



HAL
open science

Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work

Raoul Kamga Kouamkam, Holly Many, Cendrine Mercier, Alain Stockless

► **To cite this version:**

Raoul Kamga Kouamkam, Holly Many, Cendrine Mercier, Alain Stockless. Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work. 2026. <hal-05520180v2>

HAL Id: hal-05520180

<https://hal.science/hal-05520180v2>

Preprint submitted on 25 Mar 2026

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Copyright - All rights reserved

✓ ACCEPTÉ AVEC CORRECTIONS MINEURES

Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work

Raoul Kamga Kouamkam · **Holly Many** · Cendrine Mercier · Alain Stockless

UQAM (Montréal) · Université de Nantes · Université de Haute-Alsace / LISEC / CEHN2T · UQAM

Statut	Accepté avec corrections mineures
Revue cible	<i>Médiations et Médiatisations</i> – Université TÉLUQ, Québec
HAL ID	hal-05520180v2 https://hal.science/hal-05520180v2
Version	Preprint v2 — Mise à jour mars 2026
Citation	<i>Kamga, R., Mercier, C., Many, H., & Stockless, A. (2026). Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work. Accepté – Médiations et Médiatisations (TÉLUQ). Preprint HAL : hal-05520180.</i>

Entre soulagement et dépossession : approche critique des usages projetés de l'IA dans le travail enseignant

Kamga R., Many H., Mercier C., Stockless A.

Accepté avec corrections mineures – *Médiations et Médiatisations* (Université TÉLUQ, Québec)

Preprint HAL : hal-05520180 | ISSN (Médiations et Médiatisations) : 2562-6234

1. Objet de la recherche

Cet article interroge la recomposition du travail enseignant à l'aune de l'automatisation partielle des tâches par l'intelligence artificielle générative. Il part d'un constat en tension : si l'IA est généralement présentée comme un levier d'optimisation du travail pédagogique, les enseignants expriment simultanément un soulagement face aux tâches perçues comme contraignantes et une inquiétude quant à ce qui se trouve déplacé lorsque les dimensions intellectuelles, relationnelles et identitaires du métier sont déléguées à une machine. La problématique centrale consiste donc à interroger les liens entre délégation partielle des tâches, rapport subjectif au travail enseignant et affects professionnels.

2. Ancrage théorique

Le cadre articule trois niveaux complémentaires :

- La théorie de l'activité (3^e génération, Engeström, 2014) : l'IA y est analysée en tant qu'outil de médiation susceptible de transformer le système d'activité et, partant, le sens du travail enseignant.
- L'IA comme reconfiguratrice du travail enseignant : au-delà de l'automatisation administrative, elle modifie les conditions d'accès à l'objet de l'activité et questionne l'autonomie professionnelle par médiation algorithmique.
- Les affects professionnels comme analyseurs critiques : ils ne sont pas de simples réponses individuelles mais des indicateurs situés des reconfigurations du travail perçues par les enseignants (Scherer, 2005 ; Liu & Geertshuis, 2016).

3. Dispositif méthodologique

Approche quantitative descriptive conduite auprès de 86 enseignants stagiaires en formation initiale (université canadienne, dernière année de licence). Un questionnaire en ligne portait sur dix tâches représentatives du travail enseignant, évaluées selon trois dimensions : niveau de confort perçu (échelle de Likert à 5 points), niveau d'attachement à la tâche (plaisir ressenti à l'accomplir) et affects projetés face à une automatisation partielle par l'IA. Les données ont fait l'objet d'analyses descriptives tâche par tâche, puis d'analyses relationnelles pour identifier des configurations-types.

4. Principaux résultats

Quatre configurations de tâches ont été identifiées :

Configuration	Tâches concernées	Affect dominant / Posture
C1 – Tâches protégées (non-déléguables)	Situations d'enseignement variées, gestion du groupe-classe, suivi du bien-être des élèves	<i>Affects négatifs nettement dominants ($\Delta \geq 40$ pts) — délégation exclue</i>
C2 – Tâches relationnelles sous contrôle humain	Communication avec les partenaires éducatifs, collaboration en équipe	<i>Affects négatifs modérément dominants — implication IA limitée et cadrée</i>
C3 – Tâches pédagogiques en exploration	Conception de séquences, évaluation, différenciation pédagogique	<i>Curiosité et affects négatifs en équilibre — posture exploratoire prudente</i>
C4 – Tâches de soutien facilement reconfigurables	Organisation de l'environnement d'apprentissage, développement professionnel continu	<i>Affects positifs dominants — acceptation favorable de la reconfiguration partielle</i>

5. Contribution scientifique et perspectives

Cette recherche apporte trois contributions complémentaires. D'abord, elle traite les affects non comme de simples variables d'adoption technologique mais comme des analyseurs critiques des tensions entre promesses de l'IA et valeurs professionnelles. Ensuite, elle met en évidence que la frontière entre tâches déléguables et non-déléguables ne recoupe pas la frontière entre tâches maîtrisées et non-maîtrisées ni entre tâches appréciées et non-appréciées : c'est la nature de la tâche qui détermine son rapport à l'IA. Enfin, en mobilisant la théorie de l'activité d'Engeström, elle contribue à dépasser les modèles d'acceptation technologique centrés sur l'individu, souvent critiqués pour leur insuffisante prise en compte des dimensions identitaires du travail enseignant (Selwyn, 2019).

Ces résultats ont des implications directes pour la formation des enseignants : intégrer l'IA ne peut se réduire à une appropriation technique. Il s'agit d'accompagner une réflexion critique sur les tâches, leur finalité, et les limites de leur gestion algorithmique. Les perspectives de recherche incluent des études qualitatives auprès d'enseignants en exercice et une intégration du niveau de littératie IA comme variable d'analyse.

Mots-clés : *intelligence artificielle et éducation · travail enseignant · théorie de l'activité · affects professionnels · formation initiale · délégation de tâches · littératie numérique*

Revue cible : *Médiations et Médiatisations (Université TÉLUQ, Québec) — ISSN 2562-6234 — Revue indexée ERIH+*



HAL
open science

Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work

Raoul Kamga Kouamkam, **Holly Many**, Cendrine Mercier, Alain Stockless

PREPRINT

This is a preprint version of an article accepted with minor revisions at the journal Médiations et Médiatisations (Université TÉLUQ, Québec). This version has been peer-reviewed. Please cite as: Kamga, R., Mercier, C., Many, H., & Stockless, A. (2026). Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work. Accepted – forthcoming in Médiations et Médiatisations. Preprint deposited on HAL.

► To cite this version:

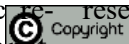
Raoul Kamga Kouamkam, Holly Many, Cendrine Mercier, Alain Stockless. Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work. 2026. (hal-05520180)

HAL Id: hal-05520180

<https://hal.science/hal-05520180v1>

Preprint submitted on 23 Feb 2026

HAL is a multi-disciplinary open access archive of research institutions in France or abroad, or from public or private research centers. The documents may come from teaching and research



L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche,

publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Copyright - All rights reserved

Between Relief and Dispossession: A Critical Approach to Projected Uses of AI in Teaching Work

Raoul Kamga *Université du Québec à Montréal (UQAM), Canada*

Holly Many *Université de Haute-Alsace, France*

Cendrine Mercier *Université de Nantes, France*

Alain Stockless *Université du Québec à Montréal (UQAM), Canada*

Keywords: *digital competence; artificial intelligence; task automation; task delegation; initial teacher education; teacher–task relationship; affects.*

Abstract

Current research on AI in teaching presents it as a driver of educational innovation and competitiveness that can take over teaching tasks and thereby improve efficiency or lighten the teacher's workload. However, a task is not merely a set of actions; it is also a site of engagement where opportunities for self-investment, meaning-making, and perseverance in the teaching profession coexist. Tasks are also considered as supports for symbolic and material recognition and as elements of professional identity. Thus, delegating teaching tasks to AI does not simply modify their execution; it transforms the meaning of the teacher's relationship to work. Moreover, several studies highlight that teachers experience tensions when tasks described as sources of fatigue or overload are delegated to AI. Drawing on activity theory and affects, this exploratory study aimed to understand the reconfiguration of teaching tasks from the perspective of pre-service teachers. A questionnaire was administered to 86 pre-service teachers covering ten typical tasks. Results reveal four task configurations that depend not on the pre-service teachers' level of comfort or attachment to the task, but rather on the nature and place of the task within teaching work.

Introduction

For several decades, the use of digital technologies in teaching has led to the progressive delegation of certain tasks to educational technologies. These tasks range from automated grading to lesson planning, extending to the generation of pedagogical content by artificial intelligence (AI) (Selwyn, 2019). Current research on AI in teaching presents it as a driver of educational innovation and competitiveness that can handle aspects of assignment grading or feedback tasks (Ferman et al., 2021; Setiyowati & Ardaniah, 2025), question generation (Koh et al., 2025), progress tracking, or personalisation of learner pathways (Chaudhry & Kazim, 2022). This delegation or automation of tasks is generally presented as pertinent for efficiency gains, a lightening of the teacher's workload, or an aid to professionalisation (Ferman et al., 2021; Koh et al., 2025).

These studies consider that a portion of teaching tasks could be automated—that is, delegated to AI—and that the teacher has the conditions to transform the freed time into professionalisation time. However, they do not interrogate the power relations and subjective dimensions of task completion by teachers. A task is not merely a set of actions; it is also a site of engagement where opportunities for self-investment, meaning-making, and perseverance in the teaching profession coexist (Guillemette, 2006), or as supports for symbolic and material recognition (Palet, 2023), or as elements of professional identity (Gohier et al., 2002). Thus, delegating teaching tasks to AI does not simply modify their execution; it transforms the meaning of the teacher's relationship to work.

Several studies highlight that teachers experience tensions when teaching tasks are delegated to AI. On the one hand, teachers welcome with relief the possibility of delegating tasks experienced as burdensome and time-consuming, such as preparing resources, designing initial versions of activities, drafting emails, or writing activity instructions. On the other hand, these same teachers simultaneously express concern about what is displaced when the intellectual and relational dimensions of their work are taken over by AI (Dangol et al., 2025). In other words, the same tasks may be described both as sources of fatigue and overload, and at the same time as key sites of creativity, connection with students, and important elements of teachers' professional identity. This finding is also observed in Lin et al.'s (2025) study, where teachers experienced the preparation of materials as a task that is both tedious and a privileged space for expressing their pedagogical style.

These studies reveal that the boundary between so-called tedious or burdensome tasks and those considered beloved does not necessarily coincide with the boundary between tasks that can and cannot be delegated. Thus, the delegation of tasks to AI implicates the engagement, recognition, and professional identity of teachers (Dangol et al., 2025; Lin et al., 2025) and would elicit varied affects. AI is increasingly presented as a lever for delegating teaching tasks with the aim of optimising work and reducing workload. However, this perspective rests on the implicit hypothesis that tasks can be delegated without affecting the meaning of teaching work. The problematic of this research thus consists of interrogating the links between partial task delegation through AI, the subjective relationship to teaching work, and professional affects, in order to better understand the critical issues of delegating teaching tasks to AI in education.

2. Theoretical Framework

This theoretical framework enables a critical reading of the automation of teaching work. It comprises activity theory, artificial intelligence as a tool for reconfiguring teaching work, and professional affects.

2.1. Activity Theory and Teaching Work

The third generation of activity theory is a socio-cultural framework that enables understanding of human activity as an activity system comprising six interacting poles: subject, object, mediation tools, rules, community, and division of labour, producing an outcome (Engeström, 2014). Applied to teaching work, this theory allows it to be considered as a collective activity, socio-culturally situated, mediated by tools, and capable of evolving as the poles undergo transformations (McAvinia, 2016). Since teaching work is oriented toward the object of activity—that is, teaching and learning—modification of mediation tools can transform the activity system and, consequently, teaching work.

Moreover, several studies mobilising activity theory emphasise that mediation tools are not neutral in the transformations of teaching work they may engender. These tools are socio-culturally situated (Grimalt-Alvaro & Ametller, 2021; Miettinen, 2001). This implies that the tools mediating teaching work can contribute to different transformations of that work or generate tensions, depending on contexts. This remains valid for artificial intelligence tools. Various studies categorise teaching tasks differently: Oh and Ahn (2024) distinguish educational tasks (teaching, monitoring, student relationships) from administrative tasks

(document management, reports, formal communication). Reynolds (1990) groups tasks into six categories according to teaching functions: planning, teaching, classroom management, assessment, community collaboration, and professional development. An et al. (2017) categorise tasks according to three temporal routines: preparation, in-class, and post-class follow-up. Van Dijk et al. (2020) identify six essential tasks: teaching and learning support, pedagogical design, assessment and feedback, educational leadership, educational research, and professional development.

2.2. Artificial Intelligence and the Reconfiguration of Teaching Work

Several studies have analysed artificial intelligence as a mediation tool in teaching work. AI offers possibilities for improving pedagogical practices and automating administrative tasks (Ferman et al., 2021; Setiyowati & Ardaniah, 2025), but research also presents AI as a dynamic mediator that redefines educational communication and structures (Mishra, 2025). Teachers use AI either as a pedagogical partner, a grading assistant, or a substitute teacher (Greene Nolan et al., 2024). Regardless of how teachers use it, there is a reduction in their involvement in different facets of their tasks. This could engender new dependencies and diminish their responsibility in pedagogy, dispossessing them of their power to act (Puja et al., 2025). Thus, the use of AI as a mediation tool in teaching work can call into question teacher autonomy through algorithmic mediation (Bouakaz & Khalid, 2025; Puja et al., 2025).

2.3. Professional Affects as Critical Analysers

In educational technology research, although still undergoing consolidation in widespread theoretical models such as TPACK, affects increasingly occupy a visible place. They are often used as determinants of technology use and as analytical prisms of work. They represent a set of moods, attitudes, preferences, affective dispositions, and interpersonal positions (Scherer, 2005). Thus, the integration of AI in education cannot be understood solely as a problem of technical competences or adoption models, but also as a phenomenon that engages teachers' professional affects. Affects constitute explanatory variables of the adoption, appropriation, or resistance to the use of educational technologies (Dilekçi et al., 2025; Huang et al., 2020; Wang et al., 2025; Xie et al., 2026).

Studies show that affects such as emotional attachment to teacher routines play a role in resistance to change (Huang et al., 2020; Wang et al., 2025), and that affects such as

enthusiasm, frustration, or anxiety toward digital tools modify the effect of teacher beliefs and self-efficacy on digital use (Xie et al., 2026). Affects such as pride, fear, enthusiasm, or a sense of threat are indicators of alignment or misalignment processes between the introduction of new technologies and teachers' conceptions of their profession (Liu & Geertshuis, 2016; Wang et al., 2025). In this study, positive affects (enthusiasm, relief) can be interpreted as indicators of what is perceived as acceptable in the mediation of teaching work by AI. Negative affects (worry, anger, ethical discomfort) can indicate conflict zones such as fear of deprofessionalisation or disagreements about what should be delegated to AI (Liu & Geertshuis, 2016; Wang et al., 2025; Xie et al., 2026). In this sense, affects are not merely individual responses to AI but situated indicators of how teachers perceive the reconfigurations of their work.

By articulating activity theory, AI as a new mediation tool in teaching work, and the critical role of affects, this theoretical framework will enable understanding of how pre-service teachers perceive and judge the delegation of tasks to AI in their work.

3. Research Questions

In order to understand how pre-service teachers perceive the partial delegation of teaching tasks to AI, this research is structured around four research questions:

RQ1. What is the perceived level of comfort of pre-service teachers regarding different teaching tasks?

RQ2. What is the perceived level of attachment of pre-service teachers regarding different teaching tasks?

RQ3. What affects do pre-service teachers express when faced with the partial automation of these tasks by artificial intelligence?

RQ4. What task configurations emerge depending on the relationships between comfort, attachment, and affects regarding the partial automation of tasks?

4. Methodology

4.1. Methodological Approach and Research Posture

This research adopts a quantitative descriptive approach—not to predict AI adoption or measure its acceptability, but to describe and analyse the subjective relationships that pre-service teachers maintain with different teaching tasks, as well as the affects associated with their partial delegation to AI. In accordance with the theoretical framework mobilised, the data collected are interpreted as indicators of situated professional judgements and tensions related to the reconfiguration of teaching tasks.

4.2. Participants

Participants are 86 pre-service primary school teachers in the final year of their initial training programme at a Canadian university. The choice of this population is justified by the fact that these actors are at an important moment in the construction of their relationship to the profession, to the professional tasks of teaching work, and to digital technologies in education.

4.3. Data Collection Tool and Process

Data collection was carried out using an online questionnaire, on a voluntary, anonymous basis, structured around ten representative tasks of teaching work. The choice of a task-based entry rests on the fact that not all teaching tasks carry the same symbolic, professional, or identity-related value (Browes & Altinyelken, 2022). The questionnaire addressed ten teaching tasks: (1) Designing effective learning sequences, (2) Conducting varied teaching situations, (3) Developing and interpreting assessments, (4) Managing classroom dynamics, (5) Pedagogical differentiation in the classroom, (6) Establishing constructive communication with educational partners, (7) Engaging in continuous professional development, (8) Collaborating within a school team, (9) Organising the learning environment, and (10) Ensuring the well-being and overall monitoring of students.

For each task, participants indicated on a 5-point scale their perceived level of comfort. They also indicated their level of attachment to the task, formulated in terms of pleasure experienced in performing it. The final dimension addressed the participants' feelings about the partial automation of the task by AI, asking them to project themselves into a scenario where AI would take over a large part of the task.

4.4. Data Analysis Methodology

Descriptive analyses were conducted to answer the first three research questions, concerning perceived comfort, attachment to tasks, and affects expressed regarding automation by AI. These analyses were conducted by task in order to respect the postulate that teaching work is composed of heterogeneous tasks, invested differently on functional, symbolic, and identity-related levels (Browes & Altinyelken, 2022). Perceived comfort and task attachment were categorised as low (mean score 1.00–2.49), moderate (2.50–3.49), and high (3.50–5.00). Regarding task categorisation, it was based on the most frequently expressed valence (relative dominance). Gaps between the dominant valence and the second valence were examined indicatively to distinguish clear dominances from more balanced configurations. In a second phase, relational analyses were conducted to identify types of task configurations, rather than establish causal relationships between variables.

5. Results: Transformations of Learning Postures Regarding Task Delegation to AI

5.1. Perceived Comfort Regarding Teaching Tasks

Perceived comfort was measured using a five-point Likert scale, ranging from 1 (I do not feel competent at all) to 5 (I feel fully competent). Results indicate a generally high level of perceived comfort across all teaching tasks (see Table 1). Means are predominantly above 4, reflecting a well-established sense of competence among participants. The highest levels of comfort concern tasks related to classroom management, professional collaboration, organisation of the learning environment, and student well-being, suggesting strong confidence in performing tasks with strong interactional and organisational dimensions. Conversely, slightly lower means were observed for designing learning sequences and developing assessments, indicating that these tasks are perceived as less mastered. Moderate standard deviations indicate limited variability of perceptions within the sample.

Table 1. Means and standard deviations of perceived comfort scores by task (N=86)

Teaching task	Mean	SD	Level
Designing effective learning sequences	3.83	0.83	High
Conducting varied teaching situations	4.21	0.65	High
Developing and interpreting assessments	3.63	0.87	High
Managing classroom dynamics	4.28	0.79	High
Pedagogical differentiation	3.83	0.79	High
Communication with educational partners	4.08	0.87	High
Continuous professional development	4.14	0.81	High
Collaborating within a school team	4.33	0.82	High
Organising the learning environment	4.31	0.69	High
Student well-being and overall monitoring	4.35	0.63	High

5.2. Perceived Attachment Regarding Teaching Tasks

Perceived attachment was measured using a five-point Likert scale, ranging from 1 (I do not like this task at all) to 5 (I like this task very much). Results presented in Table 2 reveal high and generalised attachment to all ten teaching tasks. Means, often close to the scale maximum, indicate strong affective investment toward these different tasks. The highest attachment levels concern conducting varied teaching situations, collaboration within the school team, organising

the learning environment, and monitoring student well-being. Relatively low standard deviations for each task indicate consensus among participants regarding the level of attachment accorded. The comparison of Tables 1 and 2 highlights that perceived attachment is generally higher than perceived comfort for almost all teaching tasks, suggesting that pre-service teachers' engagement with these tasks rests more on their identity or symbolic value than on their mastery level. Tasks characterised by a relational dimension thus appear as central to the definition of teaching work identity.

Table 2. Means, standard deviations, and perceived attachment levels (N=86)

Teaching task	Mean	SD	Level
Designing effective learning sequences	3.70	0.92	High
Conducting varied teaching situations	4.64	0.57	High
Developing and interpreting assessments	3.59	0.95	High
Managing classroom dynamics	4.35	0.72	High
Pedagogical differentiation	4.16	0.87	High
Communication with educational partners	4.15	0.83	High
Continuous professional development	4.21	0.80	High
Collaborating within a school team	4.55	0.59	High
Organising the learning environment	4.50	0.66	High
Student well-being and overall monitoring	4.49	0.63	High

5.3. Affects Expressed Regarding Partial Task Delegation to AI

Affects regarding partial delegation of teaching tasks to AI were collected using a question inviting participants to express how they would feel if AI performed a large portion of the task. Responses were grouped into affective categories: positive (e.g., relief, satisfaction, sense of support), ambivalent or neutral (e.g., hesitation, indifference, mixed feelings), and negative (e.g., discomfort, worry, sense of dispossession or loss of meaning), based on work on teacher affects regarding technologies (Cheng et al., 2022; Pi et al., 2022). Table 3 reveals that pre-service teachers' reactions to partial task delegation to AI vary according to the tasks.

Certain tasks are characterised by a high dominance of negative affects (scepticism, anxiety, distrust, frustration): student well-being and overall monitoring (73% negative), managing classroom dynamics (69%), conducting varied teaching situations (63%), collaboration within a school team (58%), and communication with educational partners (56%). Other tasks are characterised by a dominance of positive affects (enthusiasm, relief): continuous professional

development (41%) and organising the learning environment (38%). A group of tasks shows curiosity occupying an important place alongside positive and negative affects: developing and interpreting assessments (38% curiosity), pedagogical differentiation (35%), and designing learning sequences (32%). Explicit ambivalence remains relatively stable and minority for all tasks (8–10%).

5.4. Task Configurations Regarding Partial Automation by AI

This subsection analyses the task configurations that emerge according to comfort, attachment, and reactions to the partial automation of teaching tasks by AI. Since comfort and attachment levels are on average high for all tasks, configurations depend more on the type of reactions identified (affects and curiosity). Gaps (Δ) between dominant and secondary valence were interpreted qualitatively: $\Delta \geq 40$ points indicates clear dominance; $10 < \Delta < 40$ indicates moderate dominance; $\Delta \leq 10$ indicates weak dominance requiring consideration of the secondary category.

Four task configurations were identified (Table 5):

Configuration 1 – Protected tasks (non-delegable): Clear dominance of negative affects ($\Delta \geq 40$). Tasks characterised by relational and ethical dimensions: conducting varied teaching situations, managing classroom dynamics, ensuring student well-being and overall monitoring. For these tasks, partial delegation to AI is excluded.

Configuration 2 – Relational tasks under human control: Moderate dominance of negative affects ($10 < \Delta < 40$). Tasks: communication with educational partners, collaboration within a school team. For these tasks, partial AI involvement would be limited and framed by an exploratory posture.

Configuration 3 – Pedagogical tasks under exploration: Gap between curiosity and negative affects ≤ 10 points. Tasks: designing learning sequences, developing and interpreting assessments, pedagogical differentiation. No affective valence clearly dominates; these tasks appear as intermediate positioning spaces, implying that AI acceptability for pre-service teachers is not reducible to a binary opposition between adherence and rejection.

Configuration 4 – Easily reconfigurable support tasks: Predominance of positive affects without excluding a significant presence of curiosity. Tasks: organising the learning

environment, continuous professional development. This would reflect a relatively favourable, though non-exclusive, acceptance of partial task delegation to AI.

These reconfigurations reflect neither a comfort deficit nor a lack of attachment. However, the more a task is perceived as relational or ethical, the more it is protected. Pedagogical tasks are those eliciting an exploratory posture, while organisational and continuing education tasks appear most accepted for partial AI reconfiguration.

6. Discussion

6.1. Affects as Critical Analysers of Automation-Related Tensions

One of the major contributions of this study lies in treating affects not as simple individual opinions, but as critical analysers of the transformations of teaching work. The positive, mixed, or negative affects expressed regarding partial task management by AI render visible structural tensions between AI's promises and the professional values and identity associated with teaching work. From the perspective of activity theory (Engeström, 2014), these results can be interpreted as a sign that AI, as a mediation tool, modifies the conditions of access to the object of teaching activity. Depending on the task, AI supports the activity without transforming its object (e.g., in continuous professional development tasks), or enters into tension with it when it touches central dimensions of professional judgement, the teacher–student relationship, or professional responsibility (e.g., classroom management, student well-being). Results show that positive affects dominate relatively when AI is associated with tasks perceived as instrumental or organisational, consistent with work highlighting the relief felt regarding the delegation of repetitive or administrative tasks (Dangol et al., 2025). Conversely, when partial delegation to AI concerns tasks involving significant intellectual, relational, or ethical engagement, affects become mixed or negative.

6.2. Task Delegation as Situated Reconfiguration of Teaching Work

This discussion section privileges a task-centred analysis, considering affects as analysers of transformations in teaching work in the age of artificial intelligence. This task-by-task reading enables understanding that AI cannot be considered a simple lever for optimisation or workload reduction (Selwyn, 2011, 2019). Results suggest that certain tasks may be perceived simultaneously as time-consuming and as strongly invested on the subjective level, consistent with the findings of Dangol et al. (2025) and Lin et al. (2025). Thus, the boundary between delegable and non-delegable tasks does not overlap with the boundaries of difficulty in performing them or attachment to them. By highlighting differentiated task configurations, this research enables understanding that pre-service teachers consider partial task management by AI as a heterogeneous and situated process that depends on the teaching tasks themselves.

6.3. Tasks Resistant to Partial AI Management: The Heart of Teaching Work

Configurations associated with dominant negative affects primarily concern tasks characterised by uncertainty, complexity, and the need for contextualised decision-making. These tasks appear to pre-service teachers as particularly sensitive to AI management, not because of a lack of comfort or attachment, but because they mobilise dimensions of work that are difficult to reduce to standardised procedures. This result echoes activity theory, which emphasises that certain professional actions are inseparable from context, the relationship to others, and the subject's responsibility (Engeström, 2014). Partial AI management of these tasks is perceived as problematic because it displaces central zones of professional judgement, consistent with concerns expressed in the literature regarding risks of deprofessionalisation and loss of agency linked to AI (Puja et al., 2025). In this perspective, negative affects can be interpreted as signals of professional resistance in the critical sense: they express less a rejection of AI than a protection of the heart of teaching work, understood as a relational, ethical, and situated activity.

6.4. Conditional and Situated Acceptance of Artificial Intelligence

Results also highlight a conditional and situated acceptance of AI's management of teaching tasks. Pre-service teachers neither reject outright nor accept without reservation the partial management of tasks. They consider this partial management as dependent on the tasks with which AI is associated and the transformations it infers in teaching work. This is less conditional on their comfort in performing these tasks or their attachment than on the nature of the tasks themselves. These results align with critiques of individually centred technology adoption models that tend not to explicitly consider the identity dimensions of teaching tasks (Selwyn, 2019). Regarding training, these results suggest that educating about AI cannot be limited to technical tool appropriation. It also involves supporting pre-service teachers in critical reflection on teaching tasks, their purposes, and the limits of their partial management by AI, in order to develop a capacity to judge and negotiate AI uses according to professional situations.

6.5. Limitations and Perspectives

This study has certain limitations. It relies on declarative data collected from pre-service teachers, referring to anticipated perceptions rather than lived scenarios of partial task

management by AI. The quantitative descriptive approach identifies regular configurations but does not provide in-depth account of the meanings attributed to tasks. Finally, the categorisation of affects and the absence of institutional context consideration invite interpreting results as situated and exploratory. These limitations call for further research with in-service teachers, mobilising qualitative approaches and integrating training contexts and the AI literacy level of pre-service teachers into the analysis.

Conclusion

This study aimed to better understand how pre-service teachers perceive the partial management of different teaching tasks by artificial intelligence. It articulates perceived comfort with tasks, attachment to these tasks, and affects expressed should these tasks be partially managed by AI. The contribution of activity theory (Engeström, 2014) highlights that, for pre-service teachers, AI as a mediation tool does not transform teaching work homogeneously. Its use should generate variable tensions depending on teaching tasks and the object of the activity performed. The affects expressed by pre-service teachers enable understanding of how they perceive the transformation of their work, clearly highlighting tasks for which they perceive AI as an aid, resist, or adopt an exploratory posture.

Results clearly show that pre-service teachers' reactions to partial task management by AI vary according to task type. They reveal four types of task configurations: protected tasks perceived as non-delegable, relational tasks requiring tight human control, pedagogical tasks subject to prudent exploration, and support tasks more easily reconfigurable by AI. By adopting a task-centred analysis, this research has contributed to moving beyond conventional approaches that perceive technological acceptance in a general manner—approaches often criticised for their simplistic character that does not consider that teaching work varies according to the tasks performed and the tools used (Selwyn, 2011, 2019).

References

- An, P., Bakker, S., & Eggen, B. (2017). Understanding teachers' routines to inform classroom technology design. *Education and Information Technologies*, 22(4), 1347–1376. <https://doi.org/10.1007/s10639-016-9494-9>
- Bouakaz, L., & Khalid, S. (2025). AI in education: A sociological exploration of technology in learning environments. *Frontiers in Education*, 10, 1700876. <https://doi.org/10.3389/educ.2025.1700876>
- Browes, N., & Altinyelken, H. K. (2022). Professionalism in the era of accountability: Role discrepancy and responses among teachers in the Netherlands. *The British Journal of Sociology*, 73(1), 188–205. <https://doi.org/10.1111/1468-4446.12917>
- Chaudhry, M. A., & Kazim, E. (2022). Artificial Intelligence in Education (AIEd): A high-level academic and industry note 2021. *AI and Ethics*, 2(1), 157–165. <https://doi.org/10.1007/s43681-021-00074-z>
- Cheng, X., Xie, H., Hong, J., Bao, G., & Liu, Z. (2022). Teacher's emotional display affects students' perceptions of teacher's competence, feelings, and productivity in online small-group discussions. *Frontiers in Psychology*, 12, 795708. <https://doi.org/10.3389/fpsyg.2021.795708>
- Dangol, A., Kotiyal, S., Wolfe, R., Bowers, A. J., Vigil, A., Yip, J., Kientz, J. A., Shahid, S., Yeh, T., Cho, V., & Davis, K. (2025). Relief or displacement? How teachers are negotiating generative AI's role in their professional practice (Version 1). arXiv. <https://doi.org/10.48550/ARXIV.2510.18296>
- Dilekçi, Ü., Limon, İ., Manap, A., Alkhulayfi, A. M. A., & Yıldırım, M. (2025). The association between teachers' positive instructional emotions and job performance: Work engagement as a mediator. *Acta Psychologica*, 254, 104880. <https://doi.org/10.1016/j.actpsy.2025.104880>
- Engeström, Y. (2014). *Learning by Expanding: An Activity-Theoretical Approach to Developmental Research* (2nd ed.). Cambridge University Press. <https://doi.org/10.1017/CBO9781139814744>
- Ferman, B., Lima, L., & Riva, F. (2021). *Artificial Intelligence, Teacher Tasks and Individualized Pedagogy*. Center for Open Science.
- Gohier, C., Anadón, M., Bouchard, Y., Charbonneau, B., & Chevrier, J. (2002). La construction identitaire de l'enseignant sur le plan professionnel: Un processus dynamique et interactif. *Revue des Sciences de l'éducation*, 27(1), 3–32. <https://doi.org/10.7202/000304ar>
- Greene Nolan, H., Coenraad, M., & Young, V. (2024). Teaching Partner, Grading Assistant, Substitute Teacher: Three Ways Teachers Positioned an Artificial Intelligence Tool in Writing Instruction. *Digital Promise*. <https://doi.org/10.51388/20.500.12265/226>
- Grimalt-Alvaro, C., & Ametller, J. (2021). A cultural-historical activity theory approach for the design of a qualitative methodology in science educational research. *International Journal of Qualitative Methods*, 20, 16094069211060664.

- Guillemette, F. (2006). *L'engagement des enseignants du primaire et du secondaire dans leur développement professionnel* [Doctoral thesis, Université du Québec à Montréal]. <https://archipel.uqam.ca/1939/>
- Huang, X., Lee, J. C.-K., & Frenzel, A. C. (2020). Striving to become a better teacher: Linking teacher emotions with informal teacher learning across the teaching career. *Frontiers in Psychology*, 11, 1067. <https://doi.org/10.3389/fpsyg.2020.01067>
- Isma'il, A., & Ibrahim, H. B. (2025). Teachers' professional identity in the era of artificial intelligence: A phenomenological study. *International Journal of Professional Development, Learners and Learning*, 7(2), e2517. <https://doi.org/10.30935/ijpdl/17416>
- Koh, J., Cowling, M., Jha, M., & Sim, K. N. (2025). Evaluation of the AI-Teacher Teaching Tasks Spectrum via Practitioner Review. *Intelligent Technologies in Education*. <https://doi.org/10.53761/ITED/1.8>
- Kwarteng, J. T., & Sappor, P. (2021). Preservice teachers' self-efficacy in teaching cost accounting. *Education Research International*, 2021, 1–11. <https://doi.org/10.1155/2021/9140161>
- Lin, Y., Jiang, Y., & Lei, J. (2025). Generative AI and teacher professional identity development: A case study on L2 Chinese reading materials development. *Computer Assisted Language Learning*, 1–22. <https://doi.org/10.1080/09588221.2025.2592620>
- Liu, Q., & Geertshuis, S. (2016). Professional identity and teachers' learning technology adoption: A review of adopter-related antecedents. *ASCILITE Publications*, 365–374. <https://doi.org/10.14742/apubs.2016.809>
- McAvinia, C. (2016). Activity Theory. In *Online Learning and its Users* (pp. 59–100). Chandos Publishing. <https://doi.org/10.1016/B978-0-08-100626-9.00003-4>
- Miettinen, R. (2001). Artifact mediation in Dewey and in cultural-historical activity theory. *Mind, Culture, and Activity*, 8(4), 297–308. https://doi.org/10.1207/S15327884MCA0804_03
- Mishra, S. (2025). Artificial intelligence as a mediator between educator and learner: The new paradigm shift. *International Journal of Research and Innovation in Applied Science*, X(VII), 91–95. <https://doi.org/10.51584/IJRIAS.2025.100700008>
- Oh, S., & Ahn, Y. (2024). Exploring teachers' perception of AI: The socio-emotional deficiency as opportunities and challenges in human-AI complementarity in K-12 education. *International Conference on Artificial Intelligence in Education*, 439–447.
- Palet, L. (2023). Revaloriser les enseignants par l'engagement? La reconnaissance du travail et ses implicites. *Revue Française de Pédagogie*, 221, 17–32. <https://doi.org/10.4000/11w09>
- Pi, Z., Yang, H. H., Chen, W., Hu, X., & Li, X. (2022). The role of teachers' emotions in students' outcomes: From the perspective of interpersonal emotions. *Frontiers in Psychology*, 13, 1075110. <https://doi.org/10.3389/fpsyg.2022.1075110>
- Puja, T., Digar, S. F., Anjana, B., & Rakhi, T. (2025). AI in classrooms: Impact on teacher identity and autonomy. *I-Manager's Journal on School Educational Technology*, 20(4), 39. <https://doi.org/10.26634/jsch.20.4.21964>

- Reynolds, A. (1990). *Developing a Comprehensive Teacher Assessment Program: New Pylons on a Well-Worn Path*.
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44(4), 695–729. <https://doi.org/10.1177/0539018405058216>
- Selwyn, N. (2011). ‘It’s all about standardisation’ – Exploring the digital (re)configuration of school management and administration. *Cambridge Journal of Education*, 41(4), 473–488. <https://doi.org/10.1080/0305764X.2011.625003>
- Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. John Wiley & Sons.
- Setiyowati, R., & Ardaniah, V. (2025). A systematic review of AI-based and teacher-based writing assessment. *ELLiC Proceedings*, 8. <https://jurnal.unimus.ac.id/index.php/ELLIC/article/view/18463>
- Tripathi, T., Sharma, S. R., Singh, V., Bhargava, P., & Raj, C. (2025). Teaching and learning with AI: A qualitative study on K-12 teachers’ use and engagement with artificial intelligence. *Frontiers in Education*, 10, 1651217. <https://doi.org/10.3389/educ.2025.1651217>
- Van Dijk, E. E., Van Tartwijk, J., Van Der Schaaf, M. F., & Kluijtmans, M. (2020). What makes an expert university teacher? A systematic review and synthesis of frameworks for teacher expertise in higher education. *Educational Research Review*, 31, 100365. <https://doi.org/10.1016/j.edurev.2020.100365>
- Wang, J., Huang, F., & Teo, T. (2025). Emotional attachment and resistance to change in the use of technology: A study among Chinese university music teachers. *PLOS One*, 20(7), e0327205. <https://doi.org/10.1371/journal.pone.0327205>
- Xie, X., Du, C., Cheng, J., & Zhang, H. (2026). From believing to behaving: Unpacking teacher emotion as the mediator between information literacy self-efficacy and information-empowered teaching engagement. *Frontiers in Psychology*, 16, 1696627. <https://doi.org/10.3389/fpsyg.2025.1696627>