by dealing with language and cultural challenges in the writing process, as revealed through self-reflection. This point has not yet been addressed by previous studies (e.g., Mulyani & Novianti, 2022), which focused only on the characteristics of student agency (belief or capacity, intrinsic motivation, resilience, and learning style).

The findings regarding power relationships, peers as resources for learning, and emotional atmosphere indicate that the relational dimension of student agency promotes a collaborative learning environment in DMPL within the EFL classroom. It emphasizes Vygotsky's (1978) social aspect of learning and the concepts of power dynamics, as outlined by Eteläpelto et al. (2013), Giddens (1984), and Lipponen and Kumpulainen (2011). This collaborative learning environment in DMPL positively affects student agency. First, teacher-student and student-student interactions in online bichronous learning, such as individual and classical conferences, shared writing drafts, peer review, and asynchronous forum discussions (via LMS or WhatsApp group), allow dialogic spaces that support negotiation, mutual control, and distributed responsibility. Second, students receive ongoing feedback and exchange solutions through their active roles such as reviewers, editors, commenters, and facilitators. Third, students' learning artifacts are not only individual accomplishments but also collaborative meaning-making, which fosters self-direction, motivation, and engagement. This interpretation is supported by earlier work on the concept of horizontal equality by Tormey (2021). Fourth, collaboration among students, teachers, and institutions facilitates the co-development of problem-solving strategies through reciprocal support and joint dialogue. This is similar to that reported by Liao (2019). Overall, these positive impacts contribute to the sociocultural perspective on student agency for the Indonesian EFL classroom, which has not yet been further explored in previous studies, such as Mulyani and Novianti (2022), Pratiwi and Waluyo (2023), Rohadi et al. (2023), and Bumela (2021). For future direction, this study proposes a culturally responsive strategy to enhance participation and ownership in multicultural EFL contexts, such as Indonesia, where collectivist values shape classroom exchanges.

Further, the sociocultural perspective on student agency in the Indonesian EFL context is echoed by institutional supports, including technology assistance, as well as by the teacher's role. With this support, students have meaningful choices, such as writing topic selection, learning pace, and collaboration formats, across the three project-based activities (QUEST, Genius Hour, and Playlist projects) facilitated by technology-mediated platforms (LMSs, video conferencing, social media, Google apps, etc.). Hence, they can develop their decision-making skills, persistence, conceptual understanding, and academic performance in dynamic, empowered learning, as noted by Patall et al. (2008). Next, the sociocultural view of student agency indicates the teacher's role in DMPL: facilitating relational agency and creating positive conditions. The teacher facilitates relational agency through online bichronous individual and classical conferences, which establish dialogic spaces for student participation and feedback on their writing. In this regard, the teacher responds to students' voices and choices related to the digital

content writing process. In other words, the emphasis is on acknowledging students' autonomy and diversity. In creating positive conditions, the teacher helps students to establish their own learning paths, as exemplified by QUEST, Genius Hour, and Playlist projects. These projects strengthen decision-making using structured instructional activities in the LMS. They provide step-by-step guidance, facilitate reciprocal learning, mutual accountability, collaboration, and reflective practice. Thus, they promote a dynamic system of empowered learning in the EFL writing classroom.

This study shows more high-student-agency practices and fewer low-student-agency practices in DMPL within EFL classrooms. Compared with prior studies, there are several important differences, not only in the research setting but also in the level and framework of student agency. This study offers new knowledge into the levels of student agency (low and high) in the Indonesian EFL context at the tertiary level. Conversely, Mulyani and Novianti (2022) categorized EFL student agency at the secondary school level into four stages (no awareness, early stage, promising stage, and agency stage). Another difference is that they used a single framework of student agency from Parry (2016) to identify the characteristics and stages of EFL student agency at the secondary level. The current study applied two frameworks of student agency from Jääskelä et al. (2017) and Larsen-Freeman et al. (2021) to identify agency dimensions and levels. As depicted in Figure 4, high student agency is illustrated by partnership in setting meaningful personal goals, content generation, a learning-centered approach, open-ended activities, a learning community, forum discussions, feedback, students' self-assessment and self-reflection, the teacher's response, teacher assistance, and collaboration between the teacher and students. These manifestations of high student agency exist in the three domains of agency.

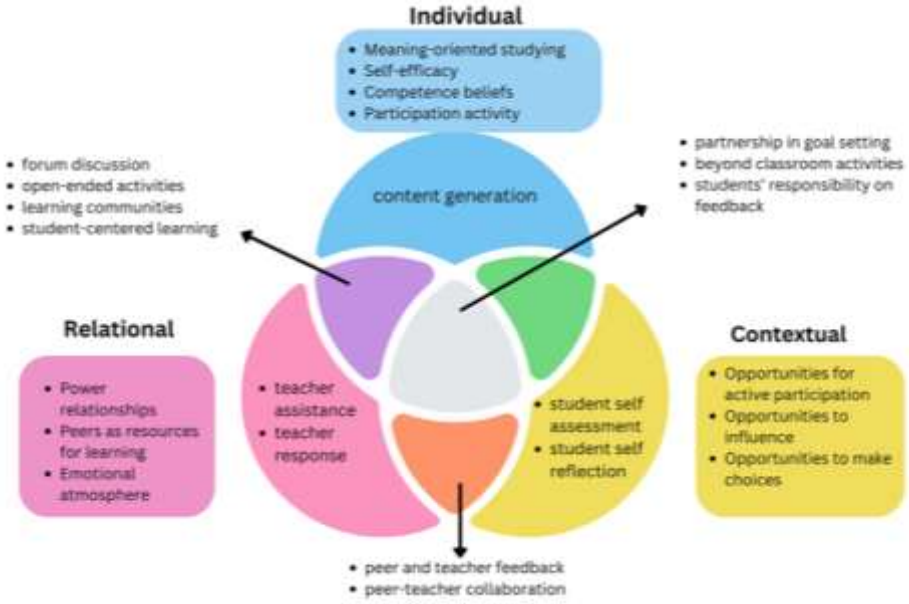

Figure 4. High student agency in the individual, relational, and contextual domains

An interesting aspect of high student agency in DMPL within EFL classrooms is a meaningful shift from teacher-centered instruction to student-driven, feedback-rich learning. From this interpretation, the link between relational, contextual

agency, and high student agency is obvious, advocating the sociocultural view of student agency. The first two emphasize collaborative learning that fosters student-driven, feedback-rich learning and decision-making skills. To this end, the students practice their distributed responsibility, dialogic engagement, and flexible role-taking within learning communities, as described by Lipponen and Kumpulainen (2011) and Mercer (2012). Preferences for topics, activities, learning pace, writing artifacts, and feedback in DMPL environments offer opportunities to make decisions, coinciding with findings from previous scholars such as Bandura (1982), Panadero (2017), and Schunk and Zimmerman (2006). The latter implies a result of the first two, which boost student agency by fostering students' autonomy, choice, and metacognitive skills. This cause-and-effect relationship is essential in the EFL writing classroom, as sociocultural aspects influence students' identity, language use, and engagement through self-reflection of project-based activities. This finding is in line with Bray and McClaskey (2013) and Lee and Hannafin (2016). To sum up, Figure 5 depicts the cyclical process of student agency in DMPL within the EFL writing classroom: a partnership in goal-setting, progressing through open-ended activities, content generation, forum discussion, learning community, feedback mechanisms, self-reflection, teacher support, and collaborative decision-making. This process requires students to engage, reflect, and adjust writing activities in DMPL to diffuse agency, thus establishing a dynamic system of empowered learning.

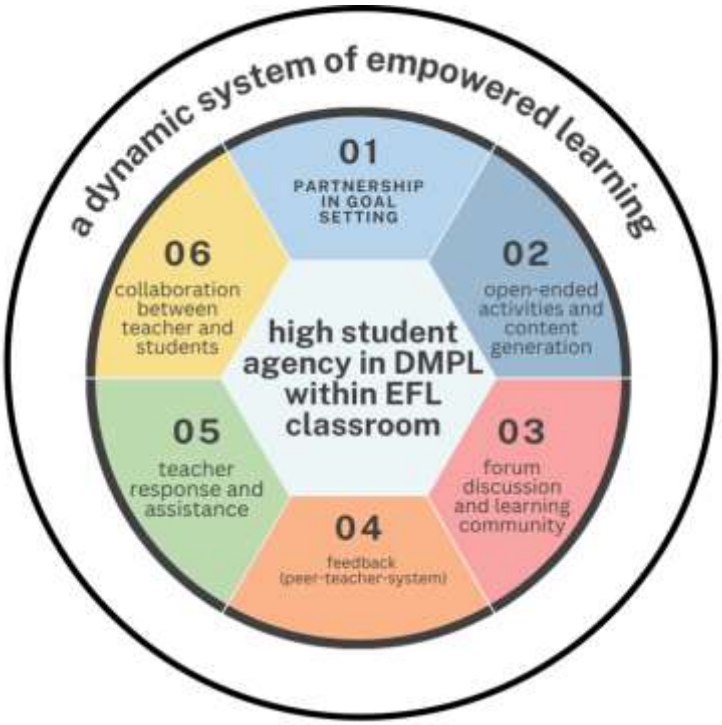

Figure 5. Cycle of high student agency in Digitally Mediated Personalized Learning (DMPL) within EFL classrooms

On the other hand, the minor appearance of low student agency in DMPL within the EFL classroom is related to the course goals and lesson objectives, as well as the requirement that students use only English in lessons. This finding implies that the rigid curriculum and monolingual policy diminish student agency to some extent. Consequently, students have no flexibility or opportunities due to

these boundaries. This data indicates a need for adaptive instructional design and for considering translanguaging practices in the EFL classroom to strengthen meaning-making, deepen understanding, and foster stronger engagement with the material.

Conclusion

It is clear from the current study that implementing DMPL in the EFL classroom yields important awareness of student agency at the tertiary level: the need for instructional design, a sociocultural perspective, and the role of the teacher. DMPL promotes the practice of individual, relational, and contextual dimensions of student agency among EFL students in their content writing class. The individual agency indicates the need for instructional design to support self-regulated and goal-directed learning in DMPL, as well as to address linguistic and cultural challenges in the EFL writing classroom. Relational and contextual agency may have important implications for sociocultural perspectives on student agency, including power relationships, vertical and horizontal equity, and the teacher's role. They advocate a collaborative learning environment to establish a dynamic, empowered learning system in DMPL within the EFL classroom.

Involving various EFL courses and a long-term period is beyond the scope of this study. Thus, this issue merits further investigation to explore the development of student agency over time and across different courses, especially to discover potential factors that improve and sustain student agency in DMPL across various EFL classrooms. Another suggestion might be meticulous monitoring to ensure effective classroom implementation and students' academic success. This monitoring is essential for tracking alignment between instruction and learning outcomes and for identifying potential obstacles (e.g., students' pacing and participation, teaching methods) that hinder learning.

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