

Informal Learning Behavior of Elementary School Teachers in Nabire Regency, Central Papua Province

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ABSTRACT

This study aims to analyze and discover the informal learning behavior of elementary school teachers, as well as the personal and situational factors associated with such behavior in Nabire Regency, Central Papua Province. The research is motivated by the gap between teachers' managerial workload and the actual competencies in the field, as well as the importance of informal learning pathways in the digital era and challenging geographical conditions. This study employed a qualitative approach with a case study method (mini case study design). Data were collected through unstructured interviews, non-participant observation, and documentation studies involving 16 classroom teachers as primary data sources and 7 school principals as secondary data sources (triangulation). The data analysis technique used an interactive model consisting of data reduction, data display, and conclusion drawing. The results of the study indicate that: (1) Teachers' informal learning behavior is manifested through active learning actions and information seeking, covering dimensions of self-planning, socialization/knowledge sharing, reflection on feedback, experimentation with new ideas, and adaptation to curriculum changes; (2) Personal factors driving this behavior include intrinsic motivation, personality traits (responsibility and openness), self-efficacy (belief in capability), and self-development goal orientation; (3) Supporting situational factors include work autonomy, task challenges, availability of feedback, collaborative social interaction, as well as principal leadership support and a conducive school climate. The study concludes that the informal learning behavior of elementary school teachers is the result of a complex interaction between personal and situational factors that reinforce each other in efforts to enhance teacher professionalism.

Keywords: Educational Management, Elementary, Informal Learning, Teachers, Situational Factors.

INTRODUCTION

Efforts to improve quality at the primary education level require strategic measures to develop the quality of teachers as human resources within educational organizations. Teachers are professional educators whose primary duties involve educating, teaching, guiding, directing, training, assessing, and evaluating students across formal early childhood, primary, and secondary education pathways (Ministry of Education and Culture, 2018). Within the formal education system, teachers perform their duties in settings such as Elementary Schools (SD). The various forms of work required of teachers are reflected in the elementary school teacher workload, which encompasses core activities, namely planning instruction or guidance, executing instruction or guidance, assessing learning or guidance outcomes, guiding and training students, and performing additional tasks inherent to these core activities in accordance with established workload standards (Ministry of Education and Culture, 2018).

An analysis of this workload clearly implies a managerial burden that teachers must shoulder in their capacity as instructional managers. However, a preliminary study conducted by the researcher reveals a phenomenon suggesting that the roles performed by teachers are not yet optimal. Indications of this suboptimal performance include: teachers failing to act as effective instructional planners, as their Lesson Plans (RPP) are often not fully grounded in a thorough review of the curriculum/syllabus or annual and semester programs, and the plans themselves do not meet process standards; teachers failing to fully execute instruction, as they do not meet the required weekly face-to-face teaching hours; teachers failing to act as effective guidance providers due to a lack of competence in guidance and counseling or Information and Communication Technology (ICT); teachers failing to act as effective assessors or evaluators, as they do not fully evaluate learning or guidance through the collection and processing of information to measure student learning outcomes and inform instructional improvements; and teachers failing to fully assume the roles of mentor and coach through co-curricular and/or extracurricular activities.

A comparative analysis of the managerial workload teachers are expected to handle versus the reality described reveals a clear gap. Fundamentally, this gap is a problematic situation that did not arise in isolation but stems from several root causes. One identified root cause is the quality of learning undertaken by elementary school teachers across formal, non-formal, and informal pathways. Formal learning is evident in the educational activities associated with pursuing further studies; non-formal learning is seen in training programs; and informal learning occurs through daily activities, anytime and anywhere. A study by Lengkong (2023: 37) indicates that, in the context of current digitalization, the informal learning pathway is crucial for the development of educational managers in the 21st century. Furthermore, informal learning serves as an effective and motivating strategy to support teachers' informal learning processes, an approach that has gained increasing attention following the COVID-19 pandemic. Consequently, informal learning has become a preferred choice for teachers seeking continuous professional development and a means to fulfill the workload requirements associated with their roles as managers of the learning process.

Preliminary research conducted in Nabire Regency, Central Papua Province, highlights the informal learning choices made by elementary school teachers. This subject warrants further study due to several factors: severely limited learning facilities; the fact that most elementary schools are located in remote inland and mountainous districts and villages; and limited information and communication technology (ICT) infrastructure. These constraints result in suboptimal use of the *Merdeka Mengajar* (Emancipated Teaching) platform, a key digital learning resource, by teachers. This phenomenon affects not only teachers in remote inland and mountainous areas but also those working in elementary schools located in urban centers and district towns. The situational and

contextual aspects of teachers' informal learning behavior constitute a significant basis for the urgent need to conduct research on this topic in Nabire Regency, Central Papua Province.

A review of the literature indicates that prior research has established theories regarding informal workplace learning among employees in business and industrial organizations. Wolfson et al. (2018; 2019) explain that in business environments, informal learning occurs through cognitive and behavioral processes involving environmental scanning, experimentation, and reflection. In for-profit organizations, informal learning serves as a form of professional self-preservation; employees engage in proactive feedback-seeking not merely to learn, but to ensure their performance aligns with competitive organizational targets (Yau, Chin & Hsu, 2023; Glaister et al., 2023; Al-Hajri, 2022; Zia et al., 2021; Decius, Schaper & Seifert, 2019; Cerasoli et al., 2018; Eva et al., 2016). Regarding informal learning among teachers in educational settings such as schools, research (e.g., Wang et al., 2024) highlights that in the post-pandemic era, this practice has transformed into Digitalized Informal Learning (DIL). Furthermore, Al-Awidi & Al-Furaih (2023) and Lecata (2020) add that within school organizations, informal learning is significantly influenced by the school climate. This theory posits that schools with a strong collaborative culture encourage teachers to engage in spontaneous discussions—or "corridor learning"—which are more effective than formal workshops at changing teaching practices. However, previous studies by Bouaissane, Mourchid, and Brigui (2022) indicate that there is limited scholarly research on teachers' informal workplace learning behaviors. Fundamentally, informal learning behavior stems from determinants categorized as either personal or situational/contextual factors that yield positive outcomes for both individuals and organizations (Cerasoli et al., 2018); yet, research examining informal learning behavior alongside its determinants remains scarce. Furthermore, it remains unclear how personal and situational/contextual factors enrich teachers' informal learning behaviors. In essence, the informal learning behavior of elementary school teachers does not emerge in isolation but arises through interactions with various personal and situational determinants. Factors such as a lack of conscientiousness, openness, or learning motivation (personal factors), alongside a lack of resources, autonomy, and adequate support from principals and colleagues (situational factors), act as barriers rather than facilitators of informal learning. Therefore, based on the arguments and rationale outlined above, the proposed research title is: "Informal Learning Behavior of Elementary School Teachers in Nabire Regency, Central Papua Province." Research on teacher informal learning is vast and complex, capable of being viewed from diverse perspectives and analyzed across various organizational settings. Based on these considerations, the research focuses on the informal learning behavior of elementary school teachers in Nabire Regency, Central Papua Province, specifically examining the personal and situational factors influencing this behavior. Accordingly, the research questions are formulated as follows: What is the nature of informal learning behavior among elementary school teachers in Nabire Regency, Central Papua Province; How do personal factors relate to the informal learning behavior of elementary school teachers in Nabire Regency, Central Papua Province; How do teachers' situational factors relate to the informal learning behaviors of elementary school teachers in Nabire Regency, Central Papua Province.

LITERATURE REVIEW

Informal Learning Behavior in the Context of Educational Management

Behavioral Approach in Educational Management

The history of educational science reveals that the behavioral approach is one of the methods employed. The emergence of this approach aligned with the human relations movement a collaborative effort among theorists and practitioners aimed at making managers more sensitive to

the needs of workers. In the context of teachers acting as managers, this sensitivity extends beyond the needs of students to encompass the needs of fellow teachers as colleagues within the school's managerial environment. Scholars supporting human behavior theory began conducting behavioral studies in workplaces; rather than focusing on the tools and techniques characteristic of the scientific management tradition, they concentrated on the people themselves. Behavioral research integrated management interests with the psychological and sociological dynamics of the workplace. The application of this behavioral approach to studying organizational management phenomena gave rise to the human relations movement, which was fundamentally influenced and supported by the Hawthorne studies.

Teacher Behavior as an Instructional Manager

In essence, instructional management is a key component or area of focus within the field of educational management alongside student management, curriculum management, the management of educators and educational staff, the management of educational facilities and infrastructure, financial management, and the management of school-community relations (involving parents, the business and industrial sectors, and the public at large). The study of instructional management focuses not only on the role of the school principal as an instructional manager but also acknowledges the reality that teachers, too, can act as instructional managers. Gemnafle and Rafafy (2021) explain that the discourse on instructional management extends beyond the planning, implementation, and assessment of learning outcomes to encompass the role of the teacher as an instructional manager. Proficiency in planning, implementing, and assessing learning outcomes constitutes the essential knowledge and skills required for a teacher to function effectively in this managerial capacity. Consequently, a teacher who is competent in instructional management should be supported by a specific set of knowledge and skills that define this competency. These competencies can be acquired through formal and non-formal education; however and crucially for the current era informal learning, examined through a behavioral approach, is equally important.

Concept of Informal Learning

Definition of Informal Learning

Experts have defined the concept of informal learning based on their respective perspectives. The following are several viewpoints that can serve as references for understanding the nature of informal learning. Marsick, Volpe, and Watkins (1999) emphasize that informal learning centers on work experience; it is unstructured and takes place outside the classroom. Meanwhile, Lohman (2005) argues that informal learning encompasses emotional, physical, or cognitive efforts to enhance professional knowledge and skills. Furthermore, Noe, Tews, and Marand (2013) state that informal learning occurs through self-directed learning (experimenting with new methods), learning from others (interactions and feedback from colleagues and supervisors), and learning from non-interpersonal sources (such as publications and the internet). Schugurensky (cited in Al-Hajri, 2022) views the concept of informal learning through the lens of intentionality and awareness, distinguishing between three forms of informal learning. The first is the self-directed form, in which individuals learn consciously and intentionally. The second is the incidental form, where learning is an unintended outcome of an activity, yet the learner remains aware that informal learning has taken place. The third is the socialization form, linked to tacit knowledge; this refers to the acquisition of skills, values, attitudes, and behaviors in an unintentional and unconscious manner.

Informal learning results from a combination of personal and contextual factors, yielding positive outcomes for both individuals and organizations (Cerasoli et al., 2018). Al-Hajri (2022:28) suggests that "... informal learning can be viewed as an unstructured approach as it occurs through

processes that cannot be officially accounted for when compared to formal learning activities in organisations.” In other words, informal learning can be regarded as an unstructured approach because it unfolds through processes that cannot be officially tracked or accounted for in the same way as formal learning activities within organizations.

Informal Learning Model

A literature review identified two developed models of informal learning: the Dynamic Model and the Nomological Model (Al-Hajri, 2022). The dynamic model of informal learning developed by Tannenbaum et al. (2010) was designed to highlight the components that determine the effectiveness of informal learning within an organizational framework. This dynamic model comprises input factors that determine outputs through specific processes. The input factors essentially represent organizational conditions or situations that also apply to individual employees. The factors included in the model do not operate in a linear sequence; the design reflects the dynamic nature of the relationships between components, driven by constant interaction.

The dynamic model has been widely used in research, often with framework adjustments to further classify its components. Patterson et al. (2017) identified constructs underlying four key variables, operationalizing experience/action as an organizational-level input, intention to learn as an individual input, reflection as an individual outcome, and feedback as an organizational outcome. A different approach was adopted by Cuinen et al. (2017), who classified intention to learn and experience/action as inputs, while viewing feedback and reflection as output factors.

METHOD

Research Method

The core issue of this study concerns teachers' informal learning behaviors and the personal and situational factors associated with them. Given the qualitative nature of this issue, a qualitative research approach is appropriate (Gay, Mills & Airasian, 2012; Sugiyono, 2013; Creswell, 2014). Adopting a qualitative approach enables the researcher to serve as the primary research instrument. This role is further optimized through the support of supervisors (Promoter and Co-Promoter) who possess the competence and experience to guide students utilizing qualitative methodologies. The study employs a case study method (Gay, Mills & Airasian, 2012; Sugiyono, 2013; Creswell, 2014)—specifically a "mini case study" design (Lengkong, 2004; Lengkong & Rotty, 2022) focusing on a specific unit of analysis, whether an individual or an organization (Yin, 2018). In this instance, the case focuses on individual classroom teachers representing the broader population of classroom teachers in Nabire Regency. Participants were selected using snowball sampling, adhering to the principle of data saturation; data collection ceased when the information obtained from the teacher participants no longer showed substantive changes indicating that the data had reached a point of saturation (Sugiyono, 2013). The research is being conducted in Nabire Regency, located in the Central Papua Province, involving a total of 11 schools comprising 4 public elementary schools (SDN) and 7 private schools. The study is taking place from February to September 2024.

Data and Data Sources

The data collected and analyzed in this study consist of qualitative data regarding informal learning behaviors and their determining factors. This qualitative data was derived from the study's primary sources 16 classroom teachers and triangulated with secondary data sources, namely 7 school principals.

Data collection technique

The data collection techniques employed were interviews, observation, and document analysis. Data collection activities were concluded by the researcher once data saturation was reached or when no further significant data remained to be gathered. These data collection techniques are described as follows.

1. Interview

This study employed an unstructured interview technique. The interviews were conducted using a research instrument specifically an interview guide developed by the researcher based on the study's key issues. This guide facilitated the recording of information relevant to the research data. Follow-up interviews were occasionally conducted to ensure the clarity of the data obtained. Interviews took place both face-to-face (offline) and remotely (online) via telephone, particularly with teachers and principals from elementary schools located furthest from Nabire city (SD Advent Keu, a 10-hour journey, and SDN Inpres Kamarisano, a 6-hour journey by speedboat from Nabire). The study covered six schools located within the city, three on the city outskirts, and the two most remote schools.

The data collection process using unstructured interviews was conducted in accordance with the recommendations of Gay, Mills, and Airasian (2012), as follows:

- a. Listen more and do not steer the informant.
- b. Strive not to disturb the informant while they are performing their duties, but rather wait for a response from the research informant.
- c. When the informant is thinking, a stance of tolerance within the silence will be adopted—meaning the researcher will remain silent, thereby allowing the informant the opportunity to think.
- d. Avoid asking leading questions; instead, ask open ended questions.
- e. Strive to keep the informant focused and ask detailed, concrete questions.
- f. Following up on what the informant says and asking questions if the researcher does not understand.
- g. Strive to avoid judging the informant's views or beliefs and maintain a neutral stance in order to understand their perspective, regardless of whether the researcher agrees with it.
- h. Strive to avoid arguing with the informant, particularly regarding their responses, as the researcher's role is that of a recorder rather than a debater.

2. Observation

This study employed a non-participant observation technique, meaning the researcher did not directly participate in or become part of the daily life at the research site. The observation involved examining the workplace setting and the teachers' informal learning behaviors, as well as monitoring activities relevant to the data being sought. Observations were recorded in a field notebook. The researcher also took care to avoid observations that might disrupt the operations of the government officials' offices. The observation process was highly focused, as an observation guide had been prepared beforehand to serve as the data collection instrument. The observational data obtained were promptly documented in field notes, both while at the research site and after returning from it..

3. Documentary Study

This research also involved a document study, encompassing both manual and digital documents. The operational steps taken are outlined below:

- a. Developing guidelines for the document study regarding teachers' informal learning behaviors.

- b. Consulting with dissertation supervisors to ensure the researcher-developed guidelines were suitable for use.
- c. Prior to conducting the document study, the researcher endeavored to establish good rapport to ensure the process unfolded as intended.
- d. During the document study, although guidelines had been prepared, the researcher remained flexible, adapting the process to focus on key aspects that emerged while examining the available documents.
- e. Before concluding the document study, the researcher requested permission to conduct follow-up reviews should any information need to be supplemented to meet research requirements.
- f. Immediately after completing a document study session and within no more than half an hour the researcher recorded the findings in a prepared field notebook.

To facilitate research data collection, a coding system was established based on data collection techniques namely interviews (code: W), observations (Ob), and document studies (code: SD) and key research topics: informal learning behavior (code: PPI), teachers' personal factors related to informal learning behavior (code: FPG-PPI), and teachers' situational factors related to informal learning behavior (code: FSG-PPI). The system also covered research informants, comprising 16 classroom teachers (codes: GK-01 through GK-16) and 7 school principals (codes: KS-01 through KS-07), resulting in a total of 23 informants. Informant selection employed the snowball sampling technique (with classroom teachers serving as the primary data sources) and the principle of data saturation, beginning with the classroom teacher informants (GK-01 to GK-16) and proceeding to the school principal informants (KS-01 to KS-07).

Data Analysis Techniques

Data analysis was conducted both during fieldwork and after returning from the field. The analysis technique employed was adapted from the interactive model proposed by Miles, Huberman, and Saldana (2014), comprising data reduction, data display, and verification/conclusion drawing.

The operational steps of the data analysis carried out by the researcher are as follows.

1. Data Reduction

The volume of collected research data was substantial, necessitating data reduction. The researchers carried out this process by summarizing, selecting, and focusing on key elements, identifying themes and patterns, and disregarding information that was irrelevant to the required data or the core research problem.

2. Data Presentation

The reduced research data is presented in a format that facilitates readability and interpretation. The methods employed by the researcher vary, ranging from creating brief descriptions and charts to mapping out the relationships between categories relevant to the research topic.

3. Verification/Drawing Conclusions

The process was conducted interactively, moving from data collection to data reduction, then to verification/drawing of preliminary conclusions; from data collection to data presentation and verification/drawing of preliminary conclusions; and from data reduction to data presentation and verification/drawing of final conclusions for compilation into the research report. The researcher carried out this final conclusion-drawing phase only after the data had been validated and had become consistent meaning they were no longer subject to change.

Data Validity Testing

The researcher evaluated the research data by examining or testing for credibility, transferability, dependability, and confirmability (Sugiyono, 2013). The application of the methods used to verify data validity in this study is described as follows.

1. *Credibility Testing*

Researchers chose triangulation as the method to verify data credibility. This triangulation encompasses time triangulation (morning, midday, and afternoon), data collection technique triangulation (observation, interviews, and document study), and source triangulation (teachers and the school principal).

2. *Transferability Testing*

This qualitative study possesses transferability if it can be applied to other contexts and social situations. Consequently, the findings are transferable provided they are relevant to the specific contexts and social situations in question. Therefore, the researcher has endeavored to produce a research report that is detailed, clear, systematic, and, above all, credible.

3. *Dependability Testing*

The dependability of the research data, once collected and compiled into a report can be verified. The approach taken by the researcher involves maintaining openness with the supervisor, co-supervisors, and other parties to allow for an audit of the entire research process. Internal auditing is conducted by the supervisor and co-supervisors, while external auditing is performed by the examiners..

4. *Confirmability Testing*

The guidance provided by the supervisors ensures the objectivity of this research. By adhering to proper research principles throughout the process from problem definition to the generation of findings and conducting a confirmability test, the research is likely to gain the acceptance of the dissertation supervisors and other relevant parties. Fundamentally, this consensus regarding the research findings serves as an indication that the data has undergone a confirmability test.

RESULTS AND DISCUSSION

Based on the qualitative data analysis, the research findings regarding teachers' informal learning behaviors can be described. Data obtained from the researcher's interviews with classroom teacher informants are presented in Table 1.

Table 1. Interview Data

No.	Data and Coding System from Teacher Interviews
1.	"The first thing I do as a teacher is set my own plan and goals for informal learning. I decide for myself what material I need to learn. I also regularly talk with fellow teachers—sharing ideas and discussing teaching tasks—and reflect on the feedback they or the principal provide." (W-GK-01-PPI)
2.	"My informal approach to learning involves daring to try new things and taking the risk of tackling challenging tasks. For instance, I've tried implementing problem-based learning in my classroom. I'm introducing innovative teaching models, and since these are new to me, I have to be adept at adapting." (W-GK-02-PPI)
3.	"Informal learning for me is like us adapting to new things like the Independent Curriculum. I learn from myself, reflect, and test new things in class. It's also important to ask for input so that your teaching assignment at school becomes more stable. I'm also not embarrassed to ask questions casually to fellow teachers or the principal." (W-GK-03-PPI)

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4. "In addition to non-formal learning—such as attending training sessions—I also engage in informal learning. My informal learning practices include planning for self-reflection, adapting to change, and conducting experiments or trying out new innovations, such as the cooperative learning model." (W-GK-04-PPI)
 5. "I engage in informal learning. My informal learning activities include seeking new information by reading scientific publications and attending conferences, seminars, or workshops, as well as searching online via websites, WhatsApp, and Facebook. Since we teachers are required to implement innovations such as the differentiated learning model mandated by the *Kurikulum Merdeka* (Independent Curriculum) it is necessary to adapt and experiment with these approaches during the teaching process. When conducting lessons, I engage in self-reflection with my students to gather feedback that helps improve both my teaching and their learning." (W-GK-05-PPI)
 6. "In my view, reflecting on one's learning counts as a form of informal learning behavior. Other examples include creating an informal study plan and attempting to implement innovative learning methods—such as self-directed learning after adapting to a model where I personally manage my own learning activities." (W-GK-06-PPI)
 7. "In my opinion, informal learning behaviors include asking fellow teachers questions, receiving feedback from colleagues and the school principal, observing the actions and work results of fellow teachers, and seeking new information." (W-GK-07-PPI)
 8. "I adapted and summoned the courage to implement a new teaching model, reflected on the results of its implementation, and collaborated and engaged in discussions with students, fellow teachers, and the principal—essentially socializing and observing student learning throughout the process. Naturally, as an instructional planner, I carefully planned all these new teaching actions." (W-GK-08-PPI)
 9. "I accept feedback and reflect on it with students and fellow teachers, while experimenting with new approaches—such as project-based learning models or strategies—tailored to the specific conditions of my school, based on lesson plans I have developed myself." (W-GK-09-PPI)
 10. "If asked about my informal learning behaviors such as planning, implementing, and evaluating learning I engage in self-reflection after the learning process." (W-GK-10-PPI)
 11. "Every teacher is expected to innovate or implement innovations. This necessitates self-planning, self-adaptation, and self-reflection, as well as engaging in discussions, collaboration, and social interaction with fellow teachers and the school principal to carry out previously established informal learning plans." (W-GK-11-PPI)
 12. "I learn through self-reflection and by experimenting with learning innovations myself; I also learn from fellow teachers and principals—engaging externally by observing their methods, asking colleagues questions, and accepting their feedback—while also utilizing reading materials and seeking information offline and through informal learning resources." (W-GK-12-PPI)
 13. "For me, informal learning behaviors include creating informal learning plans, seeking out and discovering offline and online learning resources, adopting and adapting learning approaches, experimenting with innovative learning methods, collaborating with teachers, and engaging in self-reflection to generate feedback for myself as well as for others, such as teachers and school principals." (W-GK-13-PPI)
 14. "I engage in informal learning. My informal learning practices involve self-reflection, learning from others through observation, consulting with fellow teachers and the school principal and receiving their feedback, and utilizing learning resources available at the school as well as those I source myself." (W-GK-14-PPI)
 15. "As a teacher, I engage in not only formal and non-formal learning such as attending training sessions but also informal learning. This informal learning process naturally involves certain behaviors, such as socializing through discussions and the sharing of new ideas and knowledge, as well as adapting to and experimenting with new teaching models aligned with the informal learning plans I have created." (W-GK-15-PPI)
 16. "Since we are so far removed from the internet here, I learn informally from nature itself. I look at trees, rocks, or rivers and think about how to turn them into teaching materials. I can't rely on
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Google, so I have to rack my brain to make the most of what God has provided in this environment. We can only use the internet when we go down to the city." (W-GK-16-PPI)

Data from the researcher's interview with the school principal informant are presented in table 2.

Table 2. Interview Data Results

No.	Data and Coding System from Interviews with the School Principal
1.	"Teachers help me reflect on the feedback I provide in order to improve their teaching methods and enhance student learning outcomes." (W-KS-01-PPI)
2.	"To the best of my knowledge, teachers engage in informal learning both within and outside the school environment. Examples of their informal learning activities include socializing with fellow teachers at school, experimenting with new instructional models such as project-based learning and constantly adapting to changes occurring within the school." (W-KS-02-PPI)
3.	"My teachers adapt to the changes or innovations being implemented at the school. This adaptability is evident in their willingness to implement the *Merdeka Belajar* (Freedom to Learn) curriculum and apply cooperative learning methods. Furthermore, they engage in informal lesson planning and readily consult with their colleagues and me in an informal manner." (W-KS-03-PPI)
4.	"As far as I know, several teachers develop informal lesson plans by learning from fellow teachers and from me, observing the actions and work of other teachers, and learning from non-human sources such as teacher's manuals or online instructional materials." (W-KS-04-PPI)
5.	"Teachers' informal learning behaviors are evident at the school. For instance, they frequently ask questions in informal settings and seek advice from me or their fellow teachers; they also reflect on my feedback and experiment with new ideas." (W-KS-05-PPI)
6.	"I don't know a great deal, but I often observe them asking questions—of fellow teachers and of me—in informal settings and making plans informally; after all, it is impossible to learn informally without a plan or, at the very least, some personal preparation." (W-KS-06-PPI)
7.	"In reality, it is no different from the informal learning I engage in myself. The distinction for teachers, however, lies in the specific purpose of their learning—such as actively seeking out and utilizing resources. This might involve manually consulting books available at the school, searching online (for instance, for elementary school lesson materials), checking their mobile phones, or consulting with fellow teachers about the subject matter." (W-KS-07-PPI)

In reality, it is no different from the informal learning I engage in myself. The distinction for teachers, however, lies in the specific purpose of their learning, such as actively seeking out and utilizing resources. This might involve manually consulting books available at the school, searching online (for instance, for elementary school lesson materials), checking their mobile phones, or consulting with fellow teachers about the subject matter." (SD-PPI)

Teachers' personal factors related to their informal learning behavior.

Based on the qualitative data analysis, the research findings regarding teachers' personal factors related to their informal learning behaviors can be described. Data obtained from interviews with classroom teacher informants are presented in the table 3.

Table 3. Interview Data

No.	Data and Coding System from Teacher Interviews
1.	"The reason I want to learn informally comes from my own internal motivation. I feel confident that I can learn on my own without constantly having to attend formal training." (W-GK-01-FPG-PPI)
2.	"There is the factor of intention an inner drive to learn. I feel a need for self-actualization so that my abilities continue to develop in line with the demands of the times." (W-GK-02-FPG-PPI)

3. "This learning behavior didn't just appear out of nowhere. Personally, I genuinely want to expand my knowledge and competence. I am confident and have a strong drive to learn new things." (W-GK-03-FPG-PPI)
4. "In my view, the factor of openness to new experiences serves as a reflection of my personality characteristics and drives a focus on self-improvement as the goal orientation for my informal learning." (W-GK-04-FPG-PPI)
5. "My belief in my own ability to succeed in a task or my belief in my own ability to learn new things." (W-GK-05-FGD-PPI)
6. "In my opinion, the most important factor directly related to my informal learning behavior is the motivation to learn in order to enhance my knowledge, skills, and competencies." (W-GK-06-FPG-PPI)
7. "If asked about the factors associated with informal learning behavior, I would cite among others motivation to learn, a sense of responsibility, and a self-oriented drive for personal improvement or development." (W-GK-07-FPG-PPI)
8. "My personal characteristics, such as openness to new experiences or to innovation and change—help determine the quality of my informal learning behavior." (W-GK-08-FPG-PPI)
9. "For me, the factors related to my informal learning behavior primarily involve the drive to learn, a sense of responsibility, and the confidence in my ability to learn independently in order to succeed or to successfully carry out innovative activities." (W-GK-09-FPG-PPI)
10. "In reality, there are many factors, but those crucial to informal learning behavior include self-belief in my ability to succeed in learning, openness to change and innovation, and the self-motivation to study diligently in an informal setting as a complement to non-formal and formal education." (W-GK-10-PPG-FPG-PPI)
11. "While formal learning behavior is important, informal learning behavior is equally significant under certain circumstances. Therefore, in my view, factors such as intrinsic motivation to learn, my conscientious and responsible nature, and my drive for self-improvement and personal development are closely linked to my informal learning habits." (W-GK-11-FPG-PPI)
12. "As a teacher, I feel a responsibility to continuously update my knowledge so that I do not fall behind on the latest information from my students." (W-GK-12-FPG-PPI)
13. "The autonomy to manage my study time amidst a busy teaching schedule is a personal factor that drives me to continue learning informally." (W-GK-13-FPG-PPI)
14. "A strong curiosity about effective teaching methods drives me to actively seek out references online on my own." (W-GK-14-FPG-PPI)
15. "My focus is on providing the best educational services, so I always feel I am falling short if I do not learn something new every day." (W-GK-15-FPG-PPI)
16. "A key personal factor for me is creativity born of necessity; I feel challenged because the school lacks complete facilities. I am confident I can teach effectively if I am willing to learn from my surroundings. My goal is for children in remote areas to grasp their lessons through real-life examples found in nature." (W-GK-16-FPG-PPI)

Situational Factors Related To Teachers' Informal Learning Behaviors

Based on the qualitative data analysis, the research findings regarding situational factors related to teachers' informal learning behaviors can be described. Data obtained from interviews with classroom teacher informants are presented in the table 4.

Table 4. Interview Data

No.	Data and Coding System from Teacher Interviews
1.	"External factors, such as support from the principal, are incredibly important. They provide us with the time and tools we need to learn. My fellow teachers also offer encouragement; the atmosphere is great we respect and help one another." (W-GK-01-FSG-PPI)

2.	"The factor of freedom or autonomy in teaching. I feel I have control over how I teach in the classroom. Challenging tasks force me to rack my brain to find solutions and that is what makes me learn." (W-GK-02- FSG-PPI)
3.	"The social interaction that occurs naturally when we sit down to tell stories or have casual discussions every day plays a very important role in informal learning at school." (W-GK-03- FSG-PPI)
4.	"I can state that informal learning behavior is the result of the influence of situational factors—such as managerial support, the principal's instructional leadership, and support from fellow teachers for reflection and the sharing of knowledge and ideas." (W-GK-04- FSG-PPI)
5.	"My informal learning behavior is linked to situational factors involving teachers such as support from fellow teachers and, especially, the school principal through the provision of learning resources and a school culture conducive to informal learning." (W-GK-05- FSG-PPI)
6.	"My autonomy in managing my teaching and instructional methods, as well as in resolving student learning issues, constitutes a situational factor that shapes my informal learning behavior while carrying out my duties at school." (W-GK-06- FSG-PPI)
7.	"Informal learning behavior is not determined solely by my personal factors; social interactions in the form of cooperation and collaboration also play a role in shaping it." (W-GK-07-FSG-PPI)
8.	"Situational factors such as academic leadership support, the principal's informal learning, and support from fellow teachers are related to informal learning behavior."(W-GK-08-FSG-PPI)
9.	"Open communication, a non-punitive climate, and teaching autonomy exercised in accordance with authority and principal assignments are associated with informal learning behaviors."(W-GK-09-FSG-PPI)
10.	"The factor of learning-centered school principal leadership is related to informal learning behaviors."(W-GK-10-FSG-PPI)
11.	"The availability of adequate school Wi-Fi makes it easy for me to access teaching modules online during breaks." (W-GK-11-FSG-PPI)
12.	"The presence of a community of practice at our school makes the learning atmosphere more focused, even though it operates informally." (W-GK-12-FSG-PPI)
13.	"A comfortable and conducive teachers' room enables us to frequently exchange ideas regarding technical challenges in the classroom." (W-GK-13-FSG-PPI)
14.	"The principal's policy of granting full autonomy in the selection of instructional media encourages me to be more creative in my independent learning." (W-GK-14-FSG-PPI)
15.	"Positive feedback from students' parents regarding my innovation has also served as an environmental factor that encourages me to keep learning." (W-GK-15-FSG-PPI)
16.	"The environmental factors here are highly supportive, even though facilities are minimal. The surrounding nature serves as a laboratory for our learning. We also have strong support from fellow teachers; we often hold discussions under the trees, planning to use stones or leaves as counting aids. That is how we manage in this remote location." (W-GK-16-FSG-PPI)

Data from the researcher's interview with the school principal informant are presented in the following table 5.

Table 5. Interview Data

No.	Data and Coding System from Interviews with the School Principal
1.	"My leadership, which emphasizes the improvement of teaching and learning, fosters teachers' informal learning behaviors. This support is crucial because teachers do not always engage in formal learning. Mutual support among teachers is also vital, alongside the challenging nature of their tasks, which drives them to find solutions." (W-KS-01-FSG-PPI)
2.	"Collaborating or engaging in social interaction with fellow teachers with my support is a factor associated with teachers' informal learning behavior." (W-KS-02-FSG-PPI)
3.	"An open, pleasant, and safe school climate contributes to shaping changes in teachers' informal learning behaviors." (W-KS-03-FSG-PPI)

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4. "The availability of resources, time, and learning opportunities provided by the school principal, along with my own informal learning-oriented leadership, are associated with improvements in teachers' informal learning behaviors." (W-KS-04-FSG-PPI)
 5. "Factors involving social interaction both between myself and the teachers and among the teachers themselves along with my leadership behavior (which emphasizes informal learning) and the openness to receiving feedback from me and fellow teachers, contribute to feedback-seeking behavior as a form of informal learning." (W-KS-05-FSG-PPI)
 6. "Informal learning behavior is associated with two main factors. First, my teacher-oriented leadership behavior. Second, collaborative behavior in social interactions with teachers, as well as the availability of learning facilities and infrastructure." (W-KS-06-FSG-PPI)
 7. "In reality, it is no different from the informal learning I engage in myself. The distinction for teachers, however, lies in the specific purpose of their learning such as actively seeking out and utilizing resources. This might involve manually consulting books available at the school, searching online (for instance, for elementary school lesson materials), checking their mobile phones, or consulting with fellow teachers about the subject matter." (W-KS-07-FSG-PPI)
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This section discusses the research results, which are described based on findings regarding informal learning behavior, teachers' personal factors associated with informal learning behavior, and teachers' situational factors associated with informal learning behavior.

Informal Learning Behavior

The research findings regarding the informal learning behavior of elementary school teachers encompass the types of informal learning activities and the dimensions of informal learning behavior. The types of informal learning activities include learning actions—specifically, teachers actively engaging in informal learning and learning within the school environment (as their workplace) and information seeking, which involves asking questions and soliciting advice from fellow teachers and school principals. Substantively, these findings are supported by the results of previous research.

Research by Noe et al. (2013) identifies four informal learning activities:

- a. actions and experiences: actively performing tasks and workplace learning,
- b. information seeking: asking questions and soliciting advice from colleagues,
- c. reflection and debriefing: contemplating experiences to gain a better understanding of them, and
- d. vicarious learning: observing the actions and outcomes of others.

The research clearly identifies two informal learning activities relevant to educational findings: "action" and "information seeking." Previous research by Tannenbaum et al. (2010) developed the Dynamic Model of Informal Learning. According to this model, one of the four components of workplace informal learning activities is "action" meaning that workers engage in actions related to work tasks, thereby creating (new) workplace experiences. Tannenbaum et al. (2010) categorized this "action" component into factors involving trying out and applying one's own ideas an approach also adopted by Decius, Schaper, and Seifert (2019) in their research on developing and validating a workplace informal learning measurement instrument. The factor of trying out and applying one's own ideas was operationalized through three instrument items:

- a. I try different methods to complete new tasks at work,
- b. I try out my own ideas for new tasks, and
- c. I use my own ideas to improve tasks at work.

Meanwhile, the modeling-based learning factor is operationalized through three instrument items:

- a. I observe how others work at the company to improve my own work,

- b. I observe how my colleagues work so that I do not make the same mistakes they do, and
- c. I try out things at work that I have emulated from my colleagues.

The teacher behavior dimension encompasses planning behavior (creating plans and setting personal learning goals), socializing behavior (sharing knowledge and discussing school assignments with fellow teachers), reflecting behavior (reflecting on feedback received from colleagues and the school principal), experimenting behavior (taking calculated risks and generating new ideas), and adapting behavior (being responsive to change and learning from it within the school environment). Substantively, these research findings are supported by previous studies.

Research by Noe et al. (2013) categorizes informal learning behaviors into three dimensions:

- a. learning from oneself, which is an internal process involving self-reflection and experimentation;
- b. learning from others, which involves external interactions such as observation, asking colleagues questions, and receiving feedback; and
- c. learning from non-interpersonal sources, which entails utilizing resources such as reading materials, videos, and forums, or searching for information online.

Research by Willis (2019) supports these findings regarding informal learning behaviors, as described below. First, planning behavior aligns most closely with the construct of self-directed learning, as it involves thinking ahead or preparing in various ways. Both thought and preparation are essential when an individual directs their own learning (e.g., by creating a personal project). For instance, one might determine necessary learning materials, set learning goals, or practice for an upcoming event. While these behaviors are highly intentional and can, in some cases, resemble formal instruction through the preparation of materials, goal setting, and performance evaluation, the key distinction from self-directed learning is that they remain entirely driven and motivated by challenges within the individual's environment, rather than resulting from organization-sponsored training. Self-directed learning, by contrast, encompasses participation in both formal training and informal learning. An important yet under-researched aspect of this behavior is the assessment of the accuracy of information found, primarily online, but also elsewhere (Brown & Sitzmann, 2011). A crucial element of most informal learning behaviors appears to be the learner's ability to assess their own learning capabilities, progress, and success, including the evaluation of materials and feedback. Although planning behavior is largely encompassed by self-directed learning, researchers have also considered future-oriented informal learning behaviors.

Further analysis by Willis (2019) combines scanning behavior with planning behavior. While scanning shares similarities with the material-seeking and evaluative aspects of planning, it refers to a broader concept: staying abreast of developments in one's field, answering specific questions, clarifying concepts or issues, or positioning oneself in environments where one can encounter new or updated ideas. In this sense, scanning differs from material preparation because the act of seeking information is an end in itself, rather than a means to achieve a larger objective (such as a learning project). Secondly, regarding social interaction, there is a consensus among most authors that informal learning is a social process in which learners share their experiences with others. Furthermore, social informal learning in the workplace can arise from cultivating relationships, modeling behavior, identifying positive role models, discussing issues in groups, and managing conflict. Socialization is crucial to informal learning because many learning opportunities stem from natural interactions with colleagues, alongside more deliberate efforts such as seeking feedback or participating in study groups.

Third is reflective behavior, a practice crucial for self-improvement and awareness. Reflection is a behavior frequently observed in informal learning contexts. Reflective behavior encompasses maintaining awareness of the organization, goals, and colleagues (Leslie, Aring, & Brand, 1998); reflecting on workplace learning (Hoekstra et al., 2009); reviewing performance evaluations and

feedback (Berg & Chyung, 2008); and reflecting on daily activities and routines (Bednall et al., 2014). In short, Willis (2019) notes that reflective activities can stem from any work experience that fosters learning.

Fourth is experimental behavior; according to Lohman (2000), individuals often experiment to enhance their learning. Experimentation involves trial-and-error behaviors, such as testing new ideas or processes (Berg & Chyung, 2008), taking risks or undertaking challenging new tasks, generating alternative solutions to problems, and assessing their consequences (Cseh et al., 1999). Experimentation includes considering future consequences (i.e., formulating hypotheses) and testing an action, idea, or process, though broadly, it signifies trying something new. While other behaviors, such as planning, may occur alongside experimentation, experimentation specifically entails the actions that drive learning, as opposed to the preparatory nature of planning.

Fifth is adaptive behavior, which refers to the actions individuals take in response to new or unexpected events. Since much learning behavior involves responding to novel workplace events, these actions are categorized under the dimension of adaptation. Previous studies have examined how individuals cope with ambiguous or novel situations in the workplace (Bednall et al., 2014; Cseh et al., 1999), including adapting to challenges, making decisions about a situation, or managing interpersonal conflicts. Adaptive and experimental behaviors appear to share many similarities; however, unlike experimenting—which refers to actions taken to try something new—adapting is reactive, whereas experimenting is proactive. Of course, one might adapt to something experimental; for instance, an individual might learn from mistakes or learn to carry forward a new process or idea.

Teachers' personal factors related to their informal learning behavior.

Research findings regarding the personal factors of elementary school teachers associated with informal learning behavior identify five distinct factors. The first is the motivation to learn, which represents the teachers' intrinsic drive regarding informal learning behavior; this finding aligns with previous research. In this context, Zia et al. (2022) suggest that learning motivation is an individual's epistemological belief stemming from a learner's curiosity to bridge existing knowledge gaps; within the realm of informal learning, this refers to an individual's desire to acquire work-related content by engaging in learning activities. Learning motivation explains how individuals participate in workplace learning activities and the extent of their dedication to professional development. It is linked to employee engagement in learning and development; higher learning motivation leads to more active participation in learning programs, often resulting in positive outcomes (Colquitt et al., 2000).

One theoretical framework used to explain the motivation to learn is expectancy-value theory (Cook & Artino, 2016). This theory identifies two primary independent factors influencing behavior: 1) the extent to which individuals believe they will succeed if they make the attempt (expectancy of success), and 2) the degree to which they perceive personal importance, value, or intrinsic interest in performing the task (task value). See figure 1.

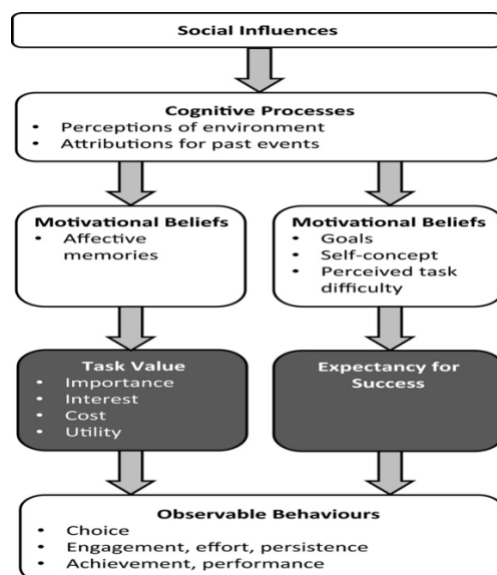


Figure 1. Expectancy Value Theory Diagram

Expectations of success go beyond mere perceptions of general competence; they represent a future-oriented belief that one can complete an anticipated task. If individuals do not believe they will succeed at a task, they are unlikely to even begin it. Such beliefs can be general (e.g., global self-concept) or specific (assessments of one's ability to learn a particular skill or topic). According to Wigfield and Eccles (2000), expectations of success are shaped by motivational beliefs falling into three broad categories: goals, self-concept, and task difficulty. Goals refer to specific short- and long-term learning objectives. Self-concept refers to one's general impression of their capacity within a specific task domain (e.g., academic ability, athletic prowess, social skills, or physical attractiveness). Task difficulty refers to the perceived, though not necessarily actual, difficulty of the specific task. Empirical studies indicate that expectancy beliefs predict engagement in learning activities and academic achievement (e.g., test scores and report card grades). In fact, expectations of success may be a stronger predictor of success than past performance.

The motivational beliefs that determine expectations of success (goals, self-concept, and task difficulty) and task value (affective memories) are, in turn, shaped by life events, social influences (parents, pressure from teachers or peers, professional values, etc.), and the environment. These shaping forces are interpreted through the learner's personal perspectives and perceptions (i.e., cognitive processes). It is perception, not reality, that governs motivational beliefs.

Empirical studies (conducted mostly outside the field of medical education) indicate that both expectancy of success and task value are associated with learning outcomes, including the choice of topics studied, the level of engagement in learning (involvement and persistence), and achievement (performance). Task value appears to be most strongly linked to choice, whereas expectancy of success appears most strongly linked to engagement, depth of processing, and learning achievement (Wigfield & Eccles, 2000). In other words, when deciding whether to study a subject, task value is paramount; once that choice is made, expectancy of success is most strongly associated with actual success.

Secondly, personal characteristic factors include traits or attributes of the teacher, such as their openness to new experiences or innovations, that are relevant to informal learning behaviors. These research findings are supported by prior studies. Empirically, individual characteristics encompass attributes such as abilities and skills; family, social, and experiential backgrounds; demographic traits like age, ethnicity, and gender; and psychological characteristics, including perceptions, attitudes, personality, learning, and motivation.

Riadi (2024) explains that personality is the overall way an individual reacts to and interacts with others. A person's personality consists of a set of relatively stable characteristics, tendencies, and temperaments largely shaped by heredity as well as social, cultural, and environmental factors. Personality is categorized into several types, including:

- a. Openness to experience: characterized by being full of new ideas, having an active imagination, being insightful and deep, engaging in self-reflection, being curious, innovative, and artistic.
- b. Conscientiousness: characterized by hard work, adherence to plans, reliability, organization, meticulousness and attention to detail, and diligence.
- c. Extraversion: characterized by being talkative, energetic, enthusiastic, assertive, friendly, and sociable.
- d. Agreeableness: characterized by cooperativeness, trustworthiness, attentiveness and kindness toward others, helpfulness, selflessness, a forgiving nature, and an aversion to conflict.
- e. Neuroticism: characterized by frequent feelings of pressure, tension, and worry, as well as a tendency toward moodiness, sadness, and restlessness. Individuals with this personality type are considered to have unstable emotions.

Third, the factor of perceived competence specifically, the teacher's belief in their ability to succeed and to learn new things related to informal learning behaviors plays a key role. Fundamentally, these research findings align with the theoretical concept of self-efficacy introduced by psychologist Albert Bandura (1997), which refers to an individual's belief in their capacity to execute the behaviors necessary to produce specific performance outcomes. It is a belief in one's ability to influence events and control one's environment.

An individual's sense of self-efficacy can provide a foundation for motivation, well-being, and personal achievement. Beliefs regarding one's efficacy are shaped by four primary sources of influence: mastery experiences, vicarious experiences, social persuasion, and emotional states. High self-efficacy offers numerous benefits in daily life, such as resilience in the face of adversity and stress, healthy lifestyle habits, improved employee performance, and educational achievement. It differs from self-esteem, which relates to one's overall sense of self-worth; self-efficacy focuses on capabilities within specific domains (e.g., academic tasks, athletic pursuits, or work projects). How does self-efficacy influence behavior? Perceived self-efficacy significantly affects behavior in several ways. It influences whether individuals will even attempt to deal with a situation, as they tend to avoid perceived threats that exceed their coping skills while confidently engaging in situations they feel capable of handling. Self efficacy also influences mindsets and emotional reactions. Those with low self-efficacy may dwell on their shortcomings and magnify potential difficulties, leading to stress and impaired performance. Conversely, individuals with high self-efficacy focus their attention and effort on task demands, viewing obstacles as challenges that spur greater effort. Furthermore, self-efficacy plays a role in self-regulation, determining the amount of effort expended, the duration of persistence in the face of difficulty, and resilience against setbacks.

Fourth, the learning goal orientation factor specifically, a teacher's orientation toward self-improvement or personal development is linked to informal learning behaviors. These research findings can be explained through goal orientation theory (achievement goal theory). The meaning of "goal" in goal orientation theory (also known as achievement goal theory) differs from that in most other motivation theories. Rather than referring to specific learning objectives (e.g., "My goal is to learn about cardiology"), goals in this theoretical framework refer to broad learning orientations or purposes that often operate below the level of conscious awareness. With performance goals, the primary focus is on outperforming others and avoiding looking foolish (e.g., "I want to get a good grade"). Mastery goals, in contrast, focus on the intrinsic value of learning that is, acquiring new knowledge or skills (e.g., "I want to understand the material"). These broad orientations, in turn,

lead to distinct learning behaviors or approaches. Dweck and Leggett's (1988) theory of 'implicit theories of intelligence' takes these two orientations further, suggesting that they reflect learners' underlying attributions or 'mindsets' (dispositional attitudes and beliefs) regarding their ability to learn.

Goal orientation theory and implicit theories of intelligence. This is a simplified illustration of Dweck's theory; it omits some theoretical details and glosses over certain subtle yet potentially significant distinctions. Learners tend to gravitate toward one of two implicit self-theories or mindsets regarding their abilities. Those with an "entity" mindset view ability as fixed; because poor performance or difficult learning tasks threaten their self-concept, they unconsciously pursue "performance goals" that help them appear smart and avoid failure. Conversely, those with an "incremental" mindset view ability as something that can be improved through practice, and thus pursue goals that encourage them to stretch and grow ("mastery goals"). Further evidence and theoretical refinement also support the distinction between performance-approach goals ("looking smart" typically associated with high performance) and performance-avoidance goals ("avoiding failure" consistently linked to poor performance).

Learners with performance goals hold an (unconscious) self-theory that intelligence or ability is a stable, fixed trait (the "entity" mindset). One is either smart (or skilled at basketball or art) or one is not. Because this stable trait cannot be changed, these learners worry about appearances and whether they possess "enough" ability, which necessitates performing well. Easy successes make them feel smarter and encourage further engagement; conversely, challenging tasks, the need for great effort, and poor performance are interpreted as indicators of low ability, causing learners to progressively disengage and eventually give up. Learners with this entity mindset magnify their failures while overlooking their successes, give up quickly when faced with challenges, and adopt defensive or self-sabotaging behaviors. However, strong confidence in their abilities can enable them to persist even after failure. However, low self-confidence leads them to retreat into a state of 'helplessness,' as it is psychologically safer to attribute failure to a lack of effort ('I didn't really try') rather than a lack of intelligence. Dweck notes, 'It is ironic that students most concerned with appearing smart may be disadvantaged for this very reason.'

Situational factors affecting teachers' informal learning behavior

Research findings regarding situational factors influencing the informal learning behaviors of elementary school teachers identify two categories of factors: 1) factors related to the immediate work environment and the nature of the tasks, including autonomy (teachers having control over how they perform tasks associated with informal learning), task characteristics (challenging work requiring problem-solving), feedback (receiving input from colleagues and principals), and social interaction (collaborating, discussing, and observing colleagues and principals); and 2) support and cultural factors, comprising support from principals and colleagues regarding informal learning behaviors, as well as a conducive learning climate or culture that values and encourages such behaviors.

These findings are supported by previous research. Significant meta-analyses, such as those by Cerasoli et al. (2017/2018) and findings from other researchers like Tannenbaum et al. (2010) highlight the importance of factors related to the immediate work environment and task nature, as well as cultural and support factors provided by the broader organization or institution.

a. The situational factors affecting teachers are as follows:

- 1) Workplace Autonomy (Job Control): Having control over how and when work is performed is a crucial prerequisite for informal learning.
- 2) Task Characteristics: Work that is challenging, complex, or requires frequent problem-solving (such as in managerial or IT specialist roles) stimulates informal learning.

- 3) Feedback: The availability and receipt of feedback—whether from colleagues or supervisors encourage feedback-seeking behavior (FSB), which is a form of informal learning behavior (ILB).
 - 4) Social Interaction: Informal learning often occurs naturally through collaboration, discussion, and the observation of colleagues in daily work.
- b. Factors related to support and culture include the following:
- 1) Organizational and Supervisor Support: Employees who feel supported by their superiors and organization (e.g., being provided with time and resources to learn) are more likely to engage in ILB.
 - 2) Learning Climate/Culture: A conducive environment that values and encourages learning (both formal and informal) increases the likelihood of ILB occurring.
- Structure and Opportunities: The availability of resources, time, and learning opportunities integrated into workflows (such as informal mentoring programs) is crucial.

CONCLUSION

Based on the data analysis and research findings, the following conclusions can be drawn regarding the informal learning behavior of elementary school teachers. This behavior manifests in two aspects. First, the types of informal learning activities include learning actions such as actively engaging in informal learning and learning within the school workplace and information-seeking, where teachers ask questions and solicit advice from colleagues and principals. Second, the behavioral dimensions include planning (creating plans and setting personal learning goals), socializing (sharing knowledge and discussing school assignments with colleagues), reflecting (contemplating feedback received from colleagues and principals), experimenting (taking calculated risks and generating new ideas), and adapting (being responsive to change and learning from it within the school environment). Five personal factors are associated with this informal learning behavior: motivation to learn (an intrinsic drive); personal characteristics (such as a sense of responsibility and openness to new experiences or innovations); reflective behavior (crucial for self-improvement and awareness); self-efficacy (the belief in one's ability to succeed and learn new things); and learning goal orientation (a focus on self-improvement or personal development). Two situational factors are also associated with the informal learning behavior of elementary school teachers. First, factors related to the immediate work environment and the nature of the tasks teachers face include: autonomy or independence whereby teachers have control over how they perform tasks associated with informal learning behaviors; task characteristics referring to challenging work that requires problem-solving regarding informal learning behaviors; feedback, whereby teachers receive input from colleagues and school principals regarding informal learning behaviors; and social interaction involving collaboration, discussion, and observation of colleagues and principals regarding informal learning behaviors. Second, support and cultural factors, which include support from principals and colleagues regarding informal learning behaviors, as well as a conducive learning climate or culture that values and encourages informal learning behaviors.

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