

Research paper

# Interpreting the curricula: Multifactorial sense-making by preschool teachers in Turkey

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## ABSTRACT

In the context of global educational advancements, preschool curricula across nations have undergone significant changes aimed at enhancing early childhood development. This study examines the sense-making processes of 49 preschool teachers. Leveraging observations and in-depth interviews, the research uncovers the interplay between individual and situational factors that shape teachers' interpretations. The sense-making patterns demonstrate how teachers assimilate or accommodate changes based on their professional beliefs, knowledge, and interactions within their teaching environments. The findings highlight the importance of a profound curriculum understanding to facilitate its implementation effectively, advocating for tailored support systems that assist teachers in adapting to curriculum demands.

## 1. Introduction

In contemporary early childhood pedagogy, the curriculum serves as a fundamental educational component, providing a broad framework for both practitioners and policymakers. Although preschool education curricula vary across countries, they share the common goal of fostering children's developmental growth (Bautista et al., 2021; Mligo, 2024). As a response to global educational innovations, many countries have revised their Early Childhood Education and Care frameworks (Edwards, 2023; Homme et al., 2024; Yang & Li, 2019). However, for these curriculum reforms to be effective, it is crucial that they are not only developed or modified but also successfully implemented within the classroom context, as originally intended by the curriculum designers (Odom et al., 2010).

For curriculum change to be truly effective, it must be meaningfully integrated into classroom practices (Null, 2023). While teachers often adopt new curricula, ensuring the long-term sustainability of these changes is vital. Fullan (2007) outlines several key stages in the process of curriculum reform, each of which plays an important role in ensuring the success and sustainability of the reform. The first stage, initiation, involves the conceptualization and introduction of the reform, including goal setting, policy development, and the dissemination of information. Following initiation is the implementation phase, where the new curriculum is put into practice within classrooms, often requiring teachers

to adapt existing practices to meet the new demands. This phase is characterized by the challenges of aligning current teaching strategies with reform objectives. Lastly, Fullan (2007) identifies institutionalization as the final stage of curriculum reform, occurring about five years after innovations are introduced. This phase is crucial for embedding changes within the educational system and the current study structured around this phase.

Without successful institutionalization, curriculum reforms risk remaining superficial and failing to produce the desired outcomes (Bradfield & Exley, 2020). Recent research indicates that curricula are often implemented in ways that diverge from their original design, with teachers identified as the primary influence on these discrepancies (Chewe et al., 2023; Maulana et al., 2019). For instance, Bradfield and Exley (2020) highlight that external contextual factors significantly influence teachers' knowledge and performance during times of curriculum reform, suggesting that understanding these influences is crucial for effective implementation. Similarly, Maulana et al. (2019) found that the pedagogical competence of teachers plays a significant role in the effectiveness of curriculum implementation, emphasizing the need for well-prepared educators to facilitate successful reforms. Moreover, studies by Chew et al. (2023) and Yasa et al. (2023) further illustrate the importance of teachers in shaping curriculum implementation. Chew et al. (2023) discusses how inconsistent practices in early childhood education in Zambia persist despite reforms, indicating that

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teachers' perceptions and strategies are critical in navigating these changes. [Yasa et al. \(2023\)](#)'s analysis of curriculum policy in early childhood education reveals how such policies directly influence teacher performance, reinforcing the idea that teachers are vital agents in the curriculum reform process. Thus, a deeper investigation into the role of teachers in curriculum implementation is essential to understand how they shape and influence their implementation.

Curriculum implementation goes beyond the classroom; teachers, as active participants, can transform the curriculum in various ways. This broadens the traditional view of curriculum implementation by recognizing teachers as proactive agents rather than passive recipients. According to [Fullan \(2007\)](#) and [Hargreaves \(2005\)](#), for curriculum changes to be effectively sustained, teachers must develop a comprehensive understanding of the curriculum. Their decisions and interpretations are critical in the institutionalization of the curriculum. However, the process is more complex, as it is influenced by how teachers perceive, interpret, and engage with the curriculum ([Spillane et al., 2002](#)). In this context, sense-making has an important role. Sense-making is turning the unknown into the known by perceiving and reasoning about the world we live in to adapt to the world. Moreover, sense-making facilitates the individual's adaptation to the complexity of the changing world ([Waterman, 1990](#); [Weick, 1995](#)).

Although studies have increasingly focused on teachers' sense-making processes in relation to curriculum changes, a significant gap remains in understanding how individual and situational factors interact to influence these processes. Much of the current research has isolated either individual ([Bümen & Holmqvist, 2022](#)) or institutional factors influencing sense-making process ([Dziubaniuk et al., 2024](#); [Mizrahi-Shtelman, 2021](#)), without fully exploring how these elements work together. Specifically, existing studies tend to focus either on the cognitive factors that shape individual teachers' interpretations, such as their personal beliefs, knowledge, and prior experiences, or on the broader collective aspects, such as school culture, peer influences, and policy structures. For instance, [Muhammad et al. \(2015\)](#) explore the role of collective sense-making within a research-practice partnership, revealing how contextual factors significantly influence teachers' ability to enact curriculum. This aligns with the findings of [El Nagdi et al. \(2018\)](#) who highlight the development of STEM teachers' identities through collective experiences, suggesting that teachers' sense-making processes are deeply intertwined with their professional identities and the communities in which they work. At the individual level, teachers' beliefs and prior experiences play a crucial role in their sense-making processes. [Baş \(2021\)](#)'s metaphor analysis demonstrates how teachers use metaphors as cognitive devices to understand educational reforms, indicating that personal interpretations are shaped by individual beliefs and experiences. Similarly, [Tran et al. \(2023\)](#) investigate how teachers' cognitions on curricular changes in Vietnam are impacted by their teaching practices and the larger educational discourse, demonstrating the interaction of individual cognition and contextual factors. On a macro level, the broader institutional and policy contexts significantly impact teachers' sense-making. [McHenry-Sorber and Campbell \(2019\)](#) investigate how district leaders in West Virginia make sense of teacher shortages, revealing the paradoxical ways in which they interpret the causes and potential solutions to this issue. However, little attention has been paid to how these factors intersect across the individual and situational to influence teachers' decisions and actions. One of the few studies, [Gutwirth et al. \(2021\)](#), offers valuable insights into how teachers process performance feedback data, highlighting the interpretive stages involved in both individual and collective sense-making. Their findings suggest that teachers' responses to data are influenced by their professional contexts and collaborative practices by reinforcing the idea that sense-making occurs at multiple levels.

This gap in the literature underscores the need for a more integrated approach that examines how individual and situational factors combine to shape teachers' sense-making and, in turn, their implementation of curriculum, particularly in the context of preschool teachers. In

examining the multifaceted influences on teachers' sense-making processes regarding curriculum implementation it is essential to consider various contextual factors that shape their engagement. Research has highlighted the significance of external elements such as classroom resources, school leadership, peer dynamics, and cultural expectations, which interact with teachers' cognitive frameworks to affect curriculum implementation. [Silins et al. \(2002\)](#) emphasize that the organizational learning environment, including leadership practices, can significantly influence teachers' professional development and their ability to adapt to reforms. [Biesta et al. \(2015\)](#) further elaborate on how the dynamics within schools, including collaborative cultures and peer interactions, are pivotal in shaping teachers' sense-making as they navigate curriculum changes. The professional ecology, which encompasses the physical classroom environment, availability of teaching materials, and administrative support, plays a crucial role in either facilitating or hindering effective curriculum integration. For instance, studies have shown that supportive school leadership can enhance teachers' efficacy and commitment to implementing new practices ([Çoğaltay & Boz, 2023](#); [Jentsch et al., 2023](#)). Additionally, peer interactions foster a collaborative culture that is essential for collective decision-making and shared practices ([Jordan & McDaniel Jr, 2014](#)), which are critical for successful curriculum adaptation. There is a notable lack of in-depth exploration regarding how these factors influence preschool teachers' interactions with curriculum. Addressing this gap will help better understand how preschool teachers make sense of curriculum changes, providing valuable insights into the factors that support or hinder the successful implementation of curriculum in preschool education. [Coburn's \(2001\)](#) work on teacher collective sense-making and [Spillane et al.'s \(2002\)](#) framework of cognitive policy implementation offer key insights into how teachers make sense of curriculum at these three levels. [Coburn \(2001\)](#) emphasizes the critical role of professional communities in sense-making, where teachers engage in dialogue and collaboration with colleagues, thereby negotiating and refining their understanding of curriculum. This collective dimension suggests that teachers' interpretations are not formed in isolation but are shaped through social interactions within the professional community. [Spillane et al. \(2002\)](#) provide a complementary perspective by identifying three levels of sense-making: the individual cognition, situational cognition, and role of representation. It is important to highlight that contextual cognition aligns with [Coburn's \(2001\)](#) framework of collective sense-making. [Spillane et al. \(2002\)](#) describe individual cognition as the process through which individuals personally interpret and respond to information. Situational cognition, defined as the influence of contextual factors on understanding, aligns with [Coburn's \(2001\)](#) perspective, which underscores the role of social, organizational, and cultural environments in shaping individuals' interpretations and actions during the sense-making process. Finally, the role of representation refers to the impact of external frameworks and tools in guiding and shaping the sense-making process. These frameworks underscore the complexity of teachers' sense-making processes and the need to examine how these levels intersect and interact. While these frameworks have been applied in various contexts, there is a lack of research that integrates these three levels of sense-making in the context of early childhood education. This study aims to fill this gap by investigating how individual cognition, situational cognition, and the role of representation influence preschool teachers' interpretations and implementations of curriculum changes.

By adopting [Coburn's \(2001\)](#) and [Spillane et al. \(2002\)](#)'s frameworks, this research will provide a more comprehensive understanding of how individual and situational factors shape teachers' sense-making processes across multiple levels, ultimately informing curriculum implementation in early childhood education. The research questions guiding this investigation are as follows:

1. Which models do preschool teachers employ in making sense of the curriculum?
2. What factors influence preschool teachers' sense-making processes?

By addressing these questions, this study seeks to enhance our understanding of the teacher's role in curriculum implementation and contribute to the existing literature on curriculum adaptation in early childhood education. Specifically, it aims to provide insights into how teachers' individual cognition, situational cognition and the role of representation influence their engagement with curriculum. Furthermore, this research will explore the relationship between teachers' sense-making processes and the broader educational environment, including institutional support, peer interactions, and professional development. The findings are expected to inform policy, professional development programs, and classroom practices, offering practical recommendations for more sustainable and effective curriculum adaptation in early childhood education.

## 2. Theoretical framework

### 2.1. Teacher sense-making in curriculum implementation

Sense-making is a pivotal cognitive process where individuals interpret and ascribe meaning to new information (Turner et al., 2023; Urquhart et al., 2025). This process is particularly crucial in the realm of educational adaptation, where understanding how teachers interpret and implement the curriculum plays a vital role in the successful implementation and institutionalization of curriculum requirements (Ganon-Shilon & Schechter, 2021; Soini et al., 2021). Researchers such as Fullan (2007), Hargreaves (2005), and Marco-Bujosa et al. (2017) emphasize that the effectiveness of instructional efforts is influenced significantly by the complex interplay between a teacher's cognitive framework and the curricular demands. The ability of teachers to make sense of and respond to curriculum changes is deeply influenced by their cognitive interpretations and the surrounding environmental cues. This dual influence not only dictates the success of immediate curricular implementations but also determines the long-term sustainability of educational reforms.

Sense-making transcends the mere assimilation of information, encompassing the ability to navigate the complexities of changing educational landscapes (So et al., 2024). This process is supported by cognitive structures, insights from social psychology, and extensive educational research, providing a robust framework for comprehending teacher behaviour in dynamic settings (e.g., Grieb, 2023; Mohammed, 2023). As noted by Weick (1995) and Waterman (1990), sense-making facilitates an individual's adaptation by enabling them to perceive and reason about their environment effectively. In this context, Spillane et al. (2002) provided an in-depth analysis of the sense-making process, and they proposed a theoretical framework comprising three interconnected dimensions such as individual cognition, situational cognition, and representational influences as stated above. Similarly, Coburn (2001) introduced a framework that aligns closely with situational cognition. Together, these frameworks underpinned the theoretical foundation of the present study.

At the core of sense-making is individual cognition, where personal beliefs, knowledge, values, emotions, and motivations significantly influence how teachers perceive curriculum changes. Spillane et al. (2002) argue that these personal attributes can lead teachers to deviate from the demands of the curriculum, resulting in practices that may not align with educational objectives. Moreover, a new curriculum introduces new teaching ideas explained in the curriculum booklet and related materials (Davis & Krajcik, 2005). These materials are vital for teachers to understand and implement changes (Ball & Cohen, 1996). Clear communication of the changes is essential, as confusion can hinder adaptation (Kesidou & Roseman, 2002). If not well-expressed, teachers might treat changes superficially, leading to ineffective practices (Spillane et al., 2002). Studies confirm that curriculum guidance helps teachers grasp and apply new ideas (Dilek & Duman, 2021; Marco-Bujosa et al., 2017). Therefore, the presentation of the curriculum also plays a critical role in influencing teachers' sense-making processes.

Teachers' sense-making is also deeply influenced by their social environment, which includes both immediate professional communities and broader societal values (Ganon-Shilon & Schechter, 2017). Through interactions within their social networks and the wider educational community, teachers construct meanings that inform their practices. This 'situated cognition' involves proximal social factors such as school climate and colleague interactions, as well as distal social factors like cultural norms, past experiences, and professional standards, which can either facilitate or obstruct the adoption of educational practices (Cakmakci et al., 2020; Huang & Wang, 2021).

Given the complexity of teacher sense-making, it is essential to examine how sense-making operates at the levels of individual cognition, situational cognition, and role of representation. While individual cognition has been widely explored, understanding how teachers' sense-making is influenced by collective interactions with colleagues and the broader educational context remains underdeveloped. The situational level of sense-making, such as how teachers collaborate within professional communities or how they engage with instructional leaders, plays a crucial role in shaping how the curriculum requirements are interpreted and implemented. Coburn (2001) and Spillane et al. (2002) provide valuable frameworks, but the integration of individual cognition, situational cognition, and representational issues in early childhood curriculum has yet to be fully explored. Recent studies contribute to this understanding by examining various aspects of teacher sense-making in curriculum contexts. For instance, Çeliker Ercan and Çubukçu (2023) investigated how teachers perceive and implement curriculum materials, revealing that teachers often rely heavily on textbooks rather than the official curriculum, which highlights the need for a deeper understanding of how these materials shape their sense-making processes. Similarly, Raymond (2021) emphasized a transactional view of curriculum materials, suggesting that teachers' daily practices are influenced by the dynamic interactions between curriculum materials, students, and resources, which collectively shape their meaning-making. Marangio and Heyting (2023) explored the experiences of teachers in the context of a new psychology curriculum, advocating for the inclusion of teachers' voices in the co-creation of curriculum to enhance sense-making across various educational settings. This aligns with Musofer and Lingard (2020)'s examination of how teachers navigate the enactment of national curriculum in Australia, illustrating the dual role of teachers as both targets and agents of reform. Zangori et al. (2013) focus on elementary teachers' use of science curriculum materials to promote student sense-making, demonstrating how teachers adapt materials to foster inquiry-based learning, which reflects their individual and collective sense-making processes. In a different context, Root et al. (2020) highlighted the importance of building early number sense for kindergarteners with autism, emphasizing how teachers' instructional strategies are informed by their understanding of curriculum goals and student needs. Ganon-Shilon and Schechter (2019) discussed how school leaders make sense of curriculum requirements, and they suggested that their sense-making processes are critical for adapting reforms to local contexts. Magee et al. (2022) further explored collective sense-making among vocational education teachers and managers, revealing how leadership styles influence teachers' interpretations of career guidance. Dolfing et al. (2021) examined strategies to support teachers' professional development in context-based science curricula, emphasizing the need for alignment between teachers' personal frames of reference and innovative curriculum materials. Similarly, Harris (2021) investigated how teachers' decision-making about curriculum change can be understood through the lens of risk aversion, providing insights into the psychological factors that influence sense-making.

Depending on the alignment between the teacher's individual framework and the contextual requisites, sense-making can manifest in four distinct patterns: assimilation, accommodation, toleration, and distantiation (Luttenberg et al., 2013; Weick, 1995). Dolfing et al. (2021) describe assimilation as the process where teachers incorporate

ideas (curriculum demands) into their existing frameworks without significant modification to their beliefs or practices. This pattern often reflects a teacher's ability to integrate new information seamlessly, allowing them to maintain their established pedagogical approaches while still engaging with the curriculum demands. Similarly, Magee et al. (2022) discuss accommodation as a change in behaviour when a new concept is accepted. This process may involve a more profound transformation in teaching practices, where educators adjust their methodologies to align with curricular demands, thereby enhancing their instructional effectiveness. Stollman et al. (2022) explore toleration, where teachers may superficially accept new demands while maintaining their original frameworks and practices. This pattern often indicates a lack of genuine engagement with the curriculum, as teachers may comply with external pressures without internalizing the changes. Such a stance can lead to a disconnect between policy intentions and classroom realities, ultimately hindering the potential for meaningful educational improvement. Lastly, distantiation, as outlined by both Dolfing et al. (2021) and Magee et al. (2022), is characterized by a complete rejection of new demands in favour of retaining initial cognitive frameworks and methods. Teachers exhibiting this pattern may feel threatened by the proposed changes or believe that their established practices are superior, leading to resistance against new curriculum initiatives. Understanding these patterns of sense-making is crucial for educational leaders and policymakers as they design and implement curriculum. Each pattern offers insights into how teachers might respond to policy changes, which can inform the strategies that leaders employ to facilitate successful implementation. For instance, the assimilation pattern suggests that providing teachers with resources that align closely with their existing beliefs can foster a smoother integration of new ideas. In contrast, when teachers exhibit accommodation, it may indicate a readiness for professional development that encourages deeper engagement with the curriculum, thus allowing for more significant pedagogical shifts. The toleration pattern highlights the risks associated with superficial compliance. Policymakers must recognize that merely mandating changes without fostering genuine understanding and buy-in can lead to ineffective implementation. This underscores the importance of professional development that not only informs teachers about new policies but also engages them in meaningful discussions about their implications for practice. Coburn (2004)'s seminal work, "Beyond Decoupling: Rethinking the Relationship Between the Institutional Environment and the Classroom," emphasizes the importance of understanding the interplay between institutional pressures and classroom practices, suggesting that effective policy implementation requires more than just compliance; it necessitates a transformation in how teachers understand and enact their roles within the educational system. Distantiation signals a critical barrier for curriculum. Understanding the reasons behind teachers' resistance—whether due to perceived threats to their professional identity or a belief in the superiority of their current practices—can help leaders address these concerns directly. Engaging teachers in collaborative discussions about the rationale for changes and providing platforms for voicing their apprehensions can mitigate feelings of alienation and promote a more inclusive environment for curriculum. For instance, Hafni (2021) discusses how the content and context of educational policies significantly influence their implementation, suggesting that addressing contextual factors can help bridge the gap between policy intentions and classroom realities. Recent studies further elucidate the relevance of these sense-making patterns in policy implementation. Michael et al. (2019) highlighted how school characteristics can influence the interpretation and implementation of physical education policies, indicating that a nuanced understanding of local contexts is essential for effective policy enactment. Similarly, Rakolobe and Teise (2024) emphasizes the impact of contextual factors on the effective implementation of curriculum and assessment policies, reinforcing the idea that understanding the local environment is critical for successful educational ideas. These insights underscore the importance of recognizing the interplay between

individual cognition, situational cognition, and role of representation factors in shaping teachers' sense-making processes. By fostering environments that encourage collaboration and dialogue among teachers, educational leaders can facilitate the transition from toleration or distantiation toward accommodation or assimilation. Additionally, providing targeted resources and training can help teachers reconcile their existing beliefs with curricular demands, promoting a more cohesive and effective implementation process. In conclusion, the implications of these sense-making patterns extend beyond individual classrooms. They can influence the overall school culture and the collective efficacy of teaching staff. When teachers engage in assimilation or accommodation, they contribute to a shared understanding of curriculum goals, which can enhance collaboration and professional learning communities. Conversely, widespread toleration or distantiation may create an environment of scepticism and disengagement, undermining the potential for systemic change. Therefore, it is essential for educational leaders to actively monitor and support teachers' sense-making processes, ensuring that curriculum are not only accepted but also embraced as integral components of effective teaching and learning.

## 2.2. This study

This study significantly contributes to the existing body of knowledge on curriculum implementation by delving into the sense-making processes of preschool teachers faced with curricular requirements. Drawing on Spillane et al.'s (2002) and Coburn's (2001) frameworks, the research not only illuminates how teachers interpret and engage with the curriculum but also examines the interaction between their cognitive frameworks and the contextual influences of their educational environments. Through this approach, the study addresses the nuanced ways in which educational change is understood and integrated into classroom practices. The insights gained from this investigation aim to inform and enhance strategies for supporting teachers in effectively navigating curriculum changes, ultimately improving educational outcomes. By situating teachers' sense-making processes at the heart of curriculum implementation, this study provides valuable perspectives that can influence future educational policies and practices, ensuring that curricular changes are more than just temporary measures but are effectively embedded into the fabric of educational systems for long-term success.

## 3. Methodology

The epistemological foundations of this research are rooted in a constructivist approach, which is well-suited to uncover the complexity of a lived phenomenon by examining the multiple realities of individuals and their mental representations (Creswell, 2014; Guba & Lincoln, 1994). Constructivism emphasizes understanding how individuals interpret and make meaning of their experiences, making it particularly relevant for exploring how teachers navigate and make sense of curriculum changes in their everyday practices (Schwandt, 1998). In this study, the constructivist approach guided the design of the methodology, including the data collection process and the selection of participants.

To gain a rich and nuanced understanding of the phenomenon under investigation, we adopted a qualitative approach. This approach enables an in-depth exploration of the teachers' lived experiences, allowing us to understand how they interpret and engage with curriculum on an individual and situational level during the institutionalization phase (Lincoln & Guba, 1985). Within this framework, we utilized a phenomenological approach, which is particularly appropriate for examining the lived experiences of preschool teachers as they interpret curriculum requirements. Phenomenology allows us to capture the essence of how teachers make sense of and respond to the curriculum requirements within the context of their professional environments.

In line with phenomenological inquiry, we gathered rich, diverse data from observations and semi-structured interviews. These data sources allowed us to explore both the individual and collective dimensions of teachers' sense-making processes, providing a comprehensive understanding of the individual and situational factors that influence curriculum implementation. By focusing on these personal and collective experiences, we aim to provide an in-depth analysis of the complexities teachers face when adapting to curriculum demands.

### 3.1. Participants

The participants in this study included 49 preschool teachers, 40 of whom worked in independent preschools and 9 in pre-primary classrooms. The sampling method used in this study was purposive sampling, which was employed to select participants who could provide in-depth insights into the research phenomenon. The selection of independent preschools as the primary focus of this study was driven by the unique structure and educational context of these institutions within Turkey's preschool system.

Independent preschools in Turkey are government-funded educational institutions that operate independently from elementary and secondary schools. Unlike private preschools, these institutions are publicly managed but are distinct in their administrative structure, existing as standalone entities rather than being integrated within a larger school system (Gol-Güven, 2017). This separation allows independent preschools to focus solely on early childhood education, fostering a more targeted approach to developmental and educational needs. They adhere to national curriculum guidelines but may have greater flexibility in implementing localized teaching practices tailored to their communities (Bulut, 2020). The independent nature of these institutions highlights their unique role in preparing young learners for formal schooling while contributing to the overall quality and accessibility of early childhood education in Turkey. Moreover, pre-primary classrooms are educational settings established within primary, secondary, and high schools to deliver preschool education services (Gol-Güven, 2007).

The decision to focus on independent preschools rather than pre-primary classrooms was guided by two key considerations. First, the majority of preschool teachers are employed in independent preschools, typically overseen by directors with specialized expertise in early childhood education. This context was presumed to offer greater insights into critical factors such as collective sense-making, peer dynamics, and the influence of directors, all of which underpin situational cognition. Second, preschools are generally characterized by richer environmental resources and materials, facilitating the implementation of early childhood pedagogy and curriculum. This was assumed to provide teachers with greater autonomy and efficacy in curriculum implementation while also allowing for a more nuanced examination of institution-related factors in sense-making.

Moreover, the sample is not representative of all preschool teachers in Turkey, as it focuses exclusively on independent preschools and only includes teachers who volunteered for the study. This focus on independent preschools may limit the generalizability of the findings to other educational settings, such as public schools or other types of early childhood education institutions. Furthermore, while the sample includes a range of teaching experiences—five teachers with 25–30 years of experience, four with 15–20 years, and six with 6–10 years—the sample may not fully capture the perspectives of novice teachers or those in different socio-economic contexts.

The participants in the interviews were 15 volunteer teachers who were selected based on their varying levels of experience. Of these, five teachers had 25–30 years of experience, four had 15–20 years, and six had 6–10 years of experience. Based on the results of the observations, the teachers' sense-making patterns were grouped into three categories: assimilating, accommodating, and tolerating (Table 1).

**Table 1**  
Characteristics of the interviewed teachers.

Teacher identifier	Sense-making patterns	School
As-T <sub>1</sub>	Assimilating	School-1
As-T <sub>2</sub>	Assimilating	School-1
As-T <sub>3</sub>	Assimilating	School-2
As-T <sub>4</sub>	Assimilating	School-3
As-T <sub>5</sub>	Assimilating	School-4
As-T <sub>6</sub>	Assimilating	School-4
As-T <sub>7</sub>	Assimilating	School-5
As-T <sub>8</sub>	Assimilating	School-5
Ac-T <sub>1</sub>	Accommodating	School-4
Ac-T <sub>2</sub>	Accommodating	School-2
Ac-T <sub>3</sub>	Accommodating	School-6
Ac-T <sub>4</sub>	Accommodating	School-3
Tol-T <sub>1</sub>	Tolerating	School-2
Tol-T <sub>2</sub>	Tolerating	School-3
Tol-T <sub>3</sub>	Tolerating	School-5

### 3.2. Data collection process

Sense-making is not a singular event but a dynamic process that unfolds over time. Teachers' classroom practices provide a concrete way to observe this abstract process, as these practices are shaped by the teachers' evolving beliefs, knowledge, experiences, and other personal and contextual factors (Ajzen, 1991; Spillane et al., 2002). These factors are not fixed; rather, they are shaped and refined through ongoing interaction with the curriculum and the learning environment. The classroom practices of teachers serve as tangible expressions of these underlying cognitive states (Spillane et al., 2002). Therefore, teaching practices can be seen as outcomes of patterns shaped by teachers' sense-making processes. It is important to note that qualitative inquiry, by its nature, is subjective. The findings from this study reflect the specific contexts and situations of the teachers involved, rather than claiming universal objectivity. Data collection methods—primarily classroom observations and interviews—were employed to capture a deeper, contextually rich understanding of how teachers engage with and adapt to curriculum requirements. However, these findings are not generalizable in an objective sense but rather offer insights that are situational and contingent on the specific settings in which the teachers work.

#### 3.2.1. The observations

Observing teachers in their classrooms provides valuable insights into their sense-making processes, particularly because sense-making is closely linked to teachers' cognitive states, which are inherently abstract (Spillane et al., 2002). Relying solely on self-reported data, such as teachers' explanations of their thoughts and actions, can present limitations, as teachers may struggle to accurately articulate the complexities of their sense-making. Therefore, classroom observations are essential for capturing the more tangible expressions of teachers' cognitive processes in action, allowing for a clearer understanding of how they implement curriculum requirements in practice.

In this study, observations were conducted in two distinct rounds to ensure a comprehensive understanding of teachers' practices over time. The first round of observations spanned five months, allowing for a deeper exploration of teachers' ongoing engagement with the curriculum and the evolution of their sense-making over an extended period. The second round of observations took place over three months, and its purpose was to assess the consistency and fidelity of teachers' practices in relation to the curriculum's demands. This second round also provided an opportunity to examine whether the initial observations captured enduring changes in teaching practices or if the teachers had reverted to previous approaches.

To ensure reliability in the observations, a standardized tool, the Early Childhood Classroom Observation Measure (ECCOM), was employed (Stipek & Byler, 2004). ECCOM was selected because it is a

comprehensive measure that aligns with the developmental and child-centred philosophy of the Turkish preschool curriculum, which was started to implement in 2013. The tool's criteria focus on key aspects of classroom practice, including the quality of teacher-student interactions, classroom management, social and motivational climate, and instructional practices. These areas are central to understanding how teachers implement curriculum and adapt to its pedagogical demands.

The selection of teachers for observation was based on purposive sampling, a non-random method that allows for intentional selection of participants who are most likely to provide rich, relevant insights for the research question (Patton, 2002). This was particularly appropriate for this study because it enabled the inclusion of teachers from independent preschools and pre-primary classrooms, which are the focus of the study. Independent preschools were chosen specifically because their enriched settings and working environment operate with greater autonomy in curriculum design and teaching practices compared to pre-primary classrooms. This flexibility provides a unique opportunity to observe how teachers in these settings interpret and adapt curriculum requirements. Furthermore, the diversity of socio-economic backgrounds in these institutions contributes to a broader understanding of how curriculum requirements are implemented across varying community contexts.

Another reason for using this method is to ensure a representation of teachers with different levels of experience and exposure to curriculum changes. Teachers were selected to include varying years of professional experience (e.g., 25–30 years, 15–20 years, and 6–10 years) to capture the range of perspectives on how experience influences the sense-making process. This was critical for exploring how teachers' previous knowledge and practices may shape their understanding and implementation of curriculum requirements.

The observers visited the classrooms once a week over the course of the two rounds of observations. During each visit, the observers (pre-service teachers) made detailed notes on the teachers' classroom practices, focusing on how teachers engaged with the curriculum and how these interactions reflected the cognitive and instructional adjustments necessary to implement the curriculum. By documenting classroom practices, the observers were able to capture a variety of behaviours and interactions that provided rich data on teachers' sense-making processes.

The combination of two rounds of observation allowed for triangulation with other data sources such as interviews, and helped mitigate the potential bias introduced by relying solely on teachers' self-reports. This multi-layered approach ensured a more accurate and well-rounded view of how teachers made sense of and enacted the curriculum demands during institutionalization phase.

Official permission for conducting the classroom observations was obtained from the local city directorate of national education, ensuring that the research adhered to the necessary ethical and procedural guidelines. The observations were carried out in a manner that respected the confidentiality and autonomy of the participating teachers. Given the qualitative nature of the study, the aim was not to provide objective, universal insights, but rather to offer in-depth, contextually grounded understandings of teachers' classroom practices. The findings reflect teachers' individual and collective sense-making processes, which are shaped by their beliefs, experiences, and the unique contexts in which they teach.

### 3.2.2. The interviews

Following the two rounds of classroom observations, a two-round interview process was conducted to gain a deeper understanding of the teachers' cognitive processes related to their sense-making patterns regarding the curriculum. The purpose of the interviews was to probe into the various factors influencing how teachers interpret and implement the curriculum. Through the interviews, the study aimed to explore not only the teachers' personal beliefs and experiences but also

the contextual elements that shape their approaches to curriculum requirements.

The interviews were semi-structured, allowing for flexibility in the conversation while ensuring that specific topics related to the teachers' sense-making processes were addressed. This format allowed for a more open discussion where teachers could elaborate on their experiences, thoughts, and challenges. Semi-structured interviews are particularly effective in educational research, as they provide participants with the freedom to express their views in detail while allowing researchers to probe deeper into relevant themes (Kvale, 1996). The interviews took place in a quiet and comfortable environment within the teachers' own schools, ensuring that the setting was familiar and conducive to candid discussions.

Each interview lasted between 30 and 55 min, with all conversations being audio-recorded after obtaining voluntary consent from both the school administration and the participating teachers. The recordings were transcribed verbatim, and the data were analysed thematically to identify key patterns and insights regarding how teachers make sense of and adapt to curriculum requirements.

Purposive sampling was employed to ensure that the interviewees represented a diversity of experiences, perspectives, and teaching contexts. A total of 15 interviews were conducted. The final sample consisted of 15 volunteer teachers, including those with varying levels of experience: five teachers with 25–30 years of experience, four teachers with 15–20 years of experience, and six teachers with 6–10 years of experience. This range of experience was essential to understanding how teachers at different stages of their careers perceive and implement curriculum requirements. Teachers with varying levels of experience often bring different insights into how they make sense of and implement curriculum requirements, based on their prior knowledge, teaching practices, and exposure to educational reforms (Desimone, 2009). The purposive sampling method allowed for the targeted selection of teachers who were most likely to provide valuable insights into the research question, particularly those who had already demonstrated an engagement with the curriculum being studied.

While the goal was to include a balanced mix of teachers from both independent preschools and pre-primary classrooms, the final sample consisted primarily of teachers from independent preschools, with only one teacher from a pre-primary classroom. This limitation occurred due to the voluntary nature of the selection process, which resulted in fewer volunteers from pre-primary classrooms. Despite this, the inclusion of teachers from independent preschools allowed the study to focus on the unique characteristics of these schools, such as their greater autonomy in curriculum design and teaching practices. This focus on independent preschools provided an opportunity to examine how teachers in these more flexible environments engage with curriculum in ways that may differ from those in more standardized, pre-primary classroom.

### 3.3. Data collection tools

#### 3.3.1. Early Childhood Classroom Observation Measure (ECCOM)

The Early Childhood Classroom Observation Measure (ECCOM) is an instrument commonly employed in qualitative studies to evaluate the dynamics of classroom practices in early childhood education settings (e.g., Pakarinen et al., 2024; Rainer Dangel & Hooper, 2010). Originally developed by Stipek and Byler (2004) and later adapted into Turkish by Veziroğlu Çelik (2014), ECCOM focuses on observing critical aspects of classroom interactions, offering valuable insights into how early childhood educators implement curricula and engage with young learners effectively. By assessing teacher practices across three main subscales—management, social climate, and instruction—ECCOM provides rich, descriptive data that highlight how teachers align their practices with developmental and child-centred educational goals. ECCOM allows for a deeper exploration of the teacher-child interactions and the classroom environment, making it a valuable tool for understanding the complexities of early childhood education (Stipek & Byler, 2004). The

ECCOM was selected for this study due to its alignment with the child-centred and developmental philosophy of the Turkish preschool curriculum. ECCOM serves as an effective tool for capturing essential elements of teaching practice, making it ideal for understanding how teachers implement curriculum changes in practice.

The management subscale focuses on classroom organization and the structuring of activities. It evaluates how teachers establish routines, organize classroom materials, and manage the overall environment to support learning. The importance of this subscale lies in its ability to assess the classroom's organizational framework, which is critical for promoting an active, engaging, and student-centred learning environment. It allows for an evaluation of how well teachers use their classroom structure to foster learning opportunities that are in line with the curriculum's developmental goals. A well-managed classroom ensures that children are provided with the space and structure to engage meaningfully in activities, making this subscale central to understanding the teacher's role in facilitating a productive learning environment.

The social climate subscale examines the interpersonal interactions that occur within the classroom, focusing on the quality of relationships between teachers and children, as well as among children. This subscale evaluates how well teachers create a supportive, inclusive atmosphere where students feel emotionally safe, valued, and encouraged to collaborate. Given the emphasis on emotional and social development within the Turkish preschool curriculum, this subscale is highly relevant. It assesses how teachers promote peer interactions, foster social-emotional learning, and nurture a collaborative classroom culture. By observing these social dynamics, the ECCOM tool helps to measure the extent to which the teacher's classroom climate aligns with the curriculum's goals of developing positive peer relationships and supporting emotional growth.

The instruction subscale looks at how teachers engage with the curriculum and facilitate learning activities. It evaluates how teachers plan and deliver activities, ensure active participation, and adapt instruction to meet the diverse needs of students. This subscale is vital because it captures the core pedagogical strategies used by teachers to implement the curriculum, focusing on how they foster critical thinking, creativity, and inquiry-based learning. This aligns with the developmental approach of the Turkish curriculum, which encourages teachers to create learning opportunities that are both intellectually stimulating and developmentally appropriate. By analysing the teacher's instructional methods, the instruction subscale assesses how well these practices support the curriculum's emphasis on active, student-centred learning.

The overall structure and content of ECCOM make it a valuable tool for observing the daily practices of teachers in relation to curriculum requirements. By using this instrument, the study was able to gather data on various facets of classroom practice, ensuring a comprehensive understanding of how teachers engage with the curriculum and adapt to its requirements.

For consistency, 14 observers were trained in ECCOM's criteria like [Lerkkanen et al. \(2012\)](#) ensuring that they could accurately evaluate the observed classrooms according to the subscale categories. The training process was structured into several phases, starting with an introduction to ECCOM's theoretical framework and a detailed review of its three subscales. After the initial training, observers conducted pilot observations and engaged in discussions to align their interpretations of the tool. This process aimed to ensure high inter-rater reliability and consistency in the application of ECCOM's criteria across all observers.

The inter-rater reliability of the observations was carefully monitored by calculating the intraclass correlation coefficient (ICC) between pairs of observers. The reliability scores ranged from 0.83 to 0.92, demonstrating a high level of agreement. In cases where the ICC dropped below the acceptable threshold, the observers met to discuss discrepancies and recalibrate their observations, improving consistency for subsequent data collection. This process was essential to ensure that the observations accurately reflected the teachers' practices without bias or

misinterpretation.

The categorization of teachers' sense-making patterns, based on the observation data, was a crucial aspect of this study. Teachers were grouped into three categories: assimilation, accommodation, and toleration. These categories reflect the extent to which teachers adapted their practices to align with the child-centred curriculum. Assimilation refers to teachers who incorporated new practices into their existing framework without significant changes to their beliefs or teaching methods. Accommodation describes teachers who made substantial adjustments to their teaching strategies to align with the curriculum's requirements. Toleration refers to teachers who complied with the curriculum but did so superficially, often without deep engagement with the new practices.

To ensure the accuracy of these groupings, discriminant analysis was applied. This statistical method helped identify key predictors for categorizing teachers, such as the balance between child-centred and teacher-centred practices, the degree of flexibility in teaching approaches, and the extent of teachers' engagement with the developmental aspects of the curriculum. The discriminant analysis further validated the grouping process, confirming that teachers' sense-making patterns were reliably identified and aligned with their classroom practices.

### 3.4. Interview protocols

The development of the interview protocol for this study was an iterative process aimed at capturing the nuances of teachers' sense-making regarding curriculum requirements. Initially, the interview questions were informed by a comprehensive review of the sense-making literature, focusing on frameworks that explore how teachers interpret and respond to the curriculum. Two researchers collaborated to ensure that the questions would address the study's objectives and reflect the complexity of the sense-making process.

The protocol was further refined through expert feedback, ensuring that the questions were clear, relevant, and aligned with the research aims. Experts in curriculum implementation and teacher cognition provided insights that helped fine-tune the interview questions, thereby enhancing the content validity. Following expert validation, pilot interviews were conducted with one teacher to test the protocol and ensure that the questions were effective in eliciting meaningful responses. Adjustments were made based on the pilot, addressing any issues related to question clarity or interview flow.

Regarding the timing of the interviews, they were conducted after the curriculum change had been fully initiated and implemented in the participating teachers' classrooms. This timing was crucial as it allowed teachers to reflect on their experiences with the curriculum and provide insights into how they had navigated the changes. Interviews were scheduled in such a way as to allow sufficient time for teachers to engage with the curriculum, ensuring that their sense-making processes were informed by actual classroom practice rather than hypothetical or preliminary impressions. The first round of interviews took place six years into the institutionalization stage of the curriculum change process, as outlined in [Fullan \(2007\)](#)'s framework, and a second round was conducted later to follow up on the initial responses, exploring emerging themes and challenges in greater depth.

By conducting the interviews post-implementation, the study aimed to capture teachers' lived experiences and reflections, providing a rich understanding of how they interpreted and adapted to the curriculum. This timing also ensured that the data collected would be relevant and grounded in the teachers' ongoing engagement with the curriculum, allowing for a more accurate representation of their sense-making processes. The interview protocols used for this study are provided in the attachments. The first protocol focused on gathering general perspectives from teachers about their professional experiences and perceptions of preschool education, as well as significant influences and turning points in their careers. For example, the protocol included questions such as, "As a teacher, what do you think about your profession?"

How should preschool education be conducted, in your opinion?" [see Interview Protocol-I in supplementary materials]. The second protocol delved deeper into teachers' perspectives on the preschool curriculum, examining their views on the curriculum's implementation, its alignment with their teaching practices, and the curriculum's contribution to children's development. For instance, it asked, "What do you think a curriculum is, and how should it be structured? What are your thoughts on the differences between the current curriculum and the previous one? [see Interview Protocol-II in supplementary materials]. These protocols were designed to explore various dimensions of teachers' sense-making processes and align with the study's objectives.

### 3.5. Ethical information

In adherence to ethical research practices, the selection of participants was conducted with a focus on voluntariness and diversity. Potential participants were first briefed about the study's objectives, the nature of their involvement, and the confidentiality of their responses. Following this, informed consent was obtained from all participants who agreed to partake in the study. This consent process ensured that participants were fully aware of their right to withdraw from the study at any time without any consequence. The study strictly adhered to the ethical guidelines provided by the institution researchers work, which included securing personal data and ensuring the anonymity of all participants in the final report.

### 3.6. Analysis

To determine the patterns of teachers' sense-making in relation to curriculum implementation, a multi-step analysis procedure was employed. The first step involved using the data from the second round of classroom observations to generate a frequency table. This table categorized teachers' practices into two main groups: "Curriculum-Aligned Practices" (C-AP) and "Curriculum-Unaligned Practices" (C-UAP). These categories were designed to capture the extent to which teachers' practices aligned with the curriculum and served as a foundational measure for further analysis.

In the next step, teachers were intended to assign to one of four distinct sense-making patterns—assimilation, accommodation, toleration, and distantiation—based on their two observation scores. This grouping was done autonomously by two researchers who reviewed the data independently. To ensure consistency in the classification process, inter-rater reliability was assessed and found to be 88 %. Discrepancies between researchers were resolved through discussion, where a consensus was reached to finalize the groupings. Following this categorization, a discriminant analysis was performed to validate the grouping procedure and assess the extent to which the classification of teachers reflected significant patterns in their curriculum engagement. This statistical test helped to determine which variables—such as the balance between child-centred and teacher-centred practices—best predicted the teachers' sense-making patterns.

For the analysis of interview data, we employed *thematic network analysis*, a well-established method for identifying and organizing recurring patterns and relationships in qualitative data (Attride-Stirling, 2001). Thematic network analysis was particularly useful in this study because it provided a structured framework to explore the complexity of teachers' sense-making processes. It involves creating a multi-level structure of themes, beginning with basic themes and building up to more abstract organizing and global themes.

The analysis began with data familiarization, which involved repeated readings of the interview transcripts to gain an in-depth understanding of the content and nuances of the responses. After familiarization, initial coding was performed systematically, guided by the theoretical framework and research questions. Each segment of data was assigned a code that captured key aspects of the teachers' sense-making processes. One researcher performed this initial coding, while a second

researcher analysed approximately 20 % of the data using the same coding scheme. The inter-rater reliability for the coding process was found to be 89 %, exceeding the accepted threshold for reliability (Miles & Huberman, 1994).

The next phase of the analysis involved theme search, where we looked for commonalities, patterns, and meaningful associations among the codes. Similar codes were grouped into basic themes, which were then further aggregated into higher-level organizing themes. The organizing themes reflected broader concepts that captured the key aspects of teachers' sense-making, such as the role of personal beliefs, school culture, and contextual influences. These organizing themes ultimately led to the identification of global themes, which represented the central phenomena of the study—how individual, social, and contextual factors combined to shape teachers' interpretations and implementations of curriculum requirements.

In developing the thematic network, we visually represented the relationships between basic, organizing, and global themes. The network highlighted how these themes were interconnected and how they collectively contributed to the teachers' sense-making processes. We then critically reviewed and refined the thematic network by examining the relationships between themes, their hierarchical structure, and considering alternative interpretations where applicable.

Throughout the process, the analysis was iterative, with coding, theme identification, and refinement cycles being repeated. To ensure rigor, feedback was sought from an expert in qualitative analysis, which enhanced the validity of the final interpretation. Any discrepancies in the coding or theme identification process were discussed and resolved through consensus between the two researchers. The final thematic network was used to support the development of the findings, with direct quotations from teachers incorporated into the relevant themes to illustrate the key patterns identified in the analysis. Teachers were anonymized and labelled as As-T1, As-T2, and so on for those in the assimilating group, Ac-T1, Ac-T2 for the accommodating group, and Tol-T1, Tol-T2 for the tolerating group.

## 4. Findings

### 4.1. Descriptive findings

The descriptive findings from the classroom observations reveal a significant tendency towards teacher-centred practices (see Tables 2 and 3). Moreover, teachers exhibited a higher frequency of Curriculum-Unaligned Practices (C-UAP) (63.5 %) compared to Curriculum-Aligned Practices (C-AP) (36.5 %). This suggests that, despite curriculum aimed at fostering child-centred learning, teachers are still predominantly engaged in instructional methods that prioritize the teacher as the main source of knowledge and decision-making. This trend is further supported by the data in Table 2, which displays the mean scores for various ECCOM subscales.

The ECCOM subscales provide insight into how classroom practices are structured. The mean scores for teacher-centred practices were

**Table 2**  
The descriptive information about and reliabilities for ECCOM subscales.

Variable	Mean	SD	$\alpha$
<b>Child-centred practices</b>	2.10	0.75	0.92
Management	2.22	0.87	0.90
Social-motivational climate	2.28	0.89	0.92
Instruction	1.81	0.62	0.86
<b>Teacher-centred practices</b>	2.98	0.65	0.89
Management	2.87	0.78	0.81
Social-motivational climate	3.06	0.75	0.81
Instruction	3.00	0.60	0.70
<b>Chaotic practices</b>	1.94	0.75	0.89
Management	1.69	0.72	0.84
Social-motivational climate	2.06	0.95	0.90
Instruction	2.08	0.80	0.86

**Table 3**  
Second observational findings.

Observed practices type	%	Definitions	Examples
C-AP	36,5	Type of practice that reflects curriculum demands	“Letting the children structure the information, having a conversation with the children at the start of the morning”
C-UAP	63,5	Type of practice that does not reflect curriculum demands	“Not including the children in the assessment process, not conducting activities according to a balance between active and passive activities”

consistently higher across all domains (Management, social-motivational climate, and Instruction) compared to the child-centred Practices. For example, the mean score of teacher-centred practices (M = 2.98) was slightly higher than the score of child-centred practices (M = 2.10). This indicates that teachers may still be more comfortable with, or perhaps constrained by, traditional teaching methodologies that place them at the centre of classroom activities.

An analysis of the management subscale revealed that the mean score for teacher-centred practices (M = 2.87) was slightly higher than that for child-centred practices (M = 2.22). This suggests that teachers tend to maintain structured, controlled environments emphasizing direct instruction, which may present challenges in contexts where the curriculum advocates for more child-centred activities.

Moreover, the social-motivational climate subscale shows that teachers tend to create a more teacher-dominated classroom atmosphere (M = 3.06) as opposed to a child-driven one (M = 2.28). This reflects a social dynamic where teachers may direct interactions and limit peer collaboration or student autonomy, potentially hindering the development of critical social and emotional skills that the curriculum seeks to promote.

The Instruction subscale further reinforces the teacher-centred nature of classroom practices, with a mean score of 3.00, indicating that the teachers rely heavily on direct teaching methods. In contrast, the child-centred instruction score of 1.81 suggests that practices encouraging child-centred inquiry or exploration are less frequently observed.

The chaotic practices subscale (M = 1.94) also provided insight into the level of disorder in the classrooms, highlighting areas where teachers may struggle with maintaining a clear structure or effective management strategies. The mean scores across the Management and Social-Motivational Climate subscales for Chaotic Practices are relatively low, which could indicate that a lack of alignment with curriculum requirements leads to environments where teachers are either unsure of how to implement the desired practices or are faced with challenges in creating conducive learning environments.

The findings suggest a disconnect between the intended child-centeredness and the actual practices observed in the classrooms. Despite the emphasis on child-centred learning in the curriculum, teachers’ frequent engagement with teacher-centred and curriculum-unrelated practices points to challenges in fully embracing and implementing curriculum requirements. Teachers may persist in teacher-centred practices due to a variety of factors, including familiarity with traditional methods, lack of adequate training or resources for the curriculum, or a broader institutional culture that emphasizes teacher control. The lower occurrence of Curriculum-Aligned Practices (C-AP) indicates that teachers may not be fully prepared to shift from traditional practices to those required by the curriculum. This could be due to a lack of deep understanding of the child-centred philosophy, insufficient support, or resistance to change. To address this, future professional development efforts should focus on building teachers’ confidence in implementing child-centred practices and ensuring that they feel supported throughout the process.

#### 4.2. Findings about the teachers’ sense-making patterns of curriculum

A grouping procedure was conducted to reveal teachers’ sense-making patterns of the curriculum (RQ1). This procedure aimed to categorize teachers based on their responses to the curriculum changes and examine how they adapted or resisted curriculum demands. The three groups that emerged from this process—assimilated, accommodated, and tolerated—represent different levels of engagement and alignment with the curriculum’s child-centred principles. Table 4 illustrates the top-down structure of these teachers’ sense-making patterns.

- **Assimilating teachers:** These teachers engage with the curriculum by incorporating some elements into their existing teaching practices without making significant adjustments to align fully with the curriculum’s requirements. Their practices remain predominantly teacher-centred, with minimal effort to adapt or incorporate the curriculum’s child-centred, inquiry-based philosophy. While they engage with the curriculum, their understanding and implementation of its principles are superficial.

**Table 4**  
Top-down structure of teachers’ sense-making patterns.

Codes and themes	As-Ts	Ac-Ts	Tol-Ts
<b>Individual cognition</b>			
<b>Beliefs</b>			
<i>Curriculum is necessary</i>	✓	✓	✓
<i>Curriculum is a guide</i>	✓	✓	✓
<i>Current curriculum is child-centred</i>	-	✓	✓
<i>The current curriculum provides freedom</i>	-	✓	✓
<i>Current curriculum creates workload</i>	✓	-	-
<i>The current curriculum is not implementable</i>	✓	-	✓
<i>I have already implemented</i>	✓	-	-
<i>I have already known</i>	✓	-	-
<b>Knowledge</b>			
<i>Misunderstanding</i>	✓	-	✓
<i>Deep understanding</i>	-	✓	✓
<i>Superficial examination</i>	✓	-	-
<i>Deep examination</i>	-	✓	-
<i>Full engagement with curriculum</i>	-	✓	-
<i>Semi-engagement with curriculum</i>	-	-	✓
<i>Non-engagement with curriculum</i>	✓	-	-
<i>Latent curriculum</i>	✓	-	✓
<b>Motivation</b>			
<i>Extrinsic motivation</i>	-	-	✓
<i>Intrinsic motivation</i>	-	✓	-
<i>Motivational resistance</i>	-	✓	-
<b>Emotion</b>			
<i>Happiness</i>	-	✓	-
<i>Love for profession</i>	✓	✓	✓
<i>Love for children</i>	✓	✓	✓
<b>Individual characteristic</b>			
<i>Openness to change</i>	-	✓	-
<i>Individual interesting</i>	-	✓	-
<i>Disciplined</i>	-	✓	-
<b>Situational Cognition</b>			
<b>Past experience</b>			
<i>Pedagogical habits</i>	✓	-	✓
<i>Past educational experiences</i>	✓	✓	✓
<i>Family context</i>	✓	✓	-
<i>Pedagogical questioning</i>	-	✓	-
<i>Pedagogical chance</i>	-	✓	-
<b>Professional ecology</b>			
<i>Colleague effect</i>	✓	✓	✓
<i>Resistance to social pressure</i>	-	✓	-
<i>Physical facilities</i>	✓	✓	✓
<i>Crowded classroom</i>	✓	✓	✓
<b>Role of representation</b>			
<b>Curriculum booklet</b>			
<i>The booklet is a good guide</i>	✓	✓	✓
<i>The booklet is a bad guide</i>	✓	✓	✓
<b>Introduction seminar</b>			
<i>Superficial introduction</i>	✓	✓	✓
<i>Useless introduction</i>	✓	✓	✓

- Accommodating teachers: These teachers have actively modified their teaching practices to align more closely with the child-centred principles of the curriculum. They exhibit a deeper understanding of the curriculum and its underlying philosophy, making substantial adjustments to their practices in order to foster more child-centred learning experiences. These teachers not only comprehend the curriculum but also strive to implement it in a meaningful and practical way.
- Tolerating teachers: Teachers in this group show minimal engagement with the curriculum. Their practices reflect a passive acceptance of the curriculum's requirements, often complying only when prompted by external pressures such as school administrators or inspectors. These teachers do not engage with the curriculum on a deeper level and often continue with their previous teaching methods, making only superficial adjustments to meet the curriculum's basic demands.

The assimilated group consist of 33 teachers (67 %), the accommodated group consist of 9 teachers (19 %), and 7 teachers (14 %) were also in the tolerated group (Fig. 1). The discriminant analysis confirmed the validity of this grouping procedure. Accordingly, Wilks' Lambda statistics demonstrated significant group differences in terms of the predictors of teachers' child-centred ( $\Lambda = .221$ ;  $p < .001$ ), teacher-centred ( $\Lambda = .456$ ;  $p < .001$ ), and of chaotic practices ( $\Lambda = .741$ ;  $p < .005$ ). Moreover, the standardized canonical discriminant function coefficients showed the relative importance of teachers' child-centred (1.074), chaotic practices (.406), and teacher-centred (-.368) respectively as predictor variable in discriminating between the groups. In the established model, the independent variables account for 82 % of the variance in the dependent variable and 91,8 % of original grouped cases correctly classified. Ultimately, the high eigenvalue score (4.735) further validated the effectiveness of our grouping procedure.

#### 4.2.1. Assimilating group

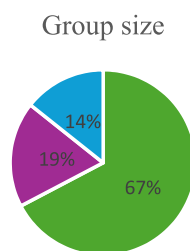
Based on the observation findings, it appears that teachers within this group ( $n = 33$ ) typically do not align their practices with the curriculum demands; rather they seem to have assimilated the curriculum. As per the initial observation, teachers in this group tend to lean towards teacher-centred and slightly chaotic-oriented practices (Fig. 2). Furthermore, the second observation revealed that teachers in this group employed C-AP more frequently ( $\% = 29,5$ ), while C-UAP were employed less frequently ( $\% = 70,5$ ).

4.2.1.1. Superficial engagement: the sense-making process of assimilating teachers. The sense-making networks of assimilating teachers are structured at three levels, from global themes to basic themes.

**Global theme:** *What are the factors influencing assimilated teachers' sense-making process?*

Thematic network analysis revealed that multi-level factors such as individual cognition, situational cognition, and curriculum representation influence the sense-making process of assimilating teachers.

**Organizing theme, I:** *Individual cognition.*



■ Assimilated group ■ Accommodated group ■ Tolerated group

Fig. 1. The groups related to teachers' sense-making patterns.

Through interviews, we understand that teachers' knowledge, beliefs, and emotions shaped their individual cognition.

**Basic theme I:** *Beliefs.*

The teachers' beliefs shaped their interpretations of the curriculum. Almost all As-Ts expressed the belief that "*the curriculum should exist and that it is a guide for the teacher.*" However, they expressed negative beliefs about the current curriculum, stating that the curriculum is not implementable, the curriculum creates workload. Some views supporting this finding are as follows: *The change regarding assessments in the curriculum creates workload*" (As-T<sub>1</sub>) and "*I think some of the changes in the curriculum create workload. I don't implement those because they're just chores.*" (As-T<sub>2</sub>). Furthermore, several As-Ts frequently cited the belief of "*I already implemented, and I already know*" that influences their sense-making process negatively. They perceived similarity between their prior implementation and the curriculum demands. This led the teachers to examine the curriculum superficially and then to gain incorrect and inadequate knowledge as illustrated in the As-T<sub>5</sub>'s excerpts: "*There is not much change in the section on learning centres in the curriculum. We were already using them this way. So, these were the things we've implemented before .... After some time, I saw that my experience and what I already knew were sufficient, and I didn't really stick to the curriculum and didn't benefit from it.*"

**Basic theme II:** *Knowledge.*

This theme examines how knowledge within individual cognition negatively impacts the sense-making process of teachers identified as As-Ts. Analyses indicate that most As-Ts misunderstand various aspects of the curriculum, which leads them to develop negative beliefs about it. For example, one teacher expressed, "*The curriculum does not allow children to play in the centres they choose,*" and claimed that learning centres such as block, science, and music are ineffective and restrictive (As-T<sub>3</sub>). Although the curriculum actually permits play in the centres of the children's choice, this teacher's belief highlights a misunderstanding of the curriculum's intentions. Furthermore, some teachers who assimilate have failed to grasp the fundamental philosophy of the curriculum—child-centeredness. As-T<sub>6</sub> stated, "*I don't understand how the curriculum facilitates child-centeredness. Are the activity durations and information about the attention spans of children supposed to make the curriculum child-centred? I don't really know.*" Additionally, while some teachers mentioned drifting away from the curriculum and not examining it in depth, others admitted to only superficially reviewing the curriculum. For instance, As-T<sub>2</sub> mentioned, "*Because I use my own prepared activities, I do not utilize the curriculum.*" As-T<sub>4</sub> noted, "*I rarely look at the curriculum anymore as I do not need it much.*"

**Basic theme III:** *Emotions.*

Emotions are another significant factor in individual cognition that affects the sense-making process of teachers identified as As-Ts. Frequently expressed by these teachers is a profound professional love for their occupation. For example, As-T<sub>7</sub> mentioned, "*I derive joy from my profession. I chose this career very passionately and knowingly,*" and As-T<sub>3</sub> added, "*I love this profession; I do it with love because I love the children.*" Interestingly, a few As-Ts noted that being mothers also influenced their professional practices. They particularly emphasized that their maternal feelings shaped their teaching approaches. For instance, As-T<sub>5</sub> stated, "*It might not be entirely ethical, but I approach the curriculum more with my maternal instincts than professionally when planning activities.*"

**Organizing theme II:** *Situational cognition.*

As-Ts' sense-making is shaped within their social environment. In this line, situational cognition emerged based on basic themes such as past experience and professional ecology.

**Basic theme I:** *Past experiences.*

Past experiences play a crucial role in shaping the sense-making processes of teachers, identified here as As-Ts. These experiences significantly influence the pedagogical habits that teachers develop over time, which in turn affect how they interpret and apply the curriculum. For instance, As-T<sub>8</sub> noted, "*To be frank, I still use practices that have been handed down through the years ...*" and added, "*Even if the curriculum*

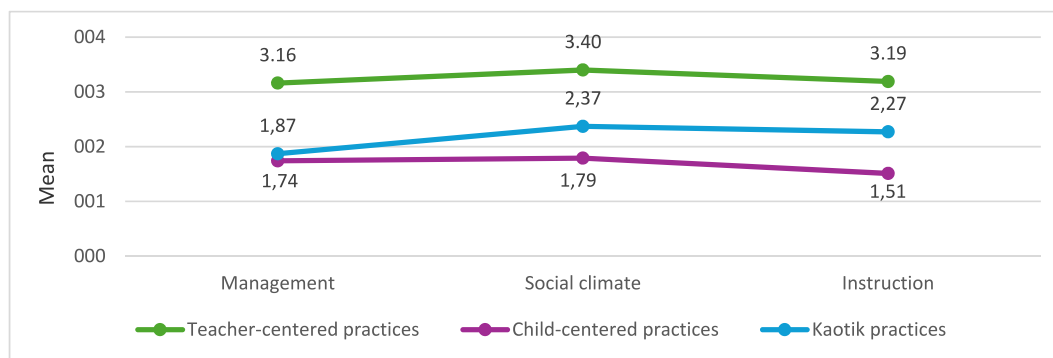


Fig. 2. The assimilating group's first observation findings.

changes, our mindset remains the same." As-T5 briefly described their sense-making process as follows: "I interpret the curriculum through my own experiences ... due to my past habits, I do not implement its demands (such as involving children in the assessment process)". A striking observation is that teachers internally develop their own version of the curriculum based on these experiences. As-T2's statement supports this: "I have been teaching for years and decide myself what and how to implement based on my experiences," and further noted, "Based on my experience, I know how children will react, so there is little need to consult the curriculum." Additionally, past educational experiences have also been a significant factor. As-T8 explained, "We were trained in a teacher-centred manner during our university education, and frankly, this is reflected in my current practices." Similarly, As-T4 remarked, "We seem to have adopted the teacher-centred practices we were exposed to in the past without realizing it, and now we apply them in our classroom." Interestingly, As-T5 mentioned how their upbringing within their family also influenced their sense-making process: "Growing up in a restrictive family environment as a girl, there were many things I couldn't comfortably do, which negatively affected my creativity." This background impacts their interpretation of the curriculum, as As-T5 elaborated, "The curriculum emphasizes the importance of creativity in children. However, how can I impart something I lack myself?"

#### Basic theme II: Professional ecology.

Professional ecology is a crucial element that shapes the sense-making processes of teachers. Key aspects highlighted by the teachers include their immediate environment, such as physical facilities and crowded classrooms, which they identify as potential threats to implementing the curriculum effectively. For example, As-T7 pointed out, "Child-centred practices are not feasible in a crowded classroom," and As-T2 articulated, "A crowded classroom makes it difficult to attend to children, posing a significant disadvantage." Similarly, some teachers noted the negative impact of inadequate physical facilities on curriculum implementation. As-T8 emphasized, "For children to play effectively in learning centres (such as book, art, and block), we need sufficient materials, but unfortunately, our school lacks these resources." Another significant social factor mentioned by teachers relates to the influence of colleagues. As-T5 described how they collectively made sense of a change in the curriculum with school colleagues, stating, "We reviewed the change related to learning centres and concluded that it was nonsensical." Similarly, As-T7 expressed, "One of the major issues in schools is that we are influenced by each other's teacher-centred practices. Even though it's unspoken, you feel the pressure and start adopting these teacher-centred practices." These statements illustrate that the teachers showed no resistance to social influences and accepted them readily.

#### Organizing theme III: The role of representation.

The findings in this theme show how the written or oral presentation of the curriculum affects teachers' sense-making.

#### Basic theme I: Introduction workshops.

Teachers expressed their views on the curriculum introduction workshops. Almost all participants emphasized that the curriculum introduction workshops were not useful and tended to be superficial. For

instance, As-T3 commented, "When a new curriculum is introduced, teachers need to learn more, but the introduction seminars were just basic presentations." Similarly, As-T1 stated, "When a new curriculum is implemented, the introduction should be more effective. It should deeply explain what is expected from teachers and what aspects are important." Furthermore, several teachers mentioned that the introductory seminars were unhelpful. As-T5 articulated, "The introduction was useless; I understood nothing, and nothing from it stayed with me. Consequently, I did not interpret the curriculum based on these sessions." Likewise, As-T8 expressed, "The curriculum introduction was of no use to me. I tried to understand the curriculum on my own, and frankly, I am not sure how much I managed to grasp."

#### Basic theme II: Curriculum booklet.

This theme revolves around the teachers' opinions regarding the curriculum guidebook. Several teachers highlighted the insufficiency of the guidebook's direction or guidance, while others found it explanatory and helpful. For example, As-T8 criticized the inadequacy of the guidebook, stating, "The curriculum is not explanatory; it's just a thick book. Initially, I didn't want to examine it, but later when I did, I quickly forgot what it was all about." Similarly, As-T6 noted, "The curriculum includes some charts, but it was unclear what these charts were for or what would happen if I implemented them. The curriculum should clearly explain its contents so that we understand their application." Moreover, As-T1 expressed dissatisfaction with the guidebook's utility in light of his pedagogical experience, "The explanations in the curriculum do not really enlighten the teacher. Reading it, I cannot say, 'So this is what it means.' After 18 years in the profession, I find it tedious to read the same things about what and how to teach." However, some teachers appreciated the clarity and guidance provided by the guidebook. As-T1 mentioned, "The explanations in the curriculum are quite clear and instructive. Whenever I am stuck on a topic, I refer to the guidebook and think, 'Okay, so this is how it's supposed to be done.'" Additionally, As-T8 found the activity examples in the teacher's guide very beneficial, "The examples of activities in the teacher's guide have been very helpful; I use them when planning my activities." These findings are illustrated in Fig. 3, which provides a visual representation of the multi-level factors influencing the sense-making process of assimilating teachers, as created by the authors.

#### 4.2.2. Accommodating group

According to the first observation findings, teachers in this group ( $n = 9$ ) mainly adopt a child-centred approach in their practices (Fig. 4). Likewise, the findings from the second observations indicated that teachers within this group employed C-AP more frequently ( $\% = 66,3$ ) rather than C-UAP ( $\% = 23,7$ ). Therefore, we labelled this group as accommodating group.

4.2.2.1. Deepening understanding: the sense-making process of accommodating teachers. **Global theme:** What are the factors influencing accommodated teachers' sense-making process?

This section indicates the factors influencing the sense-making

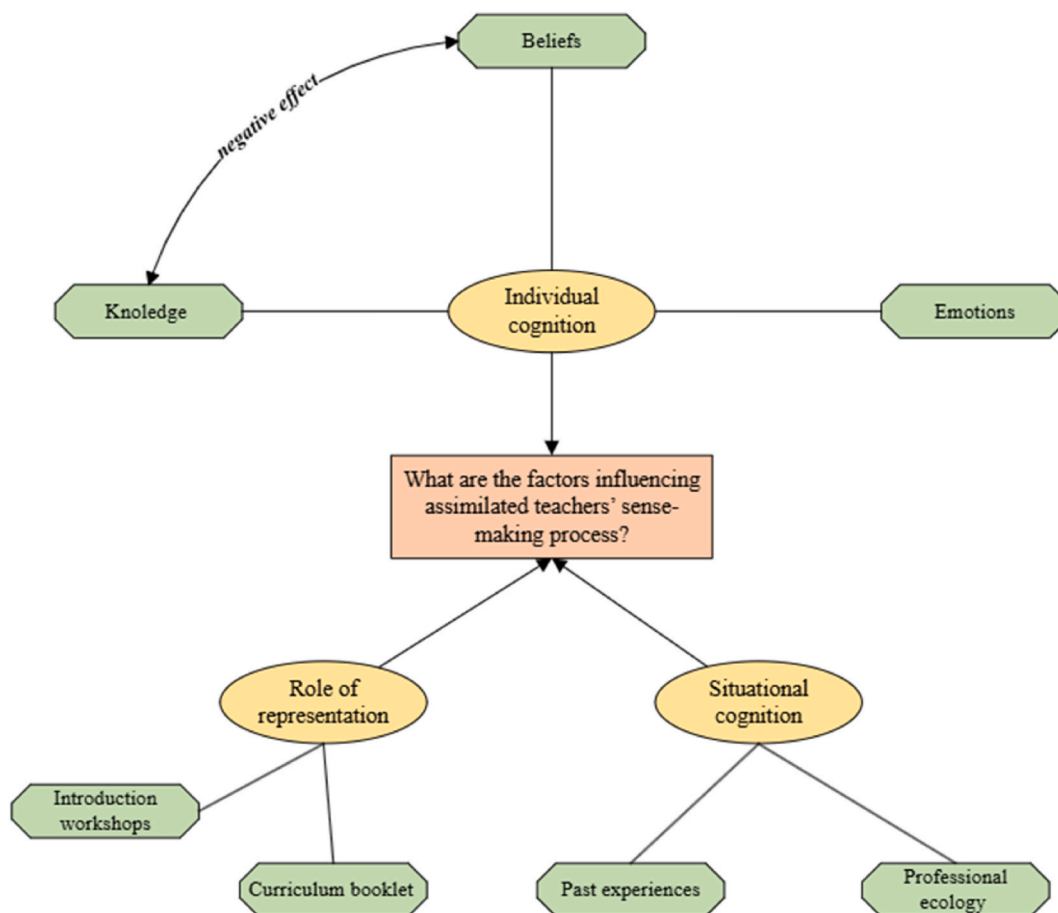


Fig. 3. The multi-level factors influencing the sense-making process of assimilated teachers.

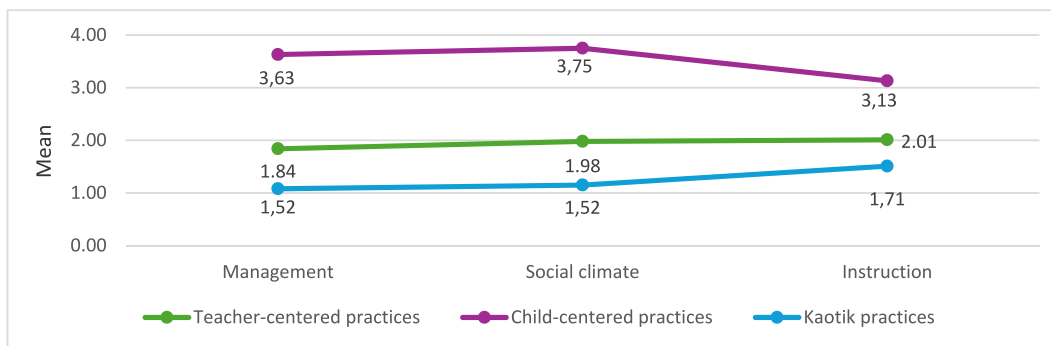


Fig. 4. The accommodating group's first observation findings.

process of teachers who are accommodating to the curriculum changes. The individual cognition, situational cognition, and curriculum-related factors have significantly impacted the sense-making process of these accommodating teachers (Ac-Ts).

**Organizing theme, I: Individual cognition.**

Accommodating teachers find individual cognition to be a pivotal component in their sense-making process regarding the curriculum. Under this theme, the organizing sub-themes include beliefs, knowledge, motivation, emotion, and individual characteristics.

**Basic theme I: Beliefs.**

One of the individual factors influencing the Ac-Ts' sense-making process is their beliefs. It has been observed that all accommodating teachers hold positive beliefs about the curriculum. For instance, Ac-T3 metaphorically stated that having no curriculum would be like "a teacher

trying to navigate a tunnel without a flashlight," emphasizing the curriculum's guiding role. Ac-T4 expressed the necessity of the curriculum for ensuring systematic and non-random teaching practices, stating, "The curriculum is essential to prevent our practices from being arbitrary and to maintain a systematic approach." Additionally, Ac-T3 emphasized the importance of the freedom provided by the curriculum, noting, "The curriculum grants freedom to the teacher, which is one of its features I particularly appreciate because it allows teachers the flexibility to operate freely." These statements reveal that these teachers have a deep understanding of the curriculum, indicating that they possess sufficient knowledge. Consequently, their knowledge about the curriculum positively influences their beliefs.

**Basic theme II: Knowledge.**

Knowledge is another critical individual cognition factor influencing

the sense-making process of accommodating teachers (Ac-Ts). Interviews have shown that Ac-Ts possess a profound understanding of the underlying philosophy of the curriculum. For instance, **Ac-T1** described how the curriculum facilitates child-centeredness, stating, *"The learning centres provide significant opportunities for child-centred practices by allowing children to play freely according to their choices."* **Ac-T3** emphasized the curriculum's spiral nature by explaining, *"Applying a skill acquired in October in different activities in May effectively supports children's learning,"* and added, *"The curriculum's demand for applying developmental skills in a spiral manner is, in my opinion, a crucial feature."* The depth of understanding is evident from their meticulous study of the curriculum. For example, **Ac-T3** noted, *"I realized I hadn't examined the curriculum thoroughly enough after looking at it more carefully. It turns out the curriculum offers a wealth of information. The biggest problem for teachers is assuming they know it well enough and therefore not studying the program in depth."* **Ac-T4's** engagement with the curriculum also influenced his knowledge profoundly; he remarked, *"My perspective on the program changed after reading books on child psychology in my daily life. I came to realize that there is significant philosophy embedded between the lines of the program."*

#### **Basic theme III: Individual characteristics.**

In addition to individual cognition factors influencing the sense-making process within the theoretical framework, current research has discovered that individual characteristics are also impactful. All accommodating teachers (Ac-Ts) share a personality trait of being open to new ideas. **Ac-T1** expressed how this trait influences his professional happiness, stating, *"I adapt quickly to new things and easily forget the old. This personal trait means I am happier the faster I adapt to changes, which is also true in my profession."* He further noted that this characteristic affects his professional motivation and, consequently, his love for his profession, *"I quickly adapt to new situations, which is a feature of my personality. Living in the past lowers my motivation, and high motivation also makes me a happier teacher."* **Ac-T4** echoed these sentiments, saying, *"I love progress and always look for reasons to improve. This is why I attend various trainings which benefit me."* Moreover, individual interests have also influenced the sense-making process of **Ac-T3** and **Ac-T4**. They both enjoy reading books related to early childhood. *"I love reading books about teaching,"* said **Ac-T3**, while **Ac-T4** added, *"I enjoy reading books related to my field of early childhood."* Their statements highlight how the books they have read have been instrumental in shaping their pedagogical questioning and influencing their pedagogical changes. For example, **Ac-T4** shared, *"The books I've read influenced me, and I noticed mistakes in my approach. I felt something was wrong with what I was doing, and it didn't sit well with me. I began to change, and it seems to be working."* He also noted, *"Especially two books are my go-to resources. I still refer back to them because they provide great techniques for classroom management."* The book, 'The Education of the Little Tree,' changed his perspective, *"It made me question my classroom practices."* Furthermore, **Ac-T4** highlighted his interest in art, stating, *"I also love art. The philosophy inherent in art has changed how I view children. I've learned to love people, understanding that children are individuals, and naturally, as a teacher, you value them, and they feel that. People naturally change."* Similarly, **Ac-T2** discussed how being a rule-oriented person influenced his adherence to the curriculum, significantly shaped by his father's influence, suggesting how family context affects personal traits and, consequently, curriculum adherence. *"I am a person of rules. If something needs to be done, it should be done completely or not at all. This trait comes from my family. My father is the same way ... I try to implement the curriculum as much as possible. As I mentioned before, I am a person who adheres to rules, which has turned the curriculum requirements into rules for me."*

#### **Basic theme IV: Emotions.**

In current research, a key individual cognition factor influencing the sense-making process of accommodating teachers (Ac-Ts) are emotions, as emphasized by **Ac-T1**, **Ac-T2**, and **Ac-T4**. These teachers have particularly highlighted love for their profession and love for children as central to carrying out their duties with dedication. For instance, **Ac-T2**

expressed, *"I love my profession and the children. Someone who does not love children cannot perform this job with dedication. I have been a teacher for 11 years. Although it can be exhausting, I love my profession and being with the children."* Beyond the professional love, **Ac-T1** articulated how love is crucial for him personally and professionally, and how it integrates with a spiritual context, stating, *"In preschool teaching, the most important thing for me is love. Without love, this job is impossible. You must love yourself and your work. Love is the foundation of life."* Moreover, **Ac-T4** noted that adhering to the program brings him professional happiness: *"Child-centred practices and adherence to the curriculum make me happy. Otherwise, I know I would be unhappy."*

#### **Basic theme V: Motivation.**

Motivation has also significantly influenced teachers' sense-making processes at an individual cognition level. Particularly, **Ac-T1** and **Ac-T3's** statements about their practices and professions indicate they possess intrinsic motivation. For example, **Ac-T1** stated, *"Seeing children happy motivates me immensely. Indeed, it's crucial because, as teachers, our role often transcends traditional teaching; we become everything to these children at times."* **Ac-T3** highlighted the importance of internal motivation, *"Forced actions do not sustain. It needs to be internalized,"* and added, *"My motivation was strong. Without such strong motivation, I might have ceased implementing the curriculum's demands."* Moreover, **Ac-T4** emphasized the need for continual motivation: *"To build upon practices, one must stay consistently motivated,"* and explained during curriculum-related challenges, *"I didn't give up; my motivation was strong."* These teachers' sources of motivation, as mentioned earlier, include personality traits (like love and interest) and peer influence. However, they have also discussed demotivating factors such as societal perceptions, parental pressure, and administrative demands, suggesting a resistance to these pressures. For instance, **Ac-T3** remarked, *"Being a preschool teacher in this society is significantly undervalued. The lack of professional fulfilment could lead to burnout,"* and **Ac-T2** noted, *"Unreasonable parental expectations sometimes dampen my enthusiasm. If I didn't love the children, I might have given up."*

#### **Organizing theme, II: Situational cognition.**

Drawing from basic themes such as professional ecology and past experiences, situational cognition emerged as a factor affecting Ac-T's sense-making process.

#### **Basic theme I: Past experiences.**

Ac-Ts discussed the profound impact of their past experiences on their current practices. These experiences primarily include negative educational experiences during their training. **Ac-T1**, **Ac-T2**, and **Ac-T4** have all mentioned having had negative experiences in the past. Particularly, **Ac-T1** stated that learning from these adverse experiences highlighted the importance of adhering to the curriculum, thereby increasing her commitment to the program. She explained, *"My elementary school teacher used to shout at us frequently. He was not child-centred, even if the curriculum he followed was supposed to be. I still remember his actions, which is why I now make a concerted effort to follow the curriculum closely."* **Ac-T4** mentioned, *"We did not receive effective training in teaching skills during our university education."* Moreover, all Ac-Ts emphasized that they initially engaged in pedagogically inappropriate practices, particularly non-child-centred ones. For example, **Ac-T2** said, *"When I started teaching, I was a traditional teacher. I couldn't engage with the children at their level."* **Ac-T4** added, *"I used to give out colouring pages and expected all children to colour them in the same way. However, over time, I realized this approach was wrong, and my perspective began to change."* These teachers also described how they underwent a pedagogical transformation by questioning their approaches and eventually moving away from their past practices. **Ac-T2** noted, *"Initially, I followed routines blindly. It felt wrong, but over time I identified the mistakes and realized I needed to change. It didn't sit right with me."* **Ac-T3** found that feedback from the children was also influential, *"A child once said he hated doing art activities. I wondered why he hated it so much and began to question myself, which helped me understand that I needed to change."* These teachers' shifts in practice were spurred by a theme of personal

characteristics under individual cognition. Lastly, **Ac-T4** mentioned the influence of an engaging middle school math teacher, which fostered her interest in reading, "My middle school math teacher used to interact with us individually, sharing knowledge through discussions and presenting information he read in books. I was inspired by him." This statement also demonstrates how past educational experiences have shaped each teacher's personal characteristics and, consequently, their professional evolution.

**Basic theme II: Professional ecology.**

Professional ecology is a significant factor influencing teachers' sense-making processes. Teachers emphasized elements of their immediate environment, such as physical facilities and classroom sizes, as potential threats to the effective implementation of the curriculum. For instance, **Ac-T1** noted, "Crowded classrooms diminish the quality of education," and **Ac-T2** expressed discomfort due to small classroom sizes, stating, "The small size of our classrooms bothers me. The children do not have enough space to feel comfortable." Another highlighted aspect was the influence of colleagues. **Ac-T2** discussed the impact of a peer working in another city, saying, "I have a friend who works in a very good and child-centred school in another city. She has been instrumental in changing my approach, helping me understand the curriculum better and ensuring I don't give up on adhering to it." Additionally, this teacher acknowledged the negative impact of social influences and resisted them by stating, "When you practice teacher-centred methods, people say that this is how disciplined a classroom should be. It's like patting a thief on the back to reinforce his actions. But children do not like these practices. I do not approve of this approach and try not to associate with teachers who practice it."

**Organizing theme, III: Role of representation.**

Another fundamental factor influencing teachers' sense-making

processes is the presentation of the curriculum. This theme revolves around studies related to the curriculum guidebook and the curriculum introduction sessions.

**Basic theme I: Curriculum booklet.**

The Curriculum booklet is a crucial element in teachers' sense-making processes. The guidebook is generally seen as a useful tool, with **Ac-Ts** appreciating its guidance. **Ac-T1** commented, "I like the program guidebook. It clearly highlights what we need to focus on in the activity examples." **Ac-T3** added, "The guidebook outlines how to structure the evaluation process and offers various forms. Using these can make the educational process more meaningful." However, **Ac-T4** criticized the guidebook for being insufficient, noting, "Some explanations in the curriculum are inadequate. Without these explanations, teachers do not know exactly what to do."

**Basic theme II: Introduction workshops.**

Curriculum introduction training has been described by teachers, excluding **Ac-T1**, as superficial and unhelpful. They have emphasized that inadequate training can prevent teachers from fully understanding the curriculum. For example, **Ac-T2** shared, "I attended a training session on the curriculum, but the instructor didn't seem knowledgeable, and the introduction was not helpful at all. It only confused us more." **Ac-T4** mentioned, "The training provided was overly simplistic. I learned much more from a friend in another city who received detailed training." This statement highlights how **Ac-T4** overcame the challenges of inadequate official training through peer support. The findings are visually represented in Fig. 5, which depicts the multi-level factors influencing the sense-making process of accommodated teachers, as developed by the authors.

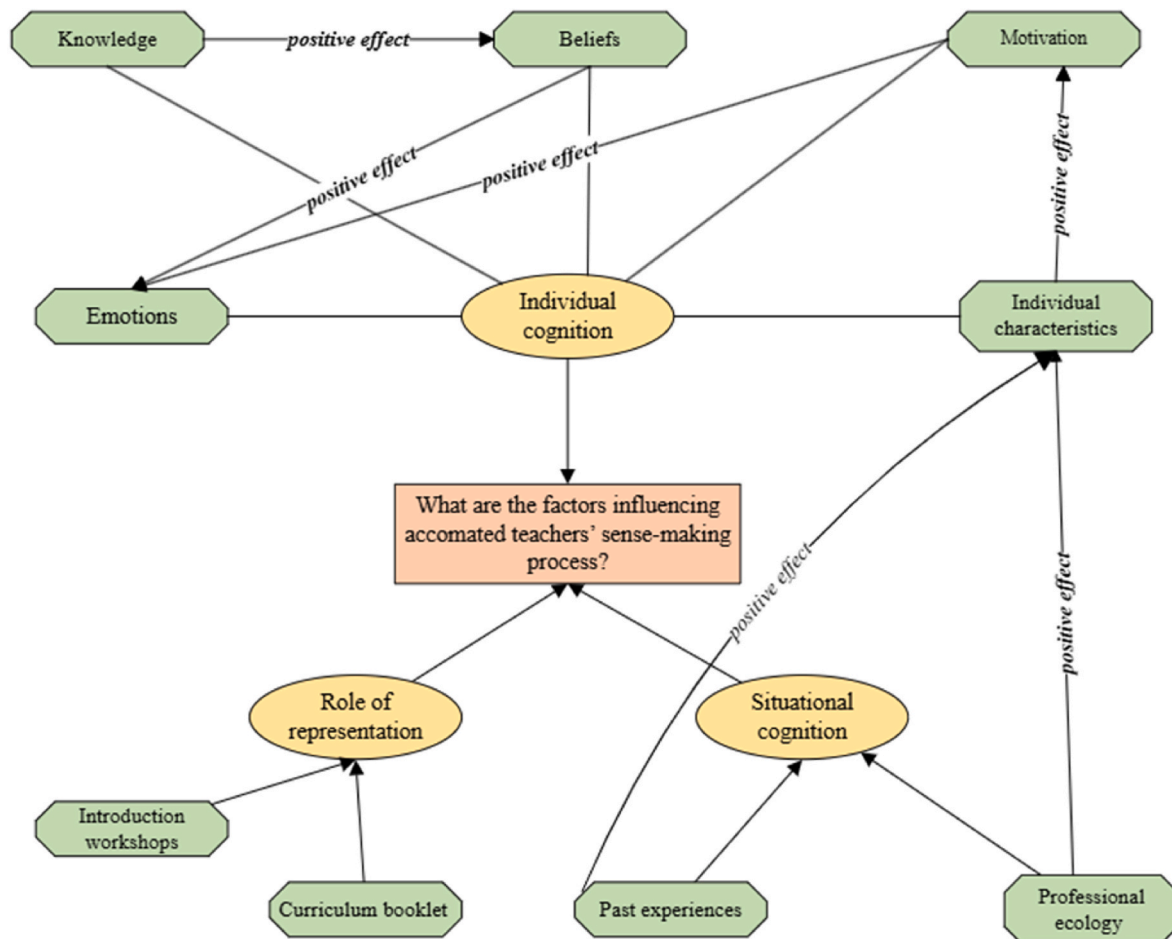


Fig. 5. The multi-level factors influencing the sense-making process of accommodated teachers.

4.2.3. Tolerating group

What stands out most prominently in this group is the absence of a clear distinction between teacher and child-centred practices (Fig. 6). Furthermore, the second observation findings suggest that the disparity between C-AP (% = 40,3) and C-UAP (% = 59,7) is minimal. Hence, we have characterized this group as the "tolerating group."

4.2.3.1. Minimal engagement: the sense-making process of tolerating teachers. **Global theme:** What are the factors influencing tolerating teachers' sense-making process?

**Organizing theme, I: Individual cognition.**

Belief, knowledge, motivation, and emotion are individual-level factors effective in the Tol-Ts' sense-making process.

**Basic Theme I: Beliefs.**

Belief is one of the individual-level factors influencing the Tol-Ts' sense-making process. All Tol-Ts have expressed the belief that a curriculum is necessary. Additionally, Tol-Ts have described the current curriculum as child-centred, stating, "this curriculum facilitates practices that cater to children's curiosity" (Tol-T3) and Tol-T1 noted that the curriculum is very important for children. "For example, the logic of monthly planning reflects this well." On the other hand, Tol-T2 has expressed a belief in the curriculum's flexibility and freedom for teachers, saying, "the curriculum promotes a flexible model of implementation. For instance, when it snows outside, we can adjust our activities to align with the theme of snow." Conversely, Tol-T3 voiced concerns about the feasibility of some curriculum demands, indicating that these beliefs stem from misinformation: "I believe the curriculum's requirements for centres are not feasible. Our classrooms are too small to accommodate all the centres."

**Basic Theme II: Knowledge.**

Knowledge is another factor that effectively influences the Tol-Ts at the individual level. Interviews have shown that these teachers have a deep understanding of the curriculum's underlying philosophy. For instance, Tol-T2 mentioned, "This curriculum is quite flexible. Moreover, the integrated activity model and inclusion are crucial for fostering child-centeredness," and Tol-T1 added, "From the entire curriculum, I understand that I must be a child-centred teacher." However, interestingly, there are still some misunderstandings related to the curriculum. For example, Tol-T3 noted, "The curriculum asks us to create centres, but it's very difficult to accommodate all of them in small classrooms," and Tol-T1 suggested, "The curriculum could give more importance to families." Additionally, these teachers' statements about occasionally reviewing the curriculum indicate that they have not completely detached from it and remain somewhat engaged; "When planning activities, my experience is very influential. Nevertheless, I sometimes feel the need to review the curriculum to see how I might do things differently," (Tol-T1) and "To be honest, I do not constantly utilize the curriculum. Sometimes, when needed, I review the relevant section, which refreshes my knowledge," (Tol-T3).

**Basic Theme III. Motivation.**

Motivation is a significant individual factor influencing how the Tol-Ts make sense of the curriculum. The Tol-Ts have tried to meet the curriculum's demands under the influence of external factors such as principals and inspectors. For example, Tol-T3 recalls, "I remember the principal forcing us to create learning centres in the classroom. I reviewed the curriculum to understand how to do it, but this kind of coercion was frustrating." Similarly, Tol-T1 describes the outcome of external motivation, "When inspectors are scheduled to visit, we review how to prepare the monthly and daily plans and complete them. However, a few months after the inspection, we stop following those plans."

**Basic Theme IV. Emotions.**

Emotion is another individual factor mentioned by all the Tol-Ts. These teachers particularly emphasized their love for the profession. For instance, Tol-T3 said, "I love my job very much. If a teacher doesn't love their profession, they cannot convey that love to the children, and the job becomes unbearable." Tol-T2 added, "I love my job and the children. They are so sweet and innocent."

**Organizing theme, II: Situational cognition.**

The professional ecology and past experiences influenced Tol-Ts' sense-making process by emerging in the situational level.

**Basic Theme I: Past experiences.**

Situational Cognition is significantly shaped by the Tol-Ts' past educational experiences. The Tol-Ts have expressed how negative educational experiences in the past have impacted their current practices. For example, Tol-T2 stated, "My internship during university education was very unproductive and negatively affected my teaching. I learned to teach based on my experiences and what I could gather from those around me, whether right or wrong." Similarly, Tol-T1 shared, "When I was in primary and middle school, our teachers were oppressive. We couldn't express ourselves, and because of this, I now find it difficult to assert my rights even when I am justified in discussions with the school principal." Additionally, pedagogical habits have been influential factors in the Tol-Ts' sense-making process. For instance, Tol-T3's statement clearly reflects the teacher's pedagogical habits while also showing how this teacher implicitly develops a curriculum. "Our experiences are very effective in understanding new situations. For example, even without a specific curriculum, we always have a plan in mind for the activity at hand." This also illustrates how teachers' pedagogical experiences shape their understanding of the curriculum, effectively constructing an alternative curriculum framework in their minds.

**Basic Theme II: Professional ecology.**

Professional ecology is a significant situational factor for the Tol-Ts. Under this theme, teachers primarily discussed their immediate environments, such as school facilities. All the Tol-Ts mentioned that crowded classrooms and inadequate physical conditions negatively impact their curriculum implementation and, consequently, their sense-making process. For instance, Tol-T3 stated, "The space in my classroom is insufficient for creating learning centres," and Tol-T1 added, "The materials in my classroom are quite inadequate for conducting child-centred

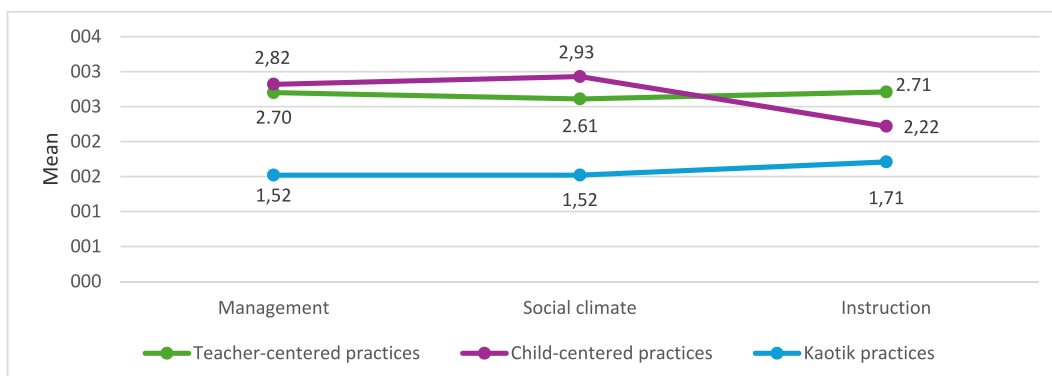


Fig. 6. The tolerating group's first observation findings.

education." The negative impact of crowded classrooms was also highlighted by the Tol-Ts. **Tol-T2** expressed, "With 25 children in my class, I find myself having to direct the children too much. Perhaps a child cannot express themselves well, but in a crowded classroom, it's impossible to do what's needed." **Tol-T1** added, "My class is quite crowded, which makes it very difficult to give individual attention to the children. Sometimes I miss what they are doing." Furthermore, the influence of colleagues has impacted the Tol-Ts' sense-making process. For example, **Tol-T2** discussed the effect of peer influence by stating, "When we conduct an activity, we share it with our colleagues and implement it in our classroom ... I have learned a lot from my friends' experiences." **Tol-T1** also mentioned, "We reviewed and interpreted the curriculum together with colleagues at school." **Tol-T3**'s statement clearly shows their inability to resist peer influence and the pressure they feel to conform: "When I tried to implement innovations, I felt out of place. I constantly heard comments like, 'Why do you do it that way? Just do it like us,' and eventually, I had to continue just like them." **Tol-T2** also said, "We may seem unaffected by colleagues initially, but after a while, we realize that we cannot resist, and it subtly influences our subconscious."

**Organizing theme III: The role of representation.**

This theme describes how written and oral curriculum introductions have influenced the sense-making process of Tol-Ts.

**Basic Theme I: Introduction workshops.**

Curriculum introduction workshops have been identified as a factor negatively impacting the Tol-Ts' interpretation of the curriculum. **Tol-T1** and **Tol-T3** reported that the introductions failed to reflect the depth of the curriculum, describing them as superficial and unhelpful. They

particularly noted that these introductions hindered their understanding of the curriculum. For example, **Tol-T1** stated, "The program was explained in such a simple and mundane way that we couldn't understand it at all. We were left wondering how to plan, what to look out for, and fundamentally what the curriculum expects from us. We couldn't grasp any of it and had to rely on our surroundings and experiences to understand gradually." Similarly, **Tol-T3** commented, "They only gave us a book related to the curriculum, which was utterly useless. It did not explain what to look for in the book or how to use it, so it was no help at all. I ended up learning from my colleagues." These statements illustrate how inadequate introductions have negatively impacted the Tol-Ts' understanding of the core philosophy of the curriculum and led to the formation of insufficient or incorrect knowledge about it.

**Basic Theme II: Curriculum booklet.**

This theme is shaped by the opinions of Tol-Ts regarding the curriculum guidebook. **Tol-T1** and **Tol-T2** have expressed that the curriculum guidebook is instructive. For instance, **Tol-T1** stated, "The explanations in the curriculum are clarifying for the teacher. I understood some of the curriculum's demands by reading these explanations." Similarly, **Tol-T2** mentioned, "The guidebook containing activities provides very concrete examples for understanding the curriculum's demands. I found this book very useful initially." However, in contrast, **Tol-T3** highlighted the insufficient guidance of the curriculum, stating, "In my opinion, the curriculum book was not useful at all. The booklet should be more explanatory. For example, I still do not understand the purpose of some tables."

Fig. 7 illustrates that the sense-making process of Tol-Ts is influenced by individual cognition, situational cognition, and curriculum-related

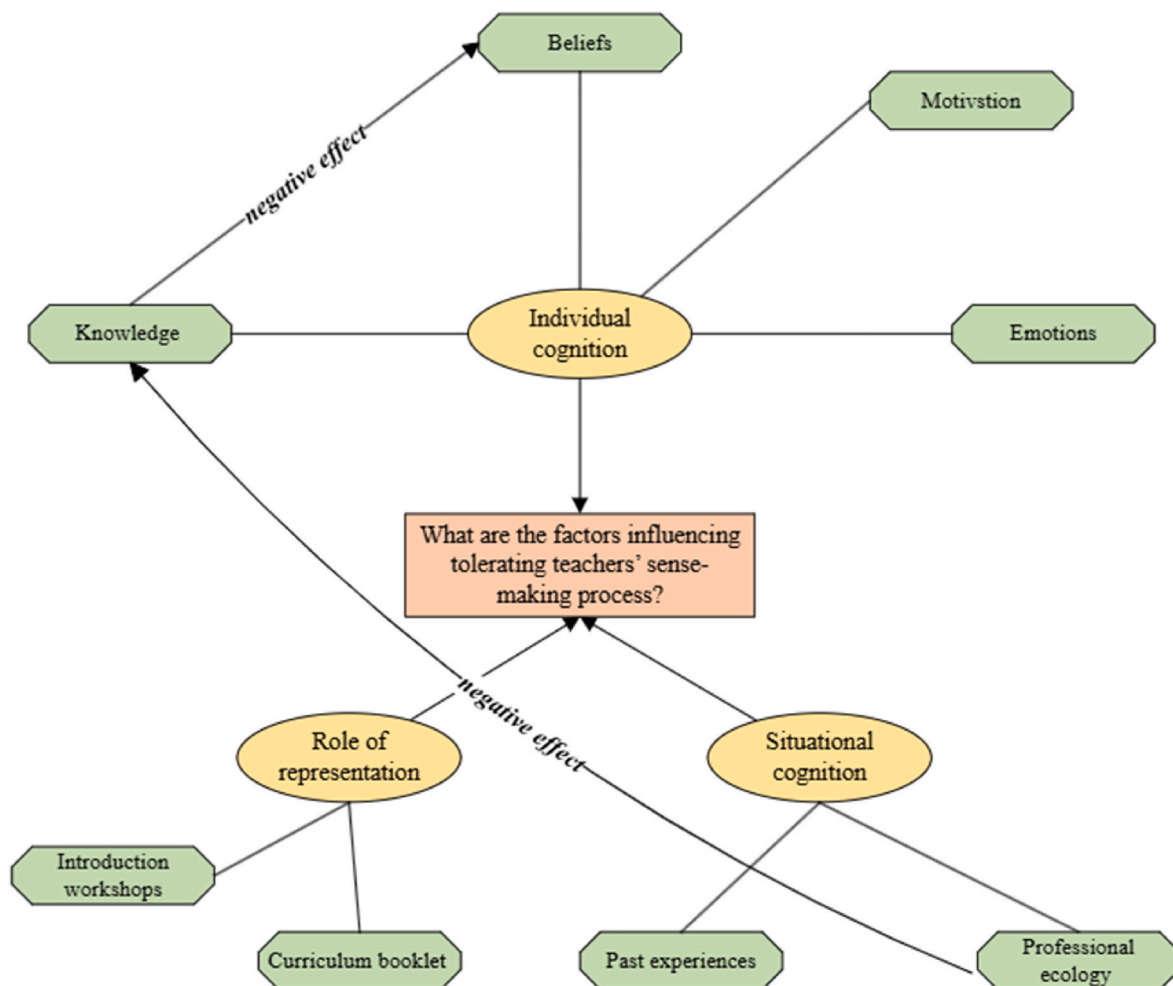


Fig. 7. The multi-level factors influencing the sense-making process of tolerated teachers.

factors (organizing themes).

## 5. Discussion

### 5.1. Summary of results

This study explored the sense-making processes of teachers encountering a curriculum, identifying varied responses such as assimilation, accommodation, and tolerance. Observational data highlighted a preference for teacher-centred practices, although child-centred approaches were more common. The findings underscored significant variations in curriculum perception and implementation, influenced by teachers' beliefs, experiences, and professional contexts. Teachers in the 'assimilated' group showed limited curriculum alignment, favouring traditional methods, while those in the 'accommodated' group adapted more to child-centred practices, suggesting a deeper understanding of the curriculum. In contrast, the 'tolerated' group recognized but struggled to integrate curriculum demands fully, often due to environmental constraints. The results emphasize the critical role of effective professional development and supportive school cultures in enhancing curriculum implementation, highlighting the need for leadership in fostering pedagogical adaptation.

### 5.2. Implications

#### 5.2.1. Theoretical implications

The theoretical implications of this study underscore the complex and dynamic interplay between individual cognition, situational context, and representational factors in shaping how teachers respond to curriculum changes. Building on prior scholarship, such as Beni et al. (2023), Hicks et al. (2022), Dos Santos (2024), Azizah et al. (2023), and Krist and Shim (2024), which emphasize the convergence of cognitive and contextual influences on educational practices, this study further extends these findings. Our study builds on foundational theories by Hart et al. (2009), Lieber et al. (2009), and Addy and Blanchard (2010), which highlight sense-making as central to the success and institutionalization of curriculum reforms. This study contributes to this body of research by categorizing teachers into three groups—assimilated, accommodated, and tolerated—based on their responses to curriculum changes, providing a nuanced understanding of the interaction between individual cognition and situational cognition, and the role of representation.

One key insight from this study is the importance of situational cognition in curriculum sense-making. While individual cognition plays a central role, the situational context within which teachers operate—including their professional ecology—also significantly shapes their responses to curriculum changes. Teachers in the assimilated group, for example, often engage with the curriculum superficially, making minimal adjustments to their practices. This finding aligns with the work of Feldon (2007) and Kotseruba and Tsotsos (2018), who argue that meaningful educational transformations require more than just superficial engagement. In contrast, teachers in the accommodated group demonstrate a more profound understanding of the curriculum, adapting their practices to better align with child-centred principles. This is consistent with Pajares (1992) and Tomasone et al. (2015), who suggest that positive beliefs about curriculum changes facilitate significant shifts in teaching practices. These findings underscore the need for professional development programs that foster deeper cognitive engagement with the curriculum by allowing teachers to integrate new pedagogical approaches effectively (Dolfing et al., 2021; Guskey, 2002).

However, the findings from the current study would be further enriched by a comparative analysis of sense-making patterns in the context of accountability reforms versus child-centred reforms. Such an analysis would deepen the discussion of how different reform types of influence teachers' cognitive and situational responses. Accountability reforms, which often emphasize measurable outcomes, standardized

testing, and performance metrics, may constrain teachers' ability to engage with curriculum changes in a flexible, child-centred manner. Teachers operating under such initiatives might exhibit more assimilated or resisted sense-making patterns, as they may focus on meeting external expectations rather than adapting practices based on an understanding of the curriculum's underlying philosophy. In contrast, child-centred reforms, which prioritize individualized learning and the development of the whole child, may encourage more accommodating sense-making patterns, where teachers feel more agency and alignment with the curriculum's holistic objectives. This comparison could help further delineate how the type of reform impacts teachers' engagement, providing a more comprehensive view of curriculum implementation across different educational contexts.

In addition to individual cognition, situational factors such as classroom size, resources, and peer dynamics emerge as crucial elements in the sense-making process. The findings illustrate how these external factors can either support or hinder curriculum implementation, echoing the work of März and Kelchtermans (2013) and Kyule et al. (2018), who highlighted the role of contextual variables in shaping teaching practices. For example, while some teachers benefit from larger, well-resourced classrooms, others face challenges due to physical constraints, which may impact their ability to fully engage with curriculum. This study extends prior research by showing how similar contextual conditions, such as classroom size and resources, can lead to divergent outcomes depending on the professional and social environments in which teachers work. The findings underscore the necessity for curriculum designs and teacher training programs that consider both the physical and social contexts in which teaching occurs (Stollman et al., 2022; Superfine et al., 2015).

Moreover, the study emphasizes the importance of peer dynamics and group interactions in curriculum integration. Teachers' responses to curriculum change are not solely shaped by individual beliefs or classroom conditions; the social context, including peer influences, plays a crucial role. This finding resonates with Hargreaves and Fink (2006) and Zhang and Liu (2014), who note that social influences can either facilitate or obstruct the adoption of new curricular approaches, depending on how they are managed within a school's culture. Positive peer interactions can serve as a powerful catalyst for sustaining curricular changes, aligning with the work of Little (1990) and Roofe (2022), who emphasized the role of collaborative professional communities in enhancing curriculum implementation. The study underscores the need for school leaders to actively foster supportive, collaborative environments where teachers can share ideas and collaborate on best practices to effectively implement the curriculum.

Finally, the role of representation in professional development and curriculum introduction sessions is pivotal. The study reveals that many teachers found these sessions inadequate, pointing to systemic flaws in the current curriculum rollout approaches. This critique aligns with the work of Honig (2006), Kurniawati et al. (2022) and Bridwell-Mitchell (2015), who advocate for more sophisticated training frameworks. Effective professional development programs should move beyond simple informational sessions and provide interactive, practical learning experiences that help teachers deepen their understanding and better apply the curriculum (Desimone, 2009; Rahman et al., 2018). Darling-Hammond et al. (2017) and Du Preez et al. (2007) further stress the importance of comprehensive training to equip teachers with the skills and knowledge necessary for adapting to evolving educational needs.

The theoretical implications of this study suggest that educational reforms must consider the dynamic interactions between cognitive, situational, and representational factors. By providing teachers with tailored support, professional development, and opportunities for collaborative learning, schools can enhance the effectiveness and sustainability of curriculum implementation. Furthermore, integrating these insights into teacher training and curriculum design can help educational leaders foster meaningful and lasting change in teaching practices, ensuring that reforms lead to improved teaching and learning

outcomes.

### 5.2.2. Practical implications

The practical implications derived from this study on teachers' sense-making processes concerning the curriculum are multifaceted and offer actionable strategies for educational practice and policy improvement. These strategies are crucial for enhancing how curricula are understood, implemented, and institutionalized in educational settings.

The research indicates a significant need for professional development programs that go beyond basic curriculum overviews to deep dives into its philosophical underpinnings and implementation strategies. To address the gaps in understanding and implementation seen in the assimilated and tolerated groups, professional development should be interactive, incorporating case studies, scenario analyses, and role-play exercises that mirror real classroom challenges. Additionally, ongoing support, such as coaching or mentoring, could help teachers apply these concepts in their classrooms, ensuring that professional development has a lasting impact on teaching practices.

Encouraging teachers to engage in reflective practices is essential for deepening their understanding of the curriculum and their pedagogical strategies. Institutions should institutionalize reflection through structured peer observations, reflective discussions in professional learning communities, and journals. Such practices encourage continuous personal and professional growth and help teachers align their practices more closely with the curriculum requirements, promoting a more adaptive and responsive teaching approach.

Clear and accessible curriculum materials are critical. This study underscores the need for curriculum guides that are not only comprehensive but also practical, providing explicit instructions, examples from real classroom settings, and troubleshooting guidelines. Schools should also ensure that the physical classroom environment and available resources align with the curriculum's demands to support effective teaching and learning. This alignment is particularly crucial in overcoming the constraints posed by inadequate physical resources, as noted among the tolerated teacher group.

The influence of peer and social dynamics on teachers' sense-making processes is significant. Schools should foster a collaborative professional culture where teachers feel supported and valued. Formal structures such as mentorship programs, team teaching opportunities, and collaborative curriculum planning sessions can mitigate negative peer influences and enhance curriculum implementation. These networks can serve as vital support systems, especially when introducing new curriculum elements or pedagogical strategies.

Recognizing that teachers come from diverse professional backgrounds and have varying levels of experience and comfort with curriculum changes is essential. Personalized support strategies, such as differentiation in professional development, personalized learning plans, or one-on-one support, can address these varied needs effectively. Such customization ensures that all teachers, regardless of their starting point, receive the support necessary to engage deeply with the curriculum.

The role of educational leadership in supporting or hindering effective curriculum implementation is undeniable. School leaders play a pivotal role in setting the tone and priorities for curriculum engagement. They should be actively involved in the curriculum process, from planning and implementation to evaluation. Training for school administrators should emphasize strategies for understanding and supporting teachers' sense-making processes and for creating an institutional culture that values and supports deep engagement with the curriculum.

Implementing these strategies involves a concerted effort from all educational stakeholders, including teachers, administrators, and policy makers, to ensure that the curriculum is not only a document to be followed but a dynamic tool that evolves with the educational community it serves. This approach will ultimately lead to more effective teaching and learning, benefiting both educators and students.

### 5.3. Limitation and suggestion for future studies

The current study provides valuable insights into teachers' sense-making processes regarding curriculum implementation but also highlights limitations that suggest avenues for future research. The study's reliance on self-reported data and observations from a single educational setting limits its generalizability. To broaden these findings, future research could involve a more diverse array of schools across different socio-economic and geographical contexts, enhancing the applicability of the results.

Furthermore, the potential for observer bias presents another limitation, as it might affect the authenticity of the behaviours observed. Longitudinal studies that allow teachers to become accustomed to the presence of observers could help mitigate this issue, offering a more authentic view of how teaching practices and interactions with the curriculum evolve over time.

Lastly, while the study recognizes the influence of individual teacher characteristics like educational background and personal beliefs, it does not extensively explore how these factors contribute to the sense-making process. Future studies could use a mixed methods approach to examine these characteristics more comprehensively, possibly through detailed case studies complemented by broader surveys. This would provide a deeper understanding of how different aspects of teacher identity impact their engagement with curriculum changes.

## 6. Conclusion

This study delves into the complex process by which teachers make sense of curriculum changes, highlighting the interactions between individual cognition, situational factors, and the ways curricula are represented and introduced. Our findings reveal three distinct pathways—assimilated, accommodated, and tolerated—through which teachers engage with curriculum. Each pathway is shaped by a combination of personal beliefs, professional environments, and curriculum engagement, underscoring the need to recognize these varied responses when planning for curriculum implementation. The study underscores the significant impact of individual cognition on curriculum implementation. Teachers who possess a deeper understanding of the curriculum's underlying philosophy and objectives are better able to adapt their teaching practices in line with curriculum demands. Conversely, teachers with misconceptions or a superficial understanding may resist or misapply the curriculum. This highlights the importance of professional development programs designed to enhance teachers' cognitive engagement with curriculum, offering specific support to deepen their understanding and application of new pedagogical approaches. The influence of situational factors—such as classroom environments, resource availability, and peer dynamics—emerges as equally significant. Our findings suggest that while some teachers benefit from supportive environments, others face challenges that hinder their ability to implement curriculum changes effectively. This emphasizes the need for educational leaders to consider these contextual factors when designing a new curriculum and support systems. Schools should prioritize creating supportive professional environments that foster collaboration, peer learning, and ongoing dialogue to facilitate the successful adoption of the curricula. Additionally, the study highlights the importance of how curricula are introduced to teachers. Effective curriculum introduction sessions must go beyond basic presentations to engage teachers in meaningful discussions about the curriculum's content, philosophy, and pedagogical strategies. Professional development workshops should be designed as interactive, reflective learning experiences, where teachers are not only informed but also encouraged to critically engage with and adapt the curriculum to their specific teaching contexts. In practical terms, educational leaders and policymakers should focus not only on revising curricular content but also on creating systems of support that address the cognitive, situational, and representational factors that shape teachers' interactions with curriculum changes. By fostering

environments where teachers are provided with ongoing, tailored professional development, access to resources, and opportunities for peer collaboration, schools can ensure that educational reforms lead to sustainable improvements in teaching practices and student learning outcomes. Ultimately, this study contributes to the broader discourse on educational change by emphasizing the multifaceted nature of curriculum implementation. It calls for a holistic approach that integrates individual, situational, and representational factors in supporting teachers through the challenges of curriculum implementation, ensuring that changes lead to meaningful, long-lasting improvements in education.

#### CRedit authorship contribution statement

**Tarık Başar:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Hasan Dilek:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

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The author declares no competing financial interests or personal relationships that could have influenced the work reported in this article.

#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.tate.2025.105060>.

#### Data availability statement

The datasets generated and analysed during the current study are not publicly available due to privacy and ethical considerations but are available from the corresponding author on reasonable request and subject to necessary approvals.

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