

The Psychological Ecology of Academic Flow: Thriving Amidst Limitations in Remote Indonesian Schools

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Abstract: The Psychological Ecology of Academic Flow: Thriving Amidst Limitations in Remote Indonesian Schools. Objectives: The psychological state in which students experience optimal learning performance is called academic flow, characterized by focus (absorption), enjoyment, and intrinsic motivation. Senior high school students from remote areas need a flow experience because it affects their academic performance and happiness. This research aimed to understand the psychological dynamics and factors that influence students' experiences of flow. **Methods:** The study used a qualitative phenomenological approach. Six senior high school students from remote areas with the highest academic rank in their class were selected using criterion sampling. The data collection methods used were focus group discussions. Data analysis was conducted using content analysis, and research trustworthiness was ensured using member checks and peer debriefing. **Findings:** Academic flow in students from remote areas originates from meaningful easiness, well-being in learning, externally conditioned concentration, relational meaning in learning, time perception distortion, satisfaction in transferring knowledge, convergence of internal and external motivation, and the teacher's recognition as a catalyst for engagement. The transformation from limitations to access, moderate challenge learning model, and social support contribute to the emergence of flow in students. **Conclusion:** The academic flow of high school students from remote areas is a psychological ecology formed from the interaction between emotional-social scaffolding of teachers and the cognitive-affective regulation of students, where optimal learning occurs when the learning process is experienced as a meaningful collective journey, supported by psychological safety, and strengthened by social appreciation that affirms the students' self-worth as learners. The implications of this finding are the importance for high school teachers from remote areas to build a learning ecosystem that integrates emotional scaffolding, recognition of the learning process, and the design of structured yet accessible challenges, thus creating conditions for the emergence of deep and meaningful learning engagement.

Keywords: academic flow, psychological ecology, remote school.

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■ INTRODUCTION

From 2012 to 2035, Indonesia is projected to enter a demographic bonus period, with its peak between 2020-2030, marked by a substantial proportion of the productive-age population (United Nations, Department of

Economic and Social Affairs, Population Division, 2022). The quality of human resources poses a significant challenge, especially amid global dynamics. The future workplace requires competencies that go beyond technical knowledge, including creativity, collaboration,

and mastery of technology (World Economic Forum, 2023).

The Indonesian education system still faces various quality issues, including low literacy and numeracy skills and a lack of higher-order thinking skills. The Sustainable Development Goals (SDGs) for education in Indonesia also aim to improve universal literacy and numeracy skills (United Nations Indonesia, 2024). The results of the Programme for International Student Assessment (PISA), initiated by the Organisation for Economic Co-operation and Development (OECD) in 2022, show that 99% of Indonesian students can only answer questions at level 1-3, which are lower order thinking skills (LOTS), and less than 1% can answer questions at level 4-6, which are higher order thinking skills (HOTS) (Organisation for Economic Co-operation and Development, 2024).

This study focuses on vulnerable groups, namely senior high school students in the Pangkajene and Kepulauan Regency of South Sulawesi Province, Indonesia, categorized as a remote area. The first vulnerability is that senior high school students are nearing the end of their compulsory education and are preparing to enter higher education or the workforce. The second vulnerability is that students in remote areas have limited access to adequate educational resources.

The low achievement in HOTS is assumed to be strongly related to a lack of in-depth, engaging learning experiences. This issue is particularly acute in schools with limited resources, where monotonous, less challenging teaching methods can lead to boredom and mental fatigue among students. This challenge is crucial, as whole motivation and engagement are psychological prerequisites for deep understanding and the development of high-level thinking skills.

Deep involvement in learning is essential so that students experience joy and achieve a state of academic flow. Flow is a psychological state in which someone feels efficient cognitive

performance, motivation, and happiness. This situation refers to a delightful feeling when someone is engaged in an activity that requires full involvement, concentration, and total enjoyment (Csikszentmihalyi, 2014).

Flow is a moment of great bliss, an extraordinary pleasure, when someone is engaged in complex problems in their field, demanding that they exert all their skills, effort, and resources to the limits, or even beyond (Van der Linden et al., 2021). Flow is an optimal experience related to specific activities when people are truly focused and can enjoy them intensely. In the context of learning, students who are in flow not only experience deep joy but also lose track of time and forget themselves entirely as they become so immersed in what they are doing. They feel pleased when they are absorbed in activities that are generally tiring (Akutsu, 2020).

There are three aspects of flow in learning, namely (1) absorption, shown by focus in activities or not easily getting tired; (2) enjoyment, which can be seen from the feeling of happiness when participating in learning activities; and (3) intrinsic motivation, which can be seen from continuous activities that persist in following activities and do not get bored quickly (Shernoff, 2003; Bakker, 2005). Students with high flow levels will exhibit creativity, self-confidence, good concentration, and internal motivation to learn. Creating a flow state can help prevent procrastination (Lee, 2005) and improve learning performance and student happiness (Steel, 2007; Fullagar & Kelloway, 2009; Rogatko, 2009; Ulrich, 2014).

The antecedents of flow in educational settings can be broadly categorized into individual and environmental factors. However, a critical synthesis of the literature reveals a significant tension: while the individual factors that facilitate flow are extensively catalogued, such as self-efficacy, optimism, self-regulated learning, school well-being, and perceived academic competence (Bassi et al., 2007; Salanova et al., 2010; Bassi

et al., 2014; Salmela-Aro & Upadyaya, 2014; Salmela-Aro et al., 2016). The literature often treats them as a collection of discrete traits. This presents a fragmented understanding, overlooking how these internal characteristics might interact systemically to create a predisposition for flow.

Conversely, research on environmental factors, including task design, classroom climate, and social support (Shernoff et al., 2003; Bakker, 2005; Reyes et al., 2012; Wang & Degol, 2016; Aldridge & McChesney, 2018; Bradley et al., 2018) tends to emphasize the external conditions necessary for flow. This creates a theoretical divide: does flow emerge primarily from a student's internal psychological resources, or is it predominantly triggered by a well-structured external environment?

Research on academic flow has been conducted at various educational levels, using quantitative survey approaches (Bassi et al., 2007; Salanova et al., 2010; Salmela-Aro & Upadyaya, 2014; Bassi et al., 2014; Salmela-Aro et al., 2016; Wang & Degol, 2016; Aldridge & McChesney, 2018; Bradley et al., 2018). This study used a qualitative approach. Qualitative inquiry into the lived experience of academic flow remains limited, with a few exceptions such as flow among music teachers and students (Bakker, 2005). This study addresses this gap by utilizing a qualitative approach. Its novelty is further underscored by its focus on a sample from a vulnerable group, whose subjective experiences of flow are remarkably underexplored in the literature.

The research aims to explore in depth the experiences of high-achieving students who have achieved flow. Qualitative phenomenological studies were chosen for several reasons. First, they focus on the essence that directly addresses the core of the academic flow experience. Second, they are contextual because they capture the

unique nuances of student life in the pentagonal region. Third, they are in-depth because they produce rich narrative data about feelings, thoughts, and meanings.

High school students who have shown high levels of flow need to be understood psychologically to serve as models for other high school students seeking to experience flow. What is the research question as follows

How is the academic flow depicted among students from remote areas?

What factors influence the academic flow among students from remote areas?

■ METHOD

Participants

The research informants were six high-achieving high school students from a remote area in South Sulawesi Province, Indonesia. Criteria for remote areas include limited transportation access, limited facilities and infrastructure, and difficulty in meeting basic needs (Organisation for Economic Co-operation and Development, 2023). Homogenous sampling was used to describe specific subgroups in depth (Patton, 2015). Students who achieved the top three ranks in each class filled out the Academic Flow Scale. This scale was developed from flow aspects, including absorption, enjoyment, and intrinsic motivation (Salanova et al., 2006). It consists of 21 items, with a reliability coefficient (r_{tt}) of 0.893 and a discrimination index (r_{it}) for valid items ranging from 0.390 to 0.634. Scores range from 21 (lowest score) to 84 (highest score). Finally, six of the top students whose academic flow scores were categorized as high (scores >70) were selected and were willing to serve as research informants by voluntarily completing a written informed consent form. Table 1 presents the profiles of the informants:

Table 1. Profiles of the informants

Informant	Gender	Grade/department	Academic flow score	Level
1	Male	12/Exact science	128	High
2	Male	12/Exact science	142	High
3	Male	12/Exact science	163	High
4	Male	12/Exact science	134	High
5	Male	12/Exact science	135	High
6	Male	12/Exact science	127	High

Research Design and Procedures

This research used a qualitative phenomenological approach to understand individual subjective experiences (Creswell &

Poth, 2018). In this study, the researcher sought to explore students’ understanding of the phenomenon of flow in learning. Figure 1 shows the research flowchart.

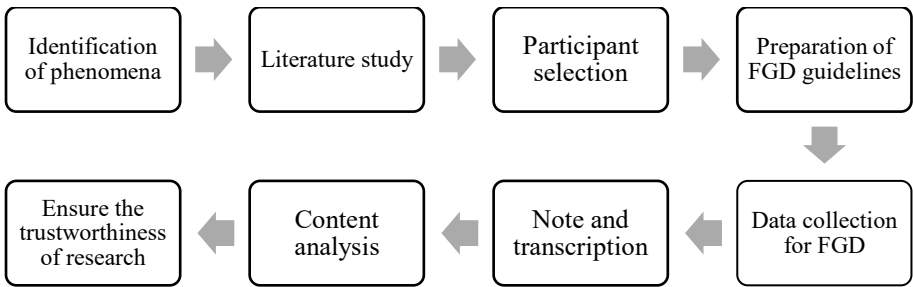


Figure 1. Phenomenological qualitative research process

Instrument

The data collection methods included Focus Group Discussions (FGDs). FGD is a qualitative, in-depth method that uses a small, homogeneous group of five to eight people to discuss the research topic (Patton, 2015). FGD was chosen because it is well-suited to any approach, including phenomenology. FGD was also selected for this research because FGD can be used as a standalone qualitative method or as part of a multimethod approach (Wilkinson, 2003).

The number of FGD sessions is flexible and adjusted to the needs (Wilkinson, 2003). In this study, FGDs were conducted three times, each lasting two hours. The list of questions in the FGD revealed students’ experiences in learning, including: (1) the match between challenges and student abilities, (2) efforts to maintain concentration and full awareness, (3) learning

objectives and efforts to achieve learning objectives, (4) acceptance of feedback from teachers, (5) experiences of success and failure, (6) positive-negative emotions in learning, (7) perception of time during learning, and (8) supportive-inhibiting factors in learning optimally. Group dynamics management ran smoothly; participants were highly enthusiastic and actively responded.

The member check technique was selected to enhance the trustworthiness of this research. Member checking is a process in which researchers return data, analysis, or interpretation to the research participants (members of the group being studied) to verify its accuracy, validity, and meaning (Creswell & Poth, 2018). The researcher provided the FGD results for the informants to recheck. The goal was to ensure compatibility between the information obtained

from the research and the informants' desired outcomes. The verbatim transcript and interview analysis conducted by the researchers were presented to the informants for review, and the informants stated that the analysis results were consistent with their intended meaning.

The credibility of the research is also ensured through peer debriefing, which involves the review of the data and research process by someone who understands the research or the phenomenon being explored. The research team discusses the interpretation results with experts to minimize bias.

Data Analysis

Data from FGDs are transcribed verbatim, which means converting audio or video recordings into written text. The next step is to perform content analysis of the verbatim transcriptions, a method that systematically and objectively analyzes communication with respect to the messages under study. Content analysis is

necessary for analyzing FGD data (Wilkinson, 2003). In content analysis, researchers strive to construct reality and understand its meaning; therefore, this research pays close attention to the process, events, and authenticity. Steps in content analysis including: (1) reading to gain an initial sense or sense of the whole from the informant's experience; (2) dividing data into meaning units after rereading the data for the second time, with a focus on identifying parts relevant to the investigated phenomenon; (3) transforming insights contained within these meaning units into a more disciplined psychological or scientific language, while still trying to maintain the nuances of the participant's life experience (in line with descriptive and interpretive framing; and (4) combining all transformed meaning units into a coherent and essential description of the investigated phenomenon (Giorgi & Giorgi, 2003). Table 2 shows an example of the content analysis results.

Table 2. Sample of content analysis results

Meaning Unit	Descriptive Meaning	Interpretative Meaning
The teacher appreciated it when giving that question; he saw his effort	The teacher gives a challenge, but what is assessed is the student's effort to work on it	Teacher recognition as a catalyst for engagement

Referring to the analysis process from Giorgi & Giorgi (2003), Table 2 shows a transformation from meaning unit to descriptive meaning by changing the statement that remains casuistic to more general, from "giving question" to "giving challenge," and the addition of "what is assessed" because the provision of questions in the classroom is part of the learning assessment process. Next, the transformation from descriptive to interpretative meaning was carried out to convey psychological meanings more effectively. The interpretation that "teacher recognition as a catalyst for engagement" is an implicit psychological meaning that is very likely to be experienced by students in that situation.

■ RESULT AND DISCUSSION

Featuring Academic Flow

The Meaningful Ease

The fundamental meaning of an optimal learning experience is the embodiment of "meaningful ease," a psychological state in which the learning process flows smoothly, free of cognitive or emotional obstacles, thereby allowing students to experience feelings of competence, ownership, and complete achievement.

"Feel calm, comfortable, enjoying it because you no longer have to search around." (Informant 4). "A task that suits my abilities is surely a pleasure, isn't it? to get a task that suits my abilities

and is easy to do.” (Informant 5). “When I have finished working on or completing the lesson, I feel satisfied.” (Informant 6)

Meaningful ease indicates the presence of both the prerequisite and the manifestation of optimal psychological states, particularly flow, in the context of learning. The finding that tranquility, task fit, and post-completion satisfaction become central in the informant’s experience deepens the conventional understanding of flow, which is often depicted as intense engagement with high challenges.

The feeling of “calm and comfortable” due to no longer having to “search for” directly relates to the Cognitive Load Theory (Fraser et al., 2015; Sweller et al., 2019). This state indicates a reduction in extraneous cognitive load (unnecessary cognitive load), originating from poor learning design or instructional ambiguity. When this load is removed, cognitive capacity can be fully allocated to germane cognitive load (relevant cognitive load for understanding), which is the ideal condition for achieving flow (Csikszentmihályi, 1990). Thus, “ease” here is a cognitive prerequisite that allows authentic engagement with the material, not a form of laziness.

The conventional perspective often describes flow as a state deliberately achieved by setting high challenges (Bakker & Mostert, 2024). However, this finding actually reverses that logic. Flow emerges naturally from creating a learning environment that is psychologically “safe” and cognitively “supportive.” The presence of clarity, fit, and resolution is a catalyst that allows individuals to free themselves from anxiety and confusion, enabling them to fully immerse themselves in the learning activity. The satisfaction produced then functions as a positive reinforcement in learning theory, building an upward spiral of engagement (Fredrickson, 2001; Pekrun, 2006; Reschly et al., 2008; D’Mello & Graesser, 2012), making individuals more likely to seek and experience flow in the future.

Well-being in Learning

Students psychologically translate the ecosystem of care into feelings of safety, appreciation, and support. This perception forms the psychological foundation for the creation of well-being in learning, ultimately enabling deeper engagement.

“Like a good class and various others. Thus making the students comfortable to learn.” (Informant 1). “The better the facilities, the more convenient it becomes, thus making us happier in the learning process.” (Informant 4). “Sufficient resources and good teaching services are provided; in addition, there are also complete facilities that greatly support the learning process.” (Informant 6)

This finding is strongly correlated with the principles of Self-Determination Theory (SDT) (Deci & Ryan, 2008; Ryan & Deci, 2020; Vansteenkiste et al., 2020). SDT states that an environment that supports optimal development meets three basic psychological needs: competence, autonomy, and relatedness. Adequate resources are a prerequisite for students to feel capable and effective in their learning efforts, enabling them to direct their learning process more independently. The growth of feelings of relatedness and being noticed is the foundation for building a positive learning community. Meeting these three needs will facilitate intrinsic motivation and academic well-being (Salmela-Aro & Upadaya, 2014).

External Conditioning Concentration

The fluctuation of student focus is not solely the responsibility of the students, but rather a response conditioned by the quality of pedagogical stimulation from the teacher.

“If the teacher is engaged in the class, the students can focus on the lesson. But if the teaching method is boring, many students will drift to other thoughts.” (Informant 3), “For example,

imagine a teacher explaining in a flat, unchallenging way; we do not feel comfortable.” (Informant 5). “For me, the concentration went up and down in class. However, mostly it depends on the teacher’s teaching method. So there are teachers who know the lesson is difficult and give some ice-breaking activities to prevent us from getting overwhelmed with the lesson.” (Informant 6)

This finding shifts the traditional understanding of concentration from mere executive function of the individual brain to a dynamic construction resulting from the interaction between teachers’ pedagogical practices and students’ neuroscientific attention. Teachers actively build cognitive hooks that can compete with the stimuli from the digital world, thus keeping students in the learning zone.

Relational Meaning in Learning

Students learn as a form of gratitude for their parents’ hard work and as an investment in their future.

“To regain consciousness in a lesson depends on intention. Because usually when we want to learn, we think again about how our parents sent us to this school.” (Informant 1). “Maybe what made me realize to attend that lesson was the hard work of my parents.” (Informant 3). “I learned with the motivation of my parents, and besides that, I also want to achieve my future aspirations.” (Informant 5)

This finding indicates that students’ learning motivation is a dynamic socio-relational construction, in which awareness of parental sacrifices and a vision of the future serve as a “motivational bridge” that facilitates the transition from external regulation to the internalization of learning values (Kaplan & Flum, 2009). The process of internalizing motivation aligns with the concept of identified regulation in the latest version of Self-Determination Theory (Deci &

Ryan, 2008; Ryan & Deci, 2020; Vansteenkiste et al., 2020). Students do not merely comply with parental expectations externally; they have also identified educational values as part of their own identity, even though they were initially motivated by external factors.

Time Perception Distortion

Full absorption of students leads to a loss of self-awareness and distortion of time perception.

“Discussing brings joy, so we get carried away in the mood and time flies.” (Informant 1). “Because I was carried away by the discussion and lost track of time.” (Informant 4). “Why time flies when the learning is enjoyable.” (Informant 5). “Time passes quickly.” (Informant 6)

The perception of time as “flying” during enjoyable learning processes consistently reflects the core characteristics of the flow state as conceptualized by Csikszentmihalyi (2014). Positive affective states during high cognitive engagement result in selective attention allocation, shifting attention from internal timekeeping to external information processing. This leads to a decrease in the accuracy of time estimation, which is subjectively experienced as “time flying.” (Droit-Volet & Meck, 2007; Sackett et al., 2010; Lake et al., 2016; Gable et al., 2022). Tasks with characteristics of “optimal challenge,” “clear goals,” and “immediate feedback,” presented in a supportive social context, consistently yield higher reports of temporal distortion (Im & Varma, 2018).

Satisfaction in Transferring Knowledge

For students, academic success is not measured solely through individual mastery of the material, but rather through the ability to transform that knowledge into a social resource that can be shared with peers.

“Can be taught or shared with friends who lack understanding.” (Informant 4). “Success to me, when we learn and have a friend who does not understand us, we can teach.” (Informant 5)

When students define success as the ability to “teach friends who do not understand,” it shows that academic agency does not only lie in individual mastery but also in the capacity to act meaningfully within the learning community. This perspective aligns with ecological agency theory, which emphasizes that agency arises from the interaction between individual capabilities and the opportunities provided by the social environment (Curnow & Jurow, 2021). The desire to teach friends represents the fulfillment of basic psychological needs in Self-Determination Theory, specifically relatedness (Deci & Ryan, 2008; Ryan & Deci, 2020).

Convergence Between Internal and External Motivation

Extrinsic and intrinsic student motivation merge into a practical logic for surviving and succeeding in the social order.

“I have to compete.” (Informant 1). “To make my parents proud.” (Informant 2). “The motivation to study is first for the future, second for career, and third because of the hard work of my parents.” (Informant 3). “For the future, thinking about aspirations, parents’ motivation.” (Informant 5). “If we compete with many people, it is like we are ahead because our knowledge is broad, and we can gain privileges like being outstanding in society.” (Informant 6)

Students who can connect current actions with concrete future consequences demonstrate a higher level of academic grit (Griffin & Wildbur, 2020). A competitive orientation in this finding can lead to flow if accompanied by the development of a growth mindset and collaborative values. Individuals with a growth

mindset tend to view challenges (such as competition) as opportunities for learning and growth rather than threats to their ego. This perspective allows them to fully engage in a task, a condition that is the essence of flow, even in high-pressure situations like competition (Zeng et al., 2016; Dweck & Yeager, 2019; Yeager et al., 2019).

Teacher Recognition as a Catalyst for Engagement

For students, appreciation and recognition from teachers serve as a psychological lever, transforming the effort of learning from a burden into a valuable investment.

“The teacher appreciated it when giving that question; he saw his effort.” (Informant 2). “If the best of the best I mentioned is every month, once a month. Best academically, best in sports, and so on.” (Informant 2). “The praises were immediately given just when I was about to try.” (Informant 6)

To enjoy learning, students must receive information about their learning progress. Initially, feedback should come from outside, but ultimately, students need to give themselves feedback (Csikszentmihalyi, 2014). The acknowledgment given at the pre-performance stage increases academic courage by 45%. Timely praise serves as psychological permission to take learning risks (Zeng et al., 2016; Dweck & Yeager, 2019; Yeager et al., 2019).

Factors Increasing Academic Flow Transformation from Restriction to Ease of Access

For communities accustomed to scarcity, the presence of comprehensive facilities marks a psychological turning point, shifting learning from an activity filled with obstacles to a smooth-flowing experience.

“Complete facilities that greatly support the learning. There are laboratories and other facilities.” (Informant 6). “Comfortable, as the facilities already meet the requirements.” (Informant 4). “Because if the facilities are complete, it can be beneficial to us.” (Informant 1)

This finding shows that educational facilities in remote areas function as symbolic capital, communicating the value and importance of education within the community. In remote areas that often face resource constraints, meeting basic facility needs is a psychological prerequisite for achieving a flow state in learning (Barrett et al., 2015; Andrade et al., 2024). Laboratories and supporting facilities not only serve as learning tools but also as community learning hubs that connect formal knowledge with local contexts.

Moderate Challenge Learning Model

For students in remote areas, academic achievement does not depend on the complexity of teaching methodology, but on the teacher’s ability to create a “humanistic learning rhythm.”

“Given a break or ice-breaking activity. With that pattern, our concentration increases.” (Informant 6). “The teacher explains with theory, examples, and clear workings.” (Informant 5). “If the explanation is somewhat understandable, we also have motivation to work on it, and we are more challenged.” (Informant 1)

This finding emphasizes that the path to deep flow and engagement actually begins with ensuring cognitive accessibility, removing comprehension barriers from the outset. Teachers need not fear that clear explanations and refreshment will reduce challenges. On the contrary, the solid foundation of clarity and mental freshness actually serves as a catalyst, allowing students to voluntarily take on more

complex learning challenges as they feel safe, capable, and ready. This finding expands Csikszentmihalyi’s (2014) theory of flow by showing that in the marginal context, the optimal balance between challenge and skill is not linear. The meaningful ease found in this research is also due to the implementation of adaptive scaffolding tailored to students’ needs, which encourages students to take cognitive risks, thereby gradually increasing learning independence and achieving deep understanding (Van de Pol et al., 2010; Tirado-Morueta et al., 2021).

Social Support

Social support from parents is one factor that enables students to learn as effectively as possible. Social support functions as a psychological scaffold that transforms learning from an individual activity filled with obstacles into a meaningful collective experience.

“If the target is achieved, the parents will also be happy and tell others that they have a child as great as this, so it was not in vain to give birth to them.” (Informant 2). “I can learn a vast range of knowledge, so when competing with many people, it is like we are superior because our knowledge is extensive. Moreover, we can gain advantages, for example, being outstanding in society.” (Informant 6)

This finding shows that social support fosters psychological safety, enabling individuals to take the cognitive risks necessary to achieve flow. In a socially supportive environment, students are not afraid of failure; thus, they can fully immerse themselves in learning challenges without anxiety interfering (Reschly et al., 2008; Fredrickson, 2001; Pekrun, 2006; D’Mello & Graesser, 2012). The findings related to students’ academic flow experience are summarized in Figure 2.

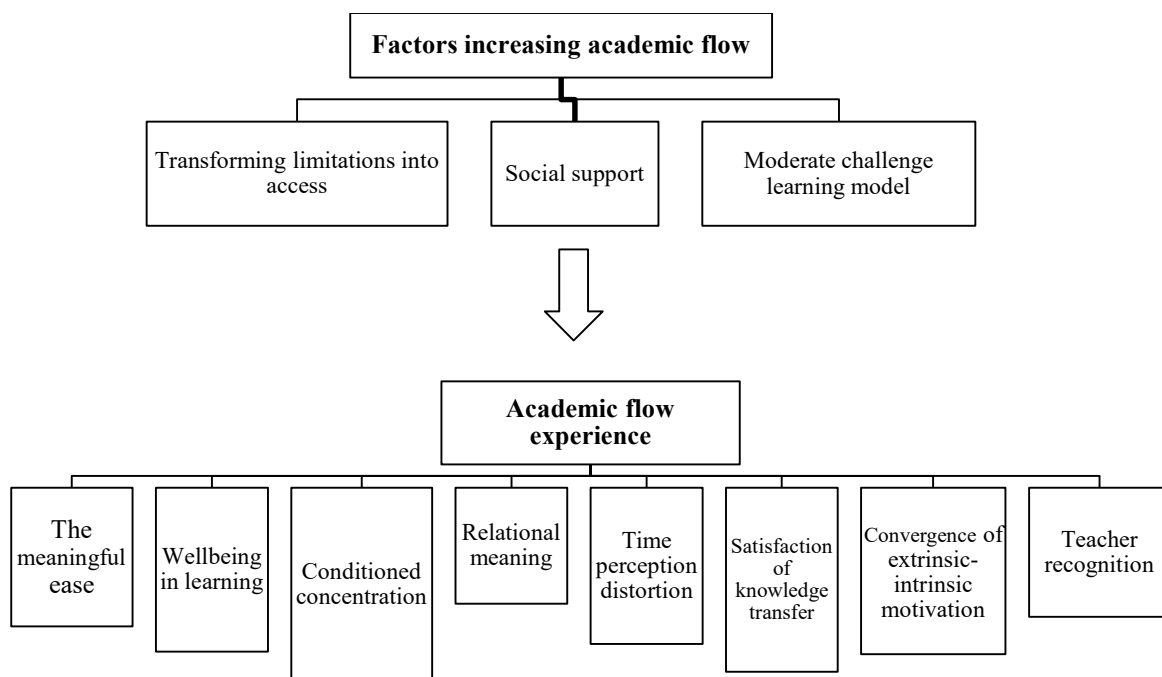


Figure 2. Academic flow experience of high-achieving students in remote areas

The research's limitation stems from its scope, which focuses only on students from one type of school. However, there are various types of senior high schools, including state, private, religious, and vocational schools. The following limitation is the number of informants, which consists of only six students, thus not guaranteeing data saturation. The homogeneous sample is also unrepresentative, as it includes only males majoring in the exact sciences at the school. The FGD method was considered because participants might feel more comfortable sharing in a group, and because it can be used as a single method in research (Wilkinson, 2003). However, using FGD as the primary method also raises potential data bias and a lack of in-depth phenomenological analysis.

■ CONCLUSION

Based on the research findings, it can be concluded that the academic flow of high school students from remote areas is a psychological ecology formed from the interaction between

emotional-social scaffolding of teachers and the cognitive-affective regulation of students, where optimal learning occurs when the learning process is experienced as a meaningful collective journey, supported by psychological safety, and strengthened by social appreciation that affirms the students' self-worth as learners.

The theoretical implications of this research include extending the theory of conventional flow into a collectivist context and under limited resource conditions. Additionally, there is a need for a context-sensitive positive psychology model that can identify and leverage local strengths and adaptive mechanisms (such as constraint transformation) to create optimal learning experiences. The practical implications of this research are the need for a paradigm shift in learning design from an approach focused solely on academic difficulty levels towards the creation of a learning ecosystem that is psychologically responsive. This can be realized through three main strategies: (1) ensuring instructional clarity and authentic task alignment with the level of student development, accompanied by

recognition of task completion to build a sense of achievement; (2) developing cultural motivation practices by leveraging the relational and temporal meaning networks that students already possess, including strengthening the connection between current learning and family values and future aspirations; and (3) creating a balanced performance ecology that combines individual achievement recognition with the reinforcement of collaborative values, supported by the development of educational facilities that function as dual-purpose solutions and psychological interventions for remote communities.

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