

Article

Teachers' Strategies to Sustain Task Motivation and Manage Stress During Hybrid Teaching in the COVID-19 Pandemic in Finland and South Korea

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Abstract

This study examines how Finnish and Korean teachers employed strategies to manage stress and sustain task motivation during hybrid teaching during the COVID-19 pandemic. Using 282 open-ended responses (with 109 Finnish and 173 Korean responses), a cross-national comparative content analysis was conducted. Teachers' strategies were analyzed using theory- and data-driven approaches to examine their roles in regulating stress management and teaching-related task motivation (Tr-TTM). Changes in Tr-TTM were analyzed as dynamic flows linked to strategy use within instructional contexts. The findings suggest that collegial support was central in both countries, though its form and function differed. Outdoor activities and task-regulation strategies were identified among teachers in the Finnish context, while effectiveness and perseverance strategies were identified among teachers in the Korean context. Tr-TTM flows revealed two contrasting patterns: contextually feasible strategy use was associated with increased motivation, while absence or misalignment of strategies corresponded with motivational decline or stability. These highlight that strategies are not inherently effective; their association with motivation appears to depend on the feasibility of execution, which is shaped by institutional and instructional conditions. Adaptive, context-sensitive strategies were associated with sustaining teaching continuity under demands. Overall, this study advances our understanding of teachers' strategies across contexts during educational disruption and underscores the importance of support and conditions for strategy selection and implementation.

Keywords: teacher strategy; teacher stress; teaching-related task motivation; motivation dynamics; hybrid teaching context

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1. Introduction

Teaching is a high-stress profession, yet teachers are expected to sustain instructional engagement and manage complex classroom responsibilities (MacIntyre et al., 2020; Reimers, 2022). This raises an important question of how teachers maintain task-related performance and engagement under stressful conditions. Addressing this issue is particularly important in rapidly changing educational environments, where teachers' strate-

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gies play a central role in both stress regulation and teaching motivation (Dumas et al., 2022; Karamushka et al., 2021).

Teaching task motivation refers to effort directed toward specific instructional tasks and is distinct from general occupational motivation (Dörnyei & Ushioda, 2011). It is also dynamic and context-dependent, varying across tasks and classroom situations (Fernet et al., 2008; Kim et al., 2022). Previous studies emphasize that stress undermines teachers' motivation and instructional quality and suggest that challenging working conditions may also foster the use of adaptive strategies and professional learning (Beltman & Poulton, 2025).

During the COVID-19 pandemic, teachers were required to shift rapidly to hybrid instruction, encountering unfamiliar teaching formats, uncertainty, and continuously changing institutional demands (Reimers, 2022). In response, many teachers developed and adapted strategies such as collegial collaboration, self-regulation, and instructional restructuring to manage stress and sustain teaching practice (Dumas et al., 2022; Lavonen & Salmela-Aro, 2022).

Some research has examined teachers' strategies in relation to stress (MacIntyre et al., 2020), motivation (Gu, 2014; Karamushka et al., 2021; Kim et al., 2022), resilience (Beltman & Poulton, 2025), and self-regulation (Wolters, 2011). However, less is known about how teachers simultaneously integrate stress management and task-level motivational regulation through strategic actions in instructional contexts, particularly across different educational systems (Pekrun, 2006).

To address this gap, this study investigates how teachers in Finland and South Korea (hereafter Korea) cope with stress and sustain task-level motivation during hybrid teaching. Both countries have well-developed education systems and maintain relatively high levels of educational equity during the pandemic (OECD, 2023; Wilk, 2017), making them suitable for comparison. However, they differ in institutional expectations and cultural understandings of teaching, providing a meaningful context for examining variation in teachers' strategies. A hybrid teaching context also creates broadly similar instructional challenges across contexts (González-García et al., 2025; Reimers, 2022), making it a useful setting for exploring how teachers remain engaged while managing stress.

Overall, this study focuses on how teachers' strategic actions are connected to instructional demands and how these strategies support both stress and task motivation in practice.

1.1. Teaching-Related Teacher Task Motivation

Motivation refers to the reasons individuals choose and sustain actions (Ryan & Deci, 2017). However, task-related motivation differs from general professional motivation in that it reflects fluctuations in engagement across specific teaching tasks and situational demands of each task rather than representing a stable professional trait (Dörnyei & Ushioda, 2011).

In this study, teaching-related teacher task motivation (Tr-TTM) is defined as teachers' sustained willingness and effort to perform specific teaching tasks (Fernet & Austin, 2014; Ryan & Deci, 2017). This construct is particularly important for understanding how teachers maintain professional functioning under rapidly changing instructional conditions. Unlike prior research conducted in relatively stable educational contexts, this study examines Tr-TTM in the immediate post-reopening phase of hybrid teaching.

Tr-TTM is multidimensional and varies across different classroom tasks (Fernet et al., 2008; Pekrun, 2006). Teachers may experience high motivation in lesson planning while simultaneously feeling lower motivation for administrative or organizational tasks. Therefore, this study focuses on core classroom teaching tasks, including the following:

- Lesson preparation (selecting materials, planning activities, and structuring lessons);

- Teaching (delivering instruction and responding to student needs);
- Classroom management (maintaining discipline and managing interaction);
- Student evaluation (assessment, grading, and feedback).

These tasks require continuous cognitive, emotional, and behavioral investment and are closely linked to teachers' sense of competence and self-efficacy (González-García et al., 2025; Soini et al., 2010). When task demands increase, sustaining Tr-TTM becomes increasingly dependent on teachers' ability to regulate engagement in context (Pekrun, 2006; Reimers, 2022). During hybrid teaching, such demands intensify due to rapid shifts in instructional formats and student interaction patterns (Karamushka et al., 2021; Lavonen & Salmela-Aro, 2022).

Existing motivational theories consistently suggest that motivation varies across situations and task conditions rather than remaining stable (Pekrun, 2006; Ryan & Deci, 2017). In other words, teachers' motivation can be influenced by both the specific demands of teaching tasks and the conditions under which they are performed. However, less is known about how teachers' task-level motivation is dynamically regulated under conditions of instructional stress.

Importantly, this variability is also closely associated with the strategies teachers employ in response to instructional demands. Examining strategy use may therefore provide insight into how teachers experience changes in Tr-TTM under varying conditions. However, how Tr-TTM fluctuates in response to teachers' strategic actions during the COVID-19 pandemic remains underexplored.

The present study treats Tr-TTM as a context-sensitive construct and investigates how teachers' strategic responses support task motivation while coping with stress during hybrid teaching.

1.2. Teachers' Strategies

The social-ecological perspective explains how both macro- and micro-level factors shape teachers' use of strategies (Beltman & Poulton, 2025; Wolters, 2011). Macro-level factors include institutional and cultural conditions such as education policy, school leadership, professional autonomy, and societal expectations of teachers (Park & Lee, 2015; Tsai & Lau, 2013). These factors influence how teachers experience and respond to stress and engagement demands (Gu, 2014).

At the micro-level, interpersonal and intrapersonal factors shape how teachers regulate emotions and apply strategies in practice. Interpersonal factors refer to relationships with colleagues, students, and the school community, providing emotional and professional support that strengthens collective efficacy and well-being (Park & Lee, 2015; Yang et al., 2023). Intrapersonal factors involve cognitive and emotional regulation processes, such as beliefs, self-regulation, and coping strategies, which influence how teachers interpret challenges and sustain engagement (Go et al., 2021; Mansfield et al., 2016).

Individual characteristics, such as teaching experience, also shape strategy use. Early-career teachers (with less than three years of experience) often report stronger emotional responses and greater difficulty in managing classroom demands compared to experienced teachers (Harmsen et al., 2018; Heikonen et al., 2017). In particular, interpersonal strategies tend to play a critical role in supporting the adaptation and professional development of early-career teachers (Beltman & Poulton, 2025; Pyhältö et al., 2021). Previous research suggests that early-career teachers often rely more heavily on interpersonal support and emotional coping, whereas experienced teachers draw on accumulated pedagogical knowledge and established professional routines (Harmsen et al., 2018; Uitto et al., 2015). Career-stage variation may therefore be relevant for understanding differences in teachers' strategy use.

This study adopts 15 teachers' strategies proposed by Mansfield et al. (2016), organized into four categories: intrapersonal, personal life, interpersonal, and professional approaches.

- Intrapersonal strategies focus on self-regulation, including emotion and cognitive regulation (e.g., positive self-talk, perseverance, and mindfulness) as well as task regulation (e.g., goal setting, rescheduling, planning, and prioritizing), supporting motivation and well-being (Conte et al., 2024; Kim et al., 2022).
- Personal life strategies involve self-care activities that support recovery from stress and emotional exhaustion. These include outdoor activities (e.g., exercise and camping) and indoor leisure activities (e.g., rest, reading, and listening to music). Physical activity and relaxation practices can reduce stress hormones and improve focus in instructional tasks (Conte et al., 2024; Tsai & Lau, 2013).
- Interpersonal strategies focus on collaboration and help-seeking, enhancing efficacy and emotional recovery (Yang et al., 2023).
- Professional strategies are actions that support instructional practice and professional growth, including engagement with the environment (i.e., adjusting instructional conditions) and professional development (i.e., learning new methods and participating in training to enhance teaching competence) (Reimers, 2022).

These strategies are not isolated behaviors but are shaped by social and institutional contexts (Soini et al., 2010; Tsai & Lau, 2013). These categories were treated as an analytical framework for identifying and comparing teachers' strategic responses across contexts and career stages.

1.3. Study Contexts: Teachers' Strategies in Finnish and Korean Schools

Finland and Korea provide a meaningful comparative context due to their well-developed education systems and relatively high educational performance during the COVID-19 pandemic (OECD, 2023; Wilk, 2017). However, the two systems differ in cultural expectations of teaching and levels of teacher autonomy (European Commission, 2019; Framework Act on Education, 2023).

In Finland, teacher collaboration is often informal and autonomous, reflecting a high degree of professional trust and decentralized school culture (Eschler et al., 2023; Pöysä et al., 2023). In contrast, Korean schools tend to rely more on formalized structures such as scheduled meetings and institutional training sessions, reflecting more hierarchical organizational norms (KEDI, 2023; Kim et al., 2022).

At the individual level, teachers in both contexts use intrapersonal and interpersonal strategies such as self-care, mindfulness, and collaboration to manage stress and sustain motivation (Eschler et al., 2023; Park & Lee, 2015). However, the availability and effectiveness of these strategies are shaped by institutional conditions. Finnish teachers often benefit from greater autonomy but may experience overload when self-regulation demands exceed capacity. By contrast, Korean teachers may rely more on structured support but have fewer opportunities for informal emotional exchange (Pöysä et al., 2023; Yang et al., 2023).

Considering cultural contexts, this study examines how teachers across different institutional contexts manage stress and maintain task-level motivation through strategic actions during hybrid teaching. The study is guided by the following research questions:

RQ1. What strategies did Finnish and Korean teachers use to cope with stress during hybrid teaching in the COVID-19 pandemic?

RQ2. How did teachers' strategic responses to challenging situations contribute to the maintenance or change in Tr-TTM during hybrid teaching?

2. Materials and Methods

2.1. Research Design

Employing a cross-national comparative design, this study investigated how Finnish and Korean teachers utilized strategies to cope with stress and sustain Tr-TTM during hybrid teaching. Teachers' responses were analyzed using a shared framework of 15 strategies, grouped into four categories (Beltman & Poulton, 2025). This enabled evaluation of the strategies for both stress and motivation and supported cross-national comparisons.

2.2. Data Collection

A multi-stage sampling procedure was employed for data collection in both Finland and Korea. Four cities in the eastern and southeastern regions were selected through purposive sampling based on administrative feasibility and municipality-level permissions (e.g., MliDno-2020-245 in Finland). To enhance regional comparability, cities were chosen from comparable geographical regions in both countries. In Korea, however, one of the originally selected cities was unavailable, and it was replaced by a city located in the northern region.

Within each selected city, more than 20 schools were randomly selected from official school lists provided by the respective municipalities, ensuring randomization within the administratively approved sampling frame. School principals were then contacted to request institutional participation and distribute an online survey invitation to in-service teachers.

Teacher-level information (e.g., age, teaching experience, and grade level taught) was collected, but school identifiers were not recorded to protect participant anonymity. This was particularly important during the pandemic, when teachers from schools with few participants could potentially be re-identified based on their background information. Because invitations were distributed through school principals and school identifiers were not collected, the number of teachers who received the survey was unknown, precluding calculation of a response rate.

The COVID-19 pandemic further constrained data collection by limiting access to schools, making in-person methods infeasible. Consequently, an online survey with open-ended questions was used as the most practical and safe method across both countries. While interviews could have provided richer contextual depth, open-ended surveys enabled broader participation across multiple regions and schools. This approach allowed the inclusion of a relatively large number of teachers from two national contexts, supporting the study's comparative focus.

Teachers provided informed consent and were assured of confidentiality and the right to withdraw. The survey included demographic questions and two open-ended items: (1) "What strategies have you used to cope with this exceptional period of teaching?" and (2) "Has COVID-19 affected your motivation for task domains such as class preparation, teaching, evaluation, or classroom management? If yes, how?" Questions were initially developed in English, translated, and reviewed by native-speaking education experts. Feedback from two to three in-service teachers in each country who were not involved in the study helped ensure the survey's clarity and comprehensibility.

Data were collected and managed in accordance with the European Union's General Data Protection Regulation (GDPR, 2016/679) and the guidelines of the Korean National Institute for Bioethics Policy (KoNIBP, 2026).

2.3. Participants

The study included 282 in-service teachers: 109 from Finland (38.7%) and 173 from Korea (61.3%) (see Table 1). Most participants were female (63.1%) and taught in compre-

hensive schools (74.1%), with some in high schools (16.7%). All Finnish respondents worked in public schools, whereas 31.8% of Korean teachers were in public schools. Finnish teachers had substantially less teaching experience than Korean teachers (FI: $M = 2.37$, $SD = 4.16$, range = 0.08–30.33; KO: $M = 15.92$, $SD = 11.72$, range = 0.08–42.0). Most Finnish teachers (83.5%) had fewer than five years of experience, whereas most Korean teachers (76.3%) had more than five years. Differences in teaching experience were taken into account in the analytic strategy.

Although the Finnish and Korean samples differed considerably between levels of teaching experience, ages were broadly comparable (FI: $M = 45.54$, $SD = 10.31$, range = 26–63; KO: $M = 43.18$, $SD = 11.02$, range = 25–62), $t(277) = -1.77$, $p = 0.077$, $d = 0.22$. This suggests that age and teaching experience were not closely aligned within the sample, reflecting different career trajectories in teaching across the two countries. Overall, these differences in teaching experience were taken into account when interpreting the cross-national findings.

Table 1. Participants' demographics.

		Finland (n = 109)	Korea (n = 173)
Gender	Male	27 (24.8%)	76 (43.9%)
	Female	81 (74.3%)	95 (54.9%)
	Do not want to answer	1 (0.9%)	2 (1.2%)
Age (years)	21 to 29	8 (7.3%)	19 (11.0%)
	30 to 39	23 (21.1%)	52 (30.1%)
	40 to 49	34 (31.2%)	40 (23.1%)
	50 to 59	32 (29.4%)	53 (30.6%)
	Over 60	12 (11.0%)	9 (5.2%)
School Type	Public	109 (100.0%)	55 (31.8%)
	Private	0 (0.0%)	116 (67.1%)
	Missing	0 (0.0%)	2 (1.2%)
Teaching Grades *	Kindergarten	9 (8.2%)	15 (8.7%)
	Comprehensive (1st to 9th)	107 (98.2%)	102 (59.0%)
	High/Vocational (10th to 12th)	1 (0.9%)	46 (26.6%)
	Blended	8 (7.3%)	2 (1.2%)
	Missing	0 (0.0%)	12 (6.9%)
Teaching Position *	Kindergarten	9 (8.2%)	15 (8.7%)
	Classroom	23 (21.1%)	88 (50.8%)
	Subject	66 (60.6%)	84 (48.6%)
	Special Education	15 (13.7%)	0 (0.0%)
	School Counseling/Nurse	3 (2.8%)	3 (1.7%)
	Principal/Vice Principal	4 (3.7%)	18 (10.4%)
	Blended	12 (11.0%)	36 (20.8%)
	Missing	1 (0.9%)	1 (0.6%)
Teaching Experience (years)	<5	91 (83.5%)	41 (23.7%)
	5 to 9.9	0 (0.0%)	29 (16.8%)
	10 to 19.9	3 (2.8%)	32 (18.5%)
	20 to 29.9	1 (0.9%)	39 (22.5%)
	>=30	14 (12.8%)	32 (18.5%)

* Teaching grades and teaching positions were multiselected.

2.4. Analytic Strategy

The unit of analysis was the sentence or phrase. Each teacher provided two responses: one on coping with stress and one on teaching task motivation. The analysis proceeded in

four stages. First, the potential influence of teaching experience on cross-national comparisons was examined using evidence from a previous quantitative study based on the same dataset. Second, coping responses were deductively coded using the predefined strategy framework. Third, motivational responses were analyzed using the “Tr-TTM flow” structure, which combined deductive and inductive coding procedures. Finally, inter-coder reliability and validity procedures were conducted.

Content analysis was applied to both responses to identify recurring patterns in strategy use and related contextual features. All relevant excerpts were labeled with country and participant ID (e.g., FI-56, KO-23). Frequency analyses were conducted to indicate strategy salience.

2.4.1. Evaluation of Teaching Experience Effects on Strategy Use

To ensure that differences in teaching experience did not confound cross-national comparisons, we examined evidence from a previous quantitative study that used the same dataset (Go et al., 2026). In that study, teaching experience was included as a covariate in structural equation modeling, and cross-national comparability of constructs was validated. Social support, one of the key strategy categories in both studies, closely aligns with the interpersonal strategies analyzed here (e.g., central colleagues, friends, and family). Comparisons of social support use revealed no significant cross-national differences, $t(280) = 1.29$, $p = 0.20$, and $d = 0.16$. This suggests that teaching experience alone is unlikely to account for all observed cross-national variations in the dataset. Despite these considerations, teaching experience was treated as an important contextual characteristic when interpreting cross-national qualitative differences, rather than as a primary explanatory variable.

2.4.2. Coping Responses

Coping strategy responses were generally brief (e.g., “taking a walk” and “talking with colleagues”), although some included additional explanations regarding how strategies influenced coping with stress.

All coping responses were coded deductively using a predefined 15-strategy framework. Multiple strategies within a single response were coded separately. The coding process was completed for all coping responses. The strategies were categorized into four domains (personal life: 4; interpersonal: 3; intrapersonal: 3; and professional: 2), with an additional category of “No coping.”

2.4.3. Motivational Responses

Motivational responses varied in complexity. Some responses briefly described either motivational change or task domains, whereas others included sufficient contextual information.

The term “Tr-TTM flow” refers to a data-driven coding structure developed to systematically analyze complex motivational responses. It does not represent a theoretical construct. Tr-TTM flow captures four dimensions: task domain, contextual factors, strategy use, and motivational change. These were identified from recurring patterns in preliminary data and formalized for the main analysis.

Motivational responses were analyzed using a combination of deductive and inductive content analysis (Gao & Chugh, 2023). Responses containing only a single dimension (e.g., “increased motivation” or “lesson preparation”) were excluded. For the remaining responses, strategy use was coded as “use” or “non-use,” and reporting strategies were deductively coded using the predefined 15-strategy framework, consistent with the coping analysis.

Inductive coding was then applied across four dimensions: (1) task domain (lesson preparation, teaching, classroom management, student evaluation); (2) contextual factors (11 categories; see Table 2); (3) strategy use (use/non-use); and (4) motivational change (increased, decreased, or unchanged). Missing information was coded as “not specified” or “unknown,” and multiple motivational changes within a single response were coded separately. Responses containing all four dimensions were classified as “complete Tr-TTM flows.”

Table 2. Strategies for coping.

Strategy	Subcategories	Examples	Finland (n, %)	Korea (n, %)
Personal Life	Exercise/Outdoor	Increasing outdoor activities and exercise (FI-20).	26 (15.8)	25 (11.3)
	Indoor	I try to do things (e.g., crafts) in free time that I enjoy (FI-90).	13 (7.9)	27 (12.2)
	Rest/Relax/Sleeping	More rest and sleep (FI-36); I just sleep at home (KO-113).	11 (6.7)	16 (7.2)
	Hobbies (Unspecified)	I relieve stress through individual hobbies (KO-31).	0 (0.0)	20 (9.0)
			50 (30.4)	88 (39.6)
Interpersonal	Colleague	I exchanged many thoughts with closest colleagues (FI-32).	21 (12.7)	46 (20.7)
	Family/Friend	Conversations/spending time with friends and family (FI-15).	12 (7.3)	12 (5.4)
	Others/Not specified	Communication with others (KO-120); Conversations (KO-121).	4 (2.4)	15 (6.8)
			37 (22.4)	73 (32.9)
Intrapersonal	Task Regulation	Clear working hours. A clear task list. Scheduling tasks. (FI-01)	24 (14.5)	4 (1.8)
	Persistence/Faith	Humor and faith (FI-55); Enduring (KO-84).	2 (1.2)	19 (8.6)
	Positive/Hope/Humor	With humor and a positive attitude (FI-67).	12 (7.3)	5 (2.2)
			38 (23.0)	28 (12.6)
Professional	Engaging Environment	I try to resolve situations through remote activities (KO-173).	10 (6.1)	5 (2.2)
	Professional Develop	I have tried to develop my skills as a remote teacher (FI-41).	16 (9.7)	6 (2.7)
			26 (15.8)	11 (5.0)
No Coping	Cannot/Don't Know	Nothing special (FI-61); I haven't thought about it (KO-55).	7 (4.2)	15 (6.8)
Unrelated	Not/Irrelevant	A lot of different things (FI-7); Each heals themselves (KO-88).	7 (4.2)	7 (3.2)
			165 (100)	222 (100)

The resulting dataset was visualized using Sankey diagrams to illustrate relationships between strategy use and motivational change across contexts (Chong et al., 2021). Finally, deductive and inductive results were integrated to identify patterns in how strategies relate to task conditions and motivational change, and case-level patterns were summarized in tables.

2.4.4. Reliability and Validity

Credibility was ensured through collaborative coding, iterative codebook refinement, and continuous comparison of coded segments. For reliability assessment, approximately 20 complete Tr-TTM flow responses per country were double-coded. Each response was coded across four analytical dimensions, resulting in over 160 coded segments. It allows inter-coder agreement to be evaluated at the level of individual components rather than entire responses.

Coding decisions for ambiguous or overlapping cases were carefully documented. For example, responses that refer to the pandemic context and online material development together were initially coded under both categories but ultimately classified as “Developing Contents,” which better reflected instructional practices (see Appendix A for more examples).

Cohen's Kappa indicated high inter-coder agreement in Finland ($\kappa = 0.96$) and acceptable agreement in Korea ($\kappa = 0.71$). The lower Kappa in Korea reflects greater response complexity, longer responses, and frequent mentions of broader contextual factors within a single response. For example, regarding challenging contextual factors, some Korean

responses included inter-teacher comparison (KO-129), parental involvement (KO-1), and notices (KO-36), all of which were initially coded as separate low-frequency categories. These low-frequency contextual categories were later collapsed into a broader “general factor” category through iterative discussion to maintain conceptual consistency while preserving the original meaning.

Coders discussed such cases to reach consensus, applying a consistent “specific-over-general” rule across overlapping or ambiguous categories. To enhance reflexivity, researchers critically reflected on their disciplinary backgrounds and potential interpretive biases throughout the coding process, holding regular discussions to compare interpretations and resolve discrepancies. These procedures minimized subjective bias and supported consistency and trustworthiness of the qualitative analysis across national contexts (Creswell & Clark, 2018).

3. Results

3.1. Teachers’ Strategies for Coping

A total of 387 coping responses were analyzed (Finland = 165; Korea = 222). In total, 14 responses unrelated to coping were excluded. As shown in Table 2, the analysis identified five categories, including “No coping.” Across both countries, personal life and interpersonal strategies were most frequently reported. Finnish teachers emphasized task regulation and professional strategies more, whereas Korean teachers more often reported strategies emphasizing perseverance and endurance.

- Personal life strategies included activities outside work that helped teachers psychologically detach from stress. Finnish teachers often described outdoor activities, while Korean teachers highlighted indoor activities. One Finnish teacher explained, “I invest in my own free time and strive to ensure that I have time to recover. Exercise and outdoor activities are one way to cope” (FI-94). Similarly, a Korean teacher noted, “Movies, dramas, webtoons, eating delicious food, online shopping, exercising, and sleeping” (KO-102).
- Interpersonal strategies involve seeking emotional or informational support from social networks. Collegial support was most common in both countries. A Finnish teacher shared, “Therapy calls with teacher friends: we’re in the same boat, and we can get through this together” (FI-21). Similarly, a Korean teacher highlighted the importance of collaboration with colleagues and students as follows:

“I cherish face-to-face meetings with students and strive to maintain a sense of gratitude. Due to COVID-19, I feel a greater professional solidarity while collaborating with teachers of the same grade level, brainstorming remote classes together, and learning shared values. Conversations with like-minded fellow teachers seem to be the greatest comfort and stress relief for me” (KO-46).

Teachers also reported receiving social support from family, friends, students, and supervisors, reflecting the broader social dimension of coping. One Finnish teacher noted, “I have spoken with colleagues, friends, and my supervisor. I am seeking work supervision” (FI-75).

A Korean teacher mentioned, “I relieve stress through physical exercise and short conversations or breaks with colleagues, while also increasing my bonding with family and engaging in outdoor activities like camping (of course, practicing social distancing)” (KO-103).

- Intrapersonal strategies focused on cognitive and emotional regulation, including positive thinking and task regulation. For example, a Finnish teacher stated the following:

“I have tried to keep a positive mindset. I think that if difficult situations arise, such as the possibility of remote teaching, we will get through them. I notice that the uncertain future weighs on my thoughts, and I actively try to focus on the present and trust that things will work out” (FI-33).

Task regulation, including goal setting, planning, time and workload management, was also reported: “Good planning. Focusing on goals. Focusing on values. One cannot do more than what one is capable of in this situation” (FI-26) and “Anticipating and preparing for the worst-case scenario regarding the future” (KO-164).

- Professional strategies involved efforts to modify instructional environments and engage in professional development. Some Finnish teachers stated, “I have alternated between holding remote lessons and independent work. I have utilized platforms where assignments can be checked asynchronously” (FI-18) and “I have lowered my standards; I just can’t do everything” (FI-52). In contrast, Korean teachers occasionally mentioned, “Reducing events and decisively eliminating non-work-related tasks” (KO-69).
- “No coping” responses accounted for 5.9% of all responses (Finland = 4.2%; Korea = 6.8%). This reflected teachers’ perception that they could not actively manage stress. One Finnish teacher wrote, “I don’t think about coping; I just do my work. I don’t count the days or mornings or moments; I live in the present, and this is how it is right now” (FI-89). A Korean teacher stated, “I’m not relieving it at all due to the reduction of activities outside the home” (KO-24).

3.2. Teachers’ Strategies for Tr-TTM

3.2.1. Tr-TTM Flow: Patterns with and Without Strategy Use

Teachers’ strategy use was analyzed within a Tr-TTM flow to examine its relationship with task motivation (see Table 3). Across both countries, 306 responses were initially identified. Of these, 208 responses (Finland = 65; Korea = 143) contained sufficient detail on task domain, contextual factors, and strategy use to construct complete Tr-TTM flows. Seven responses lacking information on motivational change were excluded from further analysis.

Figure 1 illustrates how strategy use interacts with task domains, contextual conditions, and motivational change. Two broad patterns emerged. First, strategy use ($n = 60$) was generally associated with increased motivation. Second, strategy non-use ($n = 141$) was more frequently associated with decreased or unchanged motivation. This suggests that the absence of intentional strategies may coincide with difficulties in sustaining motivation in hybrid teaching contexts.

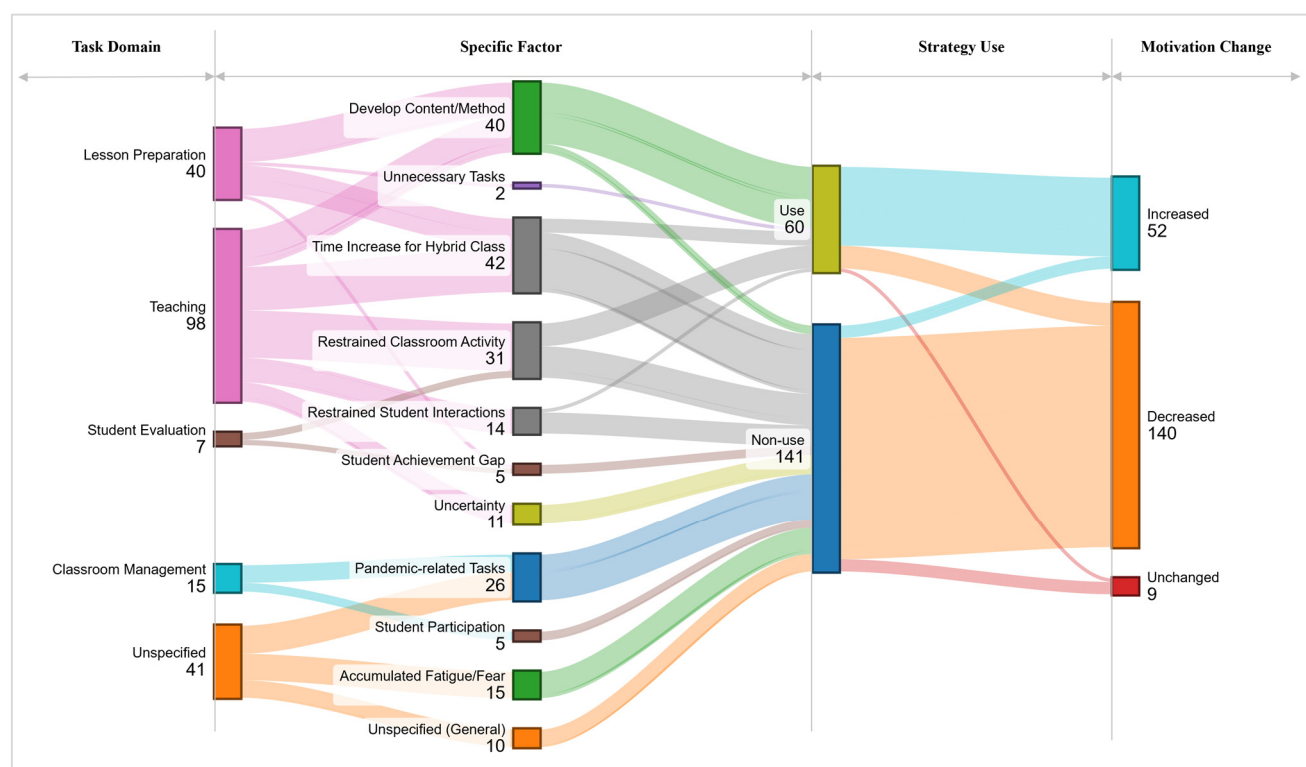


Figure 1. Sankey diagram of Tr-TTM flow. The width of the flows indicates frequency.

For example, strategy non-use was reflected in reduced Tr-TTM and perceived overload:

“The idea of retiring is more appealing; I realize my insufficient skills and the time I need to renew my teaching methods. Stress slows down my work; more resources are needed for planning and renewing teaching” (FI-66).

Similarly, a Korean teacher noted reduced motivation due to reduced interaction and instructional constraints:

“As normal curriculum operation has become difficult for over a year, the educational activities that can be done have decreased, and the lack of face-to-face interactions with students has significantly lowered my motivation” (KO-9).

These findings suggest that maintaining Tr-TTM during educational disruption was more commonly observed in responses describing strategic actions. The following section examines the association between specific strategic actions and changes in Tr-TTM.

Table 3. The four dimensions of Tr-TTM flow.

Tr-TTM	Subcategories	Examples	Finland (n, %)	Korea (n, %)
Motivation Change	Decreased	It has decreased (FI-20); I feel a lack of motivation. (KO-101)	56 (46.3)	91 (49.2)
	Increased	I’m more motivated (FI-04); Increase in online class. (KO-120)	9 (7.4)	53 (28.6)
	Unchanged	Not really (FI-01); My motivation has remained. (FI-61)	46 (38.0)	25 (13.5)
	Unknown	Meeting students in person is also important. (FI-49)	10 (8.3)	16 (8.6)
			121 (100)	185 (100)
Task Domain	Lesson Preparation	I need to prepare pre-class research and materials. (KO-103)	7 (10.9)	42 (26.3)
	Teaching	I am happy about in-person teaching. (FI-91)	32 (50.0)	68 (42.5)
	Class Management	It is not easy to confirm students’ attendance. (KO-149)	1 (1.6)	18 (11.2)
	Student Evaluation	I need to implement assessments on time. (KO-103)	0 (0.0)	14 (8.8)
	Unspecified	Yes, it has clearly worsened my motivation. (FI-96)	24 (37.5)	18 (11.2)
			64 (100)	160 (100)

Specific Factor	Time for Hybrid Class	Lesson preparation takes a lot of time, I feel tired. (KO-04)	0 (0.0)	14 (9.2)
	Achievement Gap	The decline in student level decreased my motivation. (KO-156)	0 (0.0)	16 (10.5)
	Develop Method	Pandemic increased interest in developing teaching. (FI-100)	9 (14.1)	27 (17.6)
	Hybrid Teaching	It is difficult to prepare online and offline lessons. (KO-139)	8 (12.5)	27 (17.6)
	Restrained Interaction	We cannot interact and exchange energy with the kids. (KO-91)	7 (10.9)	8 (5.2)
	Restrained Activity	There are many restrictions on activities. (KO-112)	5 (7.8)	25 (16.3)
	Student Participation	It's hard because students inconsistently attend school. (KO-86)	0 (0.0)	5 (3.3)
	Fatigue/Fear	Due to the fatigue caused by general uncertainty [...] (FI-39)	12 (18.8)	3 (2.0)
	Pandemic Tasks	Other duties reduce time for lesson preparation. (KO-148)	16 (25.0)	24 (15.7)
Unspecified (general)			7 (10.9)	4 (2.6)
			64 (100)	153 (100)
Strategy	Engaging Environment	I try my best to provide the best environment [...] (KO-132)	2 (3.1)	20 (14.0)
	Professional Develop	It helped me think about new teaching methods. (FI-19)	7 (10.8)	29 (20.3)
	Task Regulation	I constantly have to work beyond regular hours. (KO-148)	0 (0.0)	2 (1.4)
	Non-use	It has remained relatively unchanged [...] (FI-70)	56 (86.2)	92 (64.3)
			65 (100)	143 (100)

3.2.2. Tr-TTM Flow: Patterns with Strategy Use

Among flows with strategy use, three main patterns were identified (see Table 4).

- Professional development and lesson adaptation—Strategy use involving learning, experimentation, and instructional redesign was associated with increased motivation, particularly in lesson preparation (17 responses from Korea) and teaching (5 responses from Finland; 12 responses from Korea). Teachers reported that hybrid teaching encouraged exploration of new tools and methods. A Finnish teacher stated the following:

“Positively, it has been fun to learn new things and use different tools (remote teaching + special arrangements for in-person teaching) in education than before” (FI-23).

Similarly, a Korean teacher reported increased motivation through systematic adaptation of digital tools and lesson preparation:

“With the thought that we could switch to remote classes at any time due to COVID-19, I am preparing face-to-face classes more meaningfully and studying digital teaching tools in my spare time for the operation of real-time interactive remote classes, which seems to have motivated me to improve my qualities as a teacher more than before” (KO-46).

- Task regulation through reducing non-essential work—In some Korean cases, reduced administrative workload and elimination of non-essential tasks contributed to increased motivation by allowing greater focus on instructional preparation ($n = 8$, 15.7%). For example, one teacher stated the following:

“I believe that as face-to-face interactions have decreased due to COVID-19, unnecessary meetings have been eliminated, allowing teachers to focus on lesson preparation in individual classrooms, which boosts work motivation” (KO-77).

Table 4. Patterns of strategy use in Tr-TTM flow.

Task Domains	Specific Factors	Strategies	Subcategories	Changes in Tr-TTM	Finland (n, %)	Korea (n, %)
Lesson Preparation	Reducing Tasks	TR *	Prepare and Invest More Time	Increased	0 (0.0)	2 (3.9)
	Hybrid Teaching	EE *	Thorough Preparation Needed	Increased	0 (0.0)	8 (15.7)
	Hybrid Teaching	PD *	Learn, Explore, Develop New Ways	Increased	0 (0.0)	17 (33.3)
	Hybrid Teaching	PD	Learn, Explore, Develop New Ways	Unchanged	2 (22.2)	0 (0.0)
Teaching	Restrained Activities	EE	Lower/Simplify Instructional Levels	Decreased	2 (22.2)	10 (19.6)
	Hybrid Teaching	PD	Learn, Explore, Develop New Ways	Increased	5 (55.6)	12 (23.5)

Restrained Interactions	EE	Feedback	Increased	0 (0.0)	2 (3.9)
				9 (100)	51 (100)

* TR = task regulation; EE = engagement environment; PD = professional development.

- Strategy use is linked to decreased motivation—Not all strategies supported motivation. In some cases, simplifying instruction or reducing activity complexity was associated with reduced professional satisfaction and lower Tr-TTM, particularly when teachers perceived a loss of instructional quality (2 responses from Finland; 10 responses from Korea). A Korean teacher described the following:

“Because it is the COVID-19 period, group activities are only conducted when absolutely necessary, and lesson preparation is often planned around individual activities. Consequently, lessons become simplified and reduced, leading to a lack of satisfaction with the completeness of lessons from the teachers’ perspective” (KO-88).

This pattern was also evident in the context of physical education in both countries, where reduced interaction and constrained instructional formats negatively affected Tr-TTM:

“The remote teaching periods in physical education are boring, and the relationship with the students is too distant. It doesn’t align with my thoughts on teaching physical education. In health education, the impact is minimal. The working methods have been more individualized than usual” (FI-53).

4. Discussion

This study suggests that teachers’ strategies are associated with stress and Tr-TTM in hybrid teaching contexts. This integrated perspective extends prior research that has typically examined stress, coping, and motivation as separate processes, despite evidence that they operate simultaneously in classroom practice (Conte et al., 2024; Dumas et al., 2022; Wolters, 2011).

A notable contextual feature of the Finnish sample was the relatively high proportion of early-career teachers. Career stage may influence teachers’ coping and strategy use (Harmsen et al., 2018; Heikonen et al., 2017), and this should be considered when interpreting the patterns observed. However, the findings suggest that the strategic actions employed by teachers were likely influenced by institutional and instructional conditions during the COVID-19 pandemic at a time of major disruption that affected teaching across both contexts in this study.

Active strategies, such as engaging in professional development, using digital tools, or restructuring lessons, were associated with both emotional and instructional demand management among Korean and early-career Finnish teachers. These strategies appeared to support reduced stress and access to emotional and practical resources concurrently.

Interpersonal strategies, especially collaboration with colleagues, were linked to lower perceived stress and appeared to provide emotional and practical resources to sustain teaching practices (see also Conte et al., 2024; Park & Lee, 2015; Soini et al., 2010; Yang et al., 2023).

In contrast, some strategies, such as reducing workload or simplifying lessons, were associated with short-term stress management but occasionally created tension with instructional quality or teacher expectations. This suggests that strategies may not always be implemented in ways perceived as effective and may reflect responses constrained by educational and contextual limitations.

Furthermore, some teachers reported being unable to use strategies effectively. This may suggest a misalignment between hybrid teaching demands and available strategies,

as well as time, resources, and environmental constraints (MacIntyre et al., 2020). Although early-career teachers may have limited strategy diversity (Harmsen et al., 2018; Heikonen et al., 2017; Uitto et al., 2015), reports of “No coping” were more frequently observed among more experienced teachers. This finding suggests that career stage alone may not fully account for variation in strategy use.

Therefore, strategy implementation and effectiveness appeared to depend on “contextual conditions and feasibility of execution” rather than the mere presence of strategies. This highlights that teachers’ adaptive responses are enabled or constrained by institutional and instructional environments (MacIntyre et al., 2020; Wolters, 2011).

This cross-national comparison further highlights the importance of contextual conditions in shaping teachers’ strategic responses. Collaboration and professional development strategies were central to both contexts, but their functions varied depending on institutional and professional conditions. For instance, indications of self-directed professional learning were identified in the Finnish context, and sustaining collective efficacy was relevant to the Korean context.

Teachers operating in a Finnish context characterized by relatively higher professional autonomy reported more frequent use of active and autonomous strategies, including lesson restructuring and task self-regulation. These patterns are consistent with organizational conditions that facilitate autonomy, professional discretion, and opportunities for experimentation (OECD, 2023). Early-career teachers may develop more active and autonomous strategies when institutional conditions provide sufficient autonomy and support for experimentation (Harmsen et al., 2018; Heikonen et al., 2017).

In contrast, teachers working in a Korean context characterized by comparatively higher administrative and workload demands reported a greater reliance on pragmatic workload management strategies, such as lesson simplification, task reduction, and perseverance (Kim et al., 2022; Park & Lee, 2015). These patterns may reflect the influence of institutional constraints and intensified demands during the pandemic period (KEDI, 2017; Yang et al., 2023).

These findings suggest that institutional conditions may shape strategy enactment by enabling or constraining teachers’ opportunities to adapt, experiment, and manage workload. Importantly, the observed variations should be interpreted as context-dependent patterns of teacher adaptation rather than country-level differences.

Overall, this study suggests that strategy execution and its outcomes are contextually sensitive, highlighting that career stage alone does not determine strategic implementation and effectiveness. Therefore, the feasibility of using a particular framing strategy helps to explain how teachers adapt to contextual constraints and opportunities in teaching. This framing also highlights a dynamic, continuous flow in which the use of a strategy, experiences of stress, and motivational processes are interrelated under challenging demands. In practice, teacher professional development programs should strengthen structural conditions, including time, collaborative structures, and autonomy, to enable the application of strategies. For early-career teachers, ensuring structural support and enabling conditions is as important as providing strategies themselves (Harmsen et al., 2018; Uitto et al., 2015).

Limitations and Future Research

Several limitations should be considered when interpreting these findings. First, this study relied on self-reported qualitative data and retrospective reflections, which may not fully capture teachers’ moment-to-moment motivational regulation or strategy enactment. Although participants provided valuable insights into hybrid teaching experiences, future research could use longitudinal or experience sampling methods to examine how coping

and motivational strategies unfold in real time across changing instructional contexts (Pekrun, 2006; Pyhältö et al., 2021).

Second, the cross-national comparison between Finland and Korea had a limited sample size, and institutional variables were not directly measured. Most Finnish participants were early-career teachers, which may have influenced observed strategy patterns, autonomy, and motivational regulation. Future studies should use balanced samples across career stages, including student teachers, and apply multilevel analyses to examine structural factors such as school culture, administrative demands, and policy environments (OECD, 2023). These approaches would provide a more nuanced understanding of how teaching experiences shape teachers' strategic adaptation processes.

Third, the exploratory qualitative design does not support causal claims regarding the relationship between strategy use, stress regulation, and motivational outcomes. Future mixed-methods or longitudinal research could clarify how specific strategies contribute to motivational recovery, professional adaptation, and sustained instructional engagement over time (Conte et al., 2024; Kim et al., 2022).

Finally, although this study focused on hybrid teaching during the COVID-19 pandemic, the insights remain relevant beyond emergency contexts. Educational environments continue to change rapidly, and teachers must adapt to evolving technological, organizational, and social conditions. Future research should examine not only whether teachers use strategies, but also the quality, perceived effectiveness, and alignment of strategies with professional identity and contextual demands (Conte et al., 2024; Kim et al., 2022). Such dynamics are particularly important for early-career teachers, whose professional confidence and strategic repertoires are still developing (Pekrun, 2006; Pyhältö et al., 2021).

The findings highlight teachers' strategic adaptation as a contextually situated process closely linked to both stress regulation and motivational sustainability. Investigating how teachers maintain Tr-TTM and professional functioning under evolving conditions remains essential for advancing teacher education, professional development, and sustainable educational practice.

5. Conclusions

This study suggests that teachers' strategies during rapid educational change are associated with both stress management and Tr-TTM processes. Teacher motivation is not fixed but is continuously reconstructed through strategic responses to evolving instructional demands.

The findings also suggest that the perceived effectiveness of these strategies may depend not only on their use but also on their feasibility of execution, which is closely related to institutional and instructional conditions. In other words, strategic adaptation may become more effective when teachers are provided with structural support and the conditions that enable them to implement and experiment with strategies while managing workload. Understanding how teachers develop and adapt strategies, and how contextual conditions facilitate or constrain their execution, is therefore essential for supporting effective teaching under ongoing demands.

Future research should further examine the interplay between coping with stress, motivational regulation, and professional learning, particularly in contexts shaped by technological, organizational, and policy transformations. In particular, understanding how teachers maintain Tr-TTM under evolving pressure remains a key question for advancing teacher education and professional development in post-crisis educational environments.

Although the COVID-19 pandemic has ended, the implications of these findings extend beyond emergency remote or hybrid teaching. Educational environments continue

to undergo rapid technological, organizational, and social changes, requiring teachers to adapt continuously to new expectations and instructional conditions (OECD, 2023). In this regard, the present study offers insight into how teachers sustain professional functioning during challenging contextual conditions. Rather than viewing coping and motivation as isolated psychological outcomes, the findings underscore the importance of strategic adaptation processes enabled by feasible, supportive, and structured conditions.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data supporting the findings of this study are not publicly available because the participants did not provide written consent for data sharing.

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Appendix A. Coding Matrix and Inter-Coder Agreement Procedures for Tr-TTM

Case	Raw Data	Tr-TTM Flow	Inter-Coder Agreement				Discussions for Disagreements
			Coder 1	Coder 2	Agree	Final	
KO-124	Acceleration of ICT-based education, such as SW and AI.	Task	General	Teaching	X	Teaching	Use of ICT mainly involves teaching
		Factors	General	General	O	General	
		Strategy	Non-use	Non-use	O	Non-use	
		Motivation	Unknown	Unknown	O	Unknown	
FI-100	The pandemic has increased interest in developing online teaching.	Task	Teaching	Teaching	O	Teaching	Development of teaching content was the more specific representation of practice during the pandemic
		Factors	Hybrid Teaching	Develop Contents	X	Develop Contents	
		Strategy	Non-use	Non-use	O	Non-use	
		Motivation	Increase	Increase	O	Increase	
FI-93	The pandemic is more present mentally and is scary if a larger group	Task	General	General	O	General	Statement specifically reflected emotional burden
		Factors	General	Fatigue, Fear	X	Fatigue, Fear	
		Strategy	Non-use	Non-use	O	Non-use	

Ko-35	gets sick or has to quarantine at school. We also don't meet or talk among teachers, which shows in the work and manifests as fatigue in my mood.	Motivation	Decrease	Decrease	O	Decrease	The statement was segmented into distinct meaning units and coded independently. One segment was coded as a flow of "Lesson Preparation, Developing Contents, Strategy Use, and Increased", while the other segment was coded as a flow of "Teaching, Hybrid Teaching, Strategy Non-use, and Decreased."
	Positively, realization of various ideas through active use of devices (laptops, tablets, etc.) for lessons. Negatively, confusion due to frequent changes between online and face-to-face classes.	Task	Lesson Prepare	Teaching	X	Both	
		Factors	Develop Contents	Hybrid Teaching	X	Both	
		Strategy	Use Non-use	Use Non-use	O	Use Non-use	
		Motivation	Increase Decrease	Increase Decrease	O	Increased Decrease	

Note: O = full agreement; X = disagreement.

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