



Teachers Interpretive Understanding of Student Agency within Flexible Learning Ecosystems

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ABSTRACT

The shift toward flexible learning ecosystems requires teachers to navigate complex pedagogical dynamics in which differentiation, technology integration, and diverse student needs place student agency at the center of learning. This study explores how teachers interpret student agency—reflected in learners’ choices, decisions, and independence—and how these interpretations shape pedagogical strategies in adaptive learning environments. Using an interpretive qualitative approach with Interpretative Phenomenological Analysis, data were collected through semi-structured interviews with six teachers from three senior high schools in Bali implementing curriculum flexibility and differentiated instruction. The findings show that teachers’ understandings of student agency evolve from a normative view to a contextual construction, conceptualizing agency as a combination of learner independence, decision-making capacity, and reflective ability. This shift is influenced by student readiness, institutional support, and teachers’ professional experience. The study confirms that student agency is a dynamic construct shaped by interactions between responsive pedagogy and flexible learning environments, contributing to the development of autonomy-oriented learning design in secondary education.

INTRODUCTION

The development of the flexible learning ecosystem at the high school (SMA) level shows significant changes in line with the increasing need for learning differentiation, digital technology integration, and the diversity of student profiles. Globally, the application of learning models that provide autonomy, choice, and varied learning rhythms has been proven to encourage the emergence of student agency as the center of the learning process (Marston & Pillay, 2022). Countries that have developed adaptive curricula report that the flexibility of learning structures can improve students' ability to design goals, make decisions, and navigate the learning process more independently (Chan et al., 2023). In Indonesia, the implementation of the Independent Curriculum presents a wide range of opportunities for students to determine learning paths, but the success rate is highly dependent on how teachers understand and interpret students' expressions of agency (Saragih & Lestari, 2024). This context is becoming increasingly significant in areas such as Bali, which is one of the provinces with the most progressive adoption of the Independent Curriculum at the high school level. This condition emphasizes the importance of examining in depth how teachers interpret student agency in an increasingly complex and adaptive learning ecosystem.

Although the study of student agency is evolving, most research still focuses on changing student behavior or the effectiveness of using technology in learning, rather than on how agency is interpreted by teachers who are the main actors in classroom practice. Previous research has highlighted many technical aspects of learning, such as students' responses to online learning or the application of formative assessments, but ignored the teacher's interpretive process in understanding students' choices and independence (Natsir & Hadi, 2021). Other studies show that teachers often face a pedagogical dilemma between providing learning freedom and maintaining a directed learning structure, especially in the context of schools with diverse student resources and readiness (Wardhani & Yong, 2023). This situation shows that teachers' interpretations of student agency are complex processes and are influenced by curriculum demands, professional experience, and institutional context. In the context of the province of Bali, the variation between schools, especially between schools in urban areas such as Denpasar and semi-rural areas, adds to the dynamics in the way teachers build meaning towards student agency. Thus, there is a need to explore more deeply how teachers interpret and construct meaning related to student agency in a flexible learning environment.

In addition, empirical research examining student agency from the teacher's perspective is still relatively limited, especially in the context of secondary education in Indonesia. Most of the existing research focuses on students' experiences in developing learning autonomy, while the hermeneutic dimension involving teacher interpretation is rarely comprehensively discussed (Rinaldi & Kimura, 2023). In practice, teachers not only act as facilitators of flexible learning, but also as interpreters of the reflective signals that students show when making learning decisions. This complexity makes the teacher's interpretation process a very important aspect to understand, especially since the

meaning will affect the pedagogical strategy they choose. This is relevant for high schools in Bali, which are currently expanding differentiation and flexibility-based learning practices through various teacher capacity building programs. This research gap is a strong foundation to present a study that explores the dynamics of teachers' meanings towards student agency.

The Interpretative Phenomenological Analysis (IPA) approach is a relevant methodological approach to uncover how teachers construct meaning to their experiences in the flexible learning ecosystem. Science allows researchers to understand teachers' subjective experiences in depth, especially related to interpretive processes that involve professional reflection in the context of dynamic learning (Armstrong & Murray, 2021). Recent research confirms that science is effective for examining complex pedagogical phenomena, such as curriculum changes, teachers' emotional experiences, and decision-making in dealing with learning uncertainties (Rutherford et al., 2024). This approach is very suitable for use in the context of research on teachers' interpretations of student agency, because agency is a construction that is not only behavioral but also meaningful for educational actors. In this study, the use of science became increasingly relevant because teachers in Bali had diverse experiences in implementing flexible learning, especially after the implementation of the Independent Curriculum in various pilot project high schools. Therefore, the use of science will provide in-depth insight into how the meaning of agency is formed, negotiated, and internalized by teachers.

In the Southeast Asian region, research on learning flexibility has been conducted, but most of it has focused on technology integration or the transformation of the role of teachers without explicitly highlighting the interpretive process of student agency. For example, regional studies show that teachers often interpret flexibility as an administrative demand, rather than as an opportunity to provide learning autonomy for students (Limantara et al., 2021). In addition, research that examines agencies still tends to be based on the perspective of students, so that the dimension of meaning from the teacher's perspective is less scientifically exposed (Chen et al., 2023). In the context of high schools in Indonesia, this gap is becoming increasingly significant given the differences in school readiness, institutional support, and professional competence of teachers. Bali, with its characteristic collaborative learning culture and closeness of school communities, offers an interesting context to examine how teachers interpret student agency in flexible learning practices. This research gap underscores the need for a study that examines how teachers actively interpret student agency in the flexible learning they undertake.

Based on these gaps, this study aims to identify and interpret how teachers interpret students' learning choices, independence, and reflective abilities in the flexible learning ecosystem. The study also explores the factors that influence the formation of meaning, including teachers' professional experience, school structural support, student readiness, and curriculum dynamics. Through the science approach, this study presents an in-depth understanding of how teachers' interpretation affects the pedagogical strategies they choose in dealing with the variation in students' needs and tendencies. The focus on three high schools in

Bali that have implemented differentiation of learning provides a strong empirical context to understand these interpretive dynamics. Thus, the purpose of this study is to provide a comprehensive overview of the relationship between the flexible learning ecosystem, the construction of teacher meaning, and the development of student agency. These findings are expected to be able to enrich the discourse on the implementation of the Independent Curriculum at the secondary education level.

This research makes a theoretical contribution by offering a new perspective on student agency as a construct formed through the interaction between students' learning experiences and teachers' professional interpretations. Methodologically, this research strengthens the application of science in educational studies by presenting an in-depth analysis of the meaning that teachers build in daily pedagogical practice. From a practical perspective, this study provides recommendations for educators and school institutions to design interventions that strengthen teachers' understanding of student agency, so that the learning strategies applied are more responsive, reflective, and adaptive. The practical implications are particularly relevant for schools in Bali, which are currently working to strengthen teachers' capacity to manage flexible learning, while developing policies based on learning autonomy. This research can also be a reference for policy makers in improving the implementation design of the Independent Curriculum to better support the development of student learning autonomy. Thus, this research not only contributes to the theory of flexible learning, but also to improving the quality of secondary education practices in Indonesia.

LITERATURE REVIEW

The Concept of Student Agency in the Modern Learning Ecosystem

The concept of student agency is gaining increasing attention in the global educational literature, especially in learning contexts that place students as active subjects. Agency is understood as the ability of students to make choices, act independently, and reflect on their learning process (Hamilton & Roksa, 2023). International studies show that a flexible learning ecosystem that allows for differentiation of learning objectives, timings, and methods encourages students to develop autonomy in learning (Park & Lee, 2022). In the context of an adaptive curriculum, agency is not only seen as an active behavior, but as a construct shaped through the interaction between student readiness, teacher support, and learning structure (Reed & Walters, 2023). This literature confirms that agency is a multidimensional phenomenon that arises from the dynamic relationship between students and their learning environment.

Learning Flexibility and Its Impact on Agency Development

Flexible learning has become a global trend in secondary education because it is able to accommodate diverse needs, rhythms, and learning styles. Recent studies show that learning flexibility provides opportunities for students to set goals, choose strategies, and navigate the learning process more independently (Huang & Chen, 2022). However, research also highlights that the success of flexibility is greatly influenced by teachers' ability to design learning

structures that still provide direction without compromising students' autonomy (Miranda & Jacobs, 2021). In the Indonesian context, the implementation of the Independent Curriculum provides a wide space for learning choices, but its implementation is highly dependent on the consistency of teachers in understanding the meaning of student agency. This study is particularly relevant in regions such as Bali, where various secondary schools are strengthening the integration of flexible curricula in classroom practice.

Teacher's Paradigm in Understanding and Interpreting Student Agency

The literature shows that teachers' interpretations of student agency vary depending on professional values, pedagogical experience, and institutional context. Teachers often see agency as a combination of students' decision-making abilities, self-management, and reflective awareness (Simons & Hartley, 2023). However, other research reveals that some teachers still view agency normatively, for example only as discipline or activeness in the classroom (Johansson & Meyer, 2022). The teacher's perspective greatly determines how pedagogical strategies are applied, especially when they have to balance between providing freedom of learning and maintaining a learning structure (Fisher, 2023). This literature emphasizes that the teacher's interpretation is part of a complex interpretive process and is greatly influenced by classroom dynamics and curriculum expectations.

Agency as a Social-Hermeneutic Construction in Education

Recent research places agency as a hermeneutic construct formed through the teacher's interpretive process of students' actions and reflective expression. Agency is not only evident in behavior, but also in the meanings that educational professionals construct toward students' learning choices and actions (Ramos & Duarte, 2021). Hermeneutic studies emphasize that teachers do not simply observe agency, but also interpret the emotional, cognitive, and social contexts that accompany students' decisions (Henderson, 2022). This perspective is important because different interpretations can result in different learning strategies. This hermeneutic understanding is increasingly relevant in a flexible learning ecosystem that requires teachers to constantly read the signals of the development of students' autonomy.

Interpretative Phenomenological Analysis (IPA) Approach in Educational Studies

Interpretative Phenomenological Analysis (IPA) is widely used in educational studies to explore subjective experiences and meanings constructed by teachers and students. The methodological literature confirms that science is effective in uncovering complex interpretive processes related to pedagogical experiences, curriculum changes, and teachers' emotional dynamics (Stewart & Nolan, 2024). In the context of flexible learning, science allows researchers to understand how teachers interpret students' choices, independence, and reflection in changing situations (Burgess, 2021). This method also helps identify patterns of meaning that come not only from the teacher's personal experience,

but also from interactions with the school structure and classroom conditions. Therefore, science is very relevant to be used to understand the dynamics of teachers' meanings towards student agency in high school, including in the context of Bali.

Teachers' Professional Challenges in a Flexible Learning System

The literature shows that the implementation of flexible learning often presents new challenges for teachers, ranging from role adjustments, classroom management, to the development of assessment instruments oriented towards student autonomy. Global studies reveal that teachers often face a dilemma between maintaining classroom control and providing space for freedom of learning (Levinson, 2023). In addition, teachers' professional experiences greatly influence how they perceive the signs of student agency, especially in the context of schools with a heterogeneity of learning readiness (Porter, 2022). In Indonesia, structural constraints such as the availability of facilities and administrative demands also contribute to the diversity of teacher interpretations. This literature emphasizes that student agency can only develop optimally if teachers have reflective understanding and adequate institutional support.

Cultural and Institutional Context in Agency Formation

Student agency is heavily influenced by the cultural context and organization of the school. International literature shows that a participatory school culture encourages students to be brave in making decisions and managing their own learning (Kim & Harada, 2021). In the Asian context, the values of collectivism as well as the hierarchical relationship between teachers and students also influence how agency is understood and expressed (Liu & Wong, 2023). In Bali, which has a strong communal cultural tradition, this social context has the potential to form a unique pattern of teacher-student interaction in the agency's interpretive process. Research shows that schools with strong structural support, teacher collaboration spaces, and adaptive curricula are better able to grow agency consistently (Yamada, 2024). This literature emphasizes that agency discussions must consider the cultural and organizational context as a whole.

METHODOLOGY

Approaches, Types of Research, and Design

This study uses an interpretive qualitative approach with an Interpretative Phenomenological Analysis (IPA) design to explore the subjective meanings built by teachers related to student agency in the flexible learning ecosystem. Science was chosen because it is able to uncover personal experiences and complex interpretive processes through in-depth hermeneutic analysis (Jorgensen & Ruby, 2022). This approach is relevant for understanding how teachers interpret students' choices, decisions, and learning independence in dynamically changing contexts, as recommended by recent research on interpretive phenomenology in education (Hodges & Mansfield, 2023). With this design, the research focuses on the exploration of internal experiences and

pedagogical meanings that cannot be reached through quantitative approaches or structural surveys.

Population, Participants, and Sampling Techniques

The research population is all high school teachers in Bali who have implemented flexible learning and differentiation within the national curriculum framework. The selection of informants was carried out using purposive sampling with the criteria of teachers who: (1) have implemented curriculum flexibility of at least one year; (2) be involved in the planning and evaluation of student choice-based learning; and (3) have direct experience observing the development of student agencies. A total of six teachers from three schools were selected as participants, according to the principles of science which emphasizes small numbers to allow for depth of analysis (Windsor & Kerr, 2021). The selection also considers the heterogeneity of professional experience and variation in institutional contexts in order for the data to reflect the complexity of meaning that evolves in adaptive learning practices.

Data Collection Techniques and Instruments

Data was collected through semi-structured in-depth interviews, allowing researchers the flexibility to explore teachers' personal interpretations while maintaining a thematic framework (Lozano & Bright, 2023). The interview guide was compiled based on student agency indicators such as learning choices, decision-making, and independent reflection, which refers to international studies on autonomy-based learning (Richards & Porter, 2021). Each interview lasts between 45–70 minutes and is recorded with the consent of the participants. Additional documentation in the form of field notes is used to record non-verbal expressions and the context of the conversation. The validity of the data is maintained through member checking, which is reconfirming the researcher's initial interpretation to the informant. The reliability of the data is strengthened through source triangulation, which is comparing narratives between participants to see the consistency of patterns (Fischer, 2022).

Research Procedure

The research procedure is carried out through several systematic stages. First, the researcher conducted a preliminary study to map schools that have implemented a flexible learning ecosystem. Second, the researcher contacted the school, explained the purpose of the research, and obtained approval for participation. Third, the implementation of in-depth interviews is carried out face-to-face in the school environment so that participants feel that they are in a familiar pedagogical context. Fourth, all interview recordings are transcribed verbatim to ensure the accuracy of language, meaning, and intonation. Fifth, transcripts are processed through repeated reading to find initial concepts, build code, and identify areas of meaning that have the potential to develop. This procedure follows interpretive phenomenological research standards that emphasize the depth of researcher involvement in the data (Robertson & Mills, 2020).

Data Analysis Techniques

Data analysis was carried out using the stages of science which included: (1) repeated reading of transcripts; (2) providing exploratory notes on linguistic, conceptual, and descriptive aspects; (3) development of emerging themes; (4) connecting themes into conceptual clusters; and (5) interpreting deep meaning through a dual hermeneutic approach, i.e. understanding the meaning that teachers understand about student agency (Nelson & Jang, 2024). The analysis process is assisted by NVivo 14 software to map the code, categorize the data, and trace patterns of thematic relationships. The use of software supports the transparency of analysis and increases the auditability of research results, as recommended in modern qualitative studies (Tucker & Davidson, 2021).

Research Ethics Considerations

This research adheres to the ethical principles of qualitative research by ensuring that participants obtain a thorough explanation of the objectives, benefits, and potential risks of the research. All participants sign an agreement sheet and are given the right to withdraw at any time without consequences. Identity confidentiality is maintained by using anonymous codes on all reports, including transcripts, analysis, and publications. This ethical protocol is in line with international standards of subjective experience-based research (Harris & Nolan, 2022).

RESEARCH RESULTS

Movement of Meaning: From Normative Orientation to Agency as an Autonomous and Reflective Capacity

The first theme emphasizes that teachers are undergoing a fundamental shift in understanding student agency. In the early stages, most teachers describe agency as obedience, seriousness, or discipline of learning. However, after they interact with a flexible learning ecosystem that provides space for choice, freedom of rhythm, and differentiation of meaning, these developments develop into more complex and contextual understandings, including aspects of independence, the ability to choose, and self-reflection.

The teacher from the first high school described the change in his perspective explicitly. He said, "*At first I thought that the students who had the agency were diligent and followed directions. But after implementing flexible learning, I saw that agency actually emerged when they set their own learning paces, even if they didn't always align with the teacher's instructions.*" (GA-01, October 12, 2025). This phrase indicates a shift from agency as "compliance" to "voting capacity". The second teacher at the same school strengthens this perspective through the aspect of reflection. He explained, "*What makes me see change is when students can understand and explain the reasons behind their choices. Instead of just choosing task A or B, they can say 'This fits my way of learning'. For me, it's agency in the truest sense.*" (GA-02, 14 October 2025).

This transformation of meaning also appears in teachers in secondary school who emphasize the contextual and non-uniform nature of agency. He stated, "*I began to realize that agencies don't come up with the same pattern. There are*

students who are quick to make decisions, some take time. From there I saw that the agency developed according to the context, not something ready-made." (GB-01, October 18, 2025). Through this set of interpretations, agency is no longer understood as a static attribute, but as a dynamic capacity influenced by the experience, support, and space of autonomy available in a flexible learning ecosystem.

Student Readiness and School Structural Support as a Condition for the Emergence of Agencies

The second theme highlights the role of contextual factors, particularly student readiness and school structural support as conditions that allow agencies to thrive. Teachers interpret agency not only as a personal ability, but as a relational process influenced by an adaptive learning environment. The second teacher in the second high school explained the importance of students' psychological readiness and learning skills. He said, *"Not all students are ready to make learning decisions immediately. Some are still doubtful and afraid of being wrong. This is where we have to provide gradual guidance. Their readiness greatly determines the emergence of the agency."* (GB-02, October 20, 2025). This statement shows that the agency needs initial scaffolding.

In the third high school, teachers emphasized how the school's structural support provides space for independence and reflection. He explained, *"Schools provide open learning spaces, more flexible learning hours, and policies that give freedom to choose projects. An environment like this makes students dare to try and learn to manage themselves."* (GC-01, October 23, 2025). A second teacher from the same high school also linked structural support to the growth of students' reflective capacity. He said, *"When schedules are more flexible and tasks can be chosen, children often discuss the impact of their choices. They start asking 'If I choose this one, is it for my learning goals?' This is a reflection that used to rarely appear."* (GC-02, October 25, 2025). Hermeneutic analysis shows that student readiness and structural support do not stand alone, but rather reinforce each other. Both form an ecosystem that allows agencies to thrive as part of responsive learning practices.

Teachers' Professional Experience as an Interpretive Lens in Managing Flexible Practices

The third theme explains that teachers' interpretations of student agency are greatly influenced by their professional experience in managing the uncertainty, complexity, and dynamics of the flexible learning ecosystem. Teachers with longer experience tend to have a more adaptive and dialogical interpretation of students' choices and decisions.

The first teacher from the first high school described this very reflectively. He said, *"If I didn't have a lot of experience, maybe I would consider the student's choice to be disobedient. But after years of teaching, I learned to see the reasons behind their choices, and that changed my approach as well."* (GA-01, October 12, 2025). The teacher from the second high school emphasized the importance of teachers' reflective practices in understanding student agency patterns. He explained, *"Every time I finish class, I take note of the students' choices and their reasons. From that note, I understood which ones needed to be accompanied and which ones were already*

independent. My strategy always changes according to those findings." (GB-02, 20 October 2025).

In the third high school, the teacher said that the experience of trying different forms of differentiation changed the way he designed learning. He said, *"At first I was worried that giving too many options would overwhelm students. But after a few tries, I saw that they were actually growing. From that experience, I realized that flexibility is not letting go, but directing in a more dialogue-based way."* (GC-01, October 23, 2025). This set of interpretations confirms that teachers' professional experiences are not only a supporting factor, but become a key lens that shapes the way they understand, assess, and respond to student agency.

DISCUSSION

The findings of the study show that there is a shift in teachers' understanding of student agency from a normative view to a more contextual and autonomous capacity-oriented construction. This change is in line with recent studies that explain that student agency is not just rule-compliant behavior, but the ability to make conscious and reflective learning decisions (Anderson, 2021). Teachers begin to see that agency develops through a dialogical process between students and a flexible learning environment, rather than through one-way instruction. These results reinforce the view that adaptive learning ecosystems allow students to build more independent learning identities. Thus, the transformation of the teacher's meaning shows that student agency is a phenomenon that develops situationally, not a character that appears automatically.

The development of teachers' meanings about agency is also influenced by their ability to read the dynamics of students' choices and decisions in the context of learning differentiation. Teachers interpret that students' ability to choose does not always show full readiness, but rather reflects certain stages of cognitive and affective development. These findings are in line with research that states that the capacity to choose arises when students feel they have a safe space to explore in the learning process (Martinez & Walker, 2023). In this context, teachers play the role of facilitators who help students navigate decisions without losing their autonomy. Consequently, the practice of flexibility not only provides a choice of tasks, but also builds a space for reflection that strengthens agency.

Student readiness has proven to be one of the key factors in giving rise to agencies. In a flexible learning ecosystem, students with better self-regulation readiness tend to show a more stable pattern of choice. This is in line with self-regulation theory which asserts that emotional and metacognitive readiness are the foundations for the emergence of authentic agency (Ngo & Adams, 2024). On the other hand, students who are not ready show doubts in making decisions, indicating the need for scaffolding from teachers. These findings indicate that flexibility cannot stand alone without gradual support provided as per the needs of students. Therefore, student readiness is a strategic element that must be considered in the development of autonomy-based learning policies.

The school's structural support also plays a significant role in facilitating the growth of student agency. Learning infrastructure that allows access to space, time, and learning options has been proven to strengthen students' ability to

formulate their own learning goals and strategies. These findings support the results of research that schools that provide organizational flexibility can accelerate the development of students' reflective capacity (Rutherford & Jameson, 2022). With adequate policy support and facilities, it is easier for teachers to design responsive and differentiated learning. As a result, students have more opportunities to understand the learning process in depth. This shows that agency is not only the result of student-teacher interaction, but also institutional construction.

In addition to the student and school factors, teachers' professional experiences influence the way they interpret and respond to agencies. Teachers with longer experience show better ability to see the meaning behind students' choices and understand the dynamics of their decision-making. This reinforces the results of previous research that teachers' interpretive competence develops through reflective experience, not just formal training (Harper & Linwood, 2020). Experienced teachers tend to be more patient in accompanying the student autonomy process and more flexible in adapting strategies. In contrast, new teachers tend to assess deviations from instruction as a form of resistance, rather than as a process of student exploration. This difference makes a strong argument that the professional development of teachers must include interpretive competence as the main element.

Although the research produced findings that are consistent with the up-to-date literature, some obstacles still arise. One of them is the variation in students' reflective abilities that causes the level of agency that emerges to be non-uniform. Previous research has also shown that differences in social background and learning experiences affect how students express autonomy (Dawson & Smith, 2021). In addition, the relatively small number of participants according to the principles of science makes the results of this study cannot be generalized widely. However, these limitations provide opportunities for further research that can include more schools and variations in local contexts. Thus, the results of the study still make an important contribution, although the space for generalization is still limited.

Based on these findings and constraints, further research can be directed to the development of an integrative model that combines curriculum flexibility, readiness for students' self-regulation, and teachers' interpretive style in forming agencies. Longitudinal-based research is also needed to monitor how the meaning of agency evolves as students' learning experiences change. Comparative studies between regions can enrich understanding of the variation in school structural support in facilitating agencies. Previous studies have emphasized the importance of paying attention to the ecological dimension in flexible learning, including school culture and pedagogical values embraced (Kelley & Brown, 2023). Thus, future research needs to emphasize a holistic perspective so that the development of student agency can be supported by all elements of the educational ecosystem.

CONCLUSION AND RECOMMENDATION

The findings of this study confirm that teachers' meanings of student agency in the flexible learning ecosystem are gradually evolving from normative understanding to a more contextual and reflective construction. Teachers not only assess agency as a student's ability to make choices, but also as a capacity to make decisions independently and show critical reflection on his or her learning process. This transformation of meaning is influenced by student readiness, teacher professional experience, and school structural support that provides a space for pedagogical innovation. In the context of an increasingly adaptive learning ecosystem, teachers' interpretive understanding of student agency helps to form differential learning strategies that are more responsive to the diversity of learning needs. Therefore, agency emerges as a dynamic construct generated through the continuous interaction between pedagogical practices, technology, and a flexible learning environment.

This research further shows that strengthening student agency requires an ecosystem that not only provides freedom, but also presents a mentoring framework that supports the gradual development of learning autonomy. Teachers play a central role in mediating the learning experience through the proper interpretation of the signals, choices, and learning preferences shown by students. This study contributes to the development of theories regarding the relationship between flexible practice and student agency formation, while also offering practical implications for curriculum development and teacher training in secondary education.

ADVANCED RESEARCH

However, the limited number of participants and the geographical context indicate the need for further research with a wider scope to enrich the understanding of agency dynamics in various configurations of learning ecosystems. These findings are expected to be the foundation for a more robust and relevant autonomy-based learning model in the era of adaptive education.

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