

Article

Generative AI in Norwegian English Classrooms: Exploring Teacher Adoption Through UTAUT

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Abstract

Generative Artificial Intelligence (GenAI) has the potential to bring substantial benefits to language education, making it essential to examine how teachers engage with these technologies in practice. This exploratory qualitative case study draws on semi-structured interviews with four in-service upper-secondary English teachers in Norway to examine the factors shaping their engagement with GenAI. Drawing on the Unified Theory of Acceptance and Use of Technology (UTAUT), the study examined factors shaping teachers' engagement with GenAI, including performance expectancy, effort expectancy, social influence, and facilitating conditions. Thematic analysis revealed a pattern of selective, context-sensitive use rather than straightforward adoption. While teachers recognised the potential of GenAI to support planning, idea generation, and formative feedback, their engagement was constrained by concerns about assessment validity, academic integrity, privacy, and institutional guidance. The findings suggest that teachers' use of GenAI is shaped not only by perceptions of usefulness and ease of use but also by trust, assessment considerations, and the availability of clear policy frameworks. By using UTAUT as a qualitative analytical lens, this study contributes to research on technology acceptance and teacher agency by showing how teachers negotiate the use of GenAI in ways that reshape assessment practices and professional roles. The findings point to the need for clear institutional guidance, AI-resilient assessment practices, and targeted teacher education that supports ethical, pedagogically grounded use of GenAI.

Keywords: GenAI; UTAUT; technology acceptance; AI-supported language education

1. Introduction

Across global education systems, generative AI (GenAI) is considered as a strategic innovation capable of strengthening educational quality and supporting teachers and learners (Xu et al., 2025). GenAI is also increasingly recognised in language education for its ability to assist teachers with instructional design, personalised content creation, and enhanced pedagogical awareness (Tram, 2025). Recent studies have suggested that GenAI tools can streamline lesson planning and material development, support the design of creative activities, tailor instruction to learners' needs, and enhance student engagement and learner satisfaction (Kohnke et al., 2023a; Tafazoli & McCallum, 2025; Yang & Li, 2024). These uses may reduce teachers' workload (Tram, 2025), enhance professional confidence, and strengthen instructional effectiveness (Tafazoli & McCallum, 2025). Recent research shows that GenAI tools can enhance English language teaching by supporting lesson preparation, personalised learning, language practice, assessment, classroom interaction, and learner motivation. These affordances contribute directly to language and skills



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development. Writing is supported through feedback, drafting, and revision assistance (Kohnke et al., 2023a; Kasneci et al., 2023), including real-time formative feedback and scaffolded revision (Luo et al., 2025; Deng & Jamaludin, 2026), as well as vocabulary expansion and model text generation (Law, 2024). Reading is facilitated through text adaptation and comprehension scaffolding (Lin et al., 2025). Speaking is enhanced through AI dialogue partners (Andreou & Christani, 2025; Goh & Aryadoust, 2025; Moorhouse & Kohnke, 2024; Yeh, 2025; Guan et al., 2025), while listening benefits from multimodal input generation (Goh & Aryadoust, 2025). Beyond skill development, GenAI provides learners with personalised learning (Law, 2024), promotes iterative practice and learner autonomy, and supports formative assessment through automated, rubric-aligned feedback while also reducing teacher workload via lesson planning and material generation (Law, 2024; Deng & Jamaludin, 2026). Studies also report stronger engagement and improved learning experiences when AI is integrated within teacher-led instruction (Guan et al., 2025).

At the same time, recent studies documented substantial concerns regarding AI integration in education, including the quality and reliability of AI output, ethical and assessment-related challenges, risks to academic integrity (Sun et al., 2025), and students' over-reliance on AI at the expense of developing independent language and critical thinking skills (Javed, 2024). Rana et al. (2024) further cautioned that the "shadow side" (p. 3) of AI in education includes the risk of biased or impoverished understanding, increased plagiarism and reduced academic integrity, diminished social and interpersonal skill development, and heightened concerns about privacy and data security.

Despite these tensions, GenAI is becoming increasingly widespread in everyday school practices, and secondary school language teachers are already increasingly adopting these tools (Shakri et al., 2025; Nyudak et al., 2025; Žammit, 2025) for planning, material development (Žammit, 2025), and feedback support (Apoko, 2025). However, this adoption is often described as cautious, uneven across school types and experience levels (Žammit, 2025), and strongly mediated by beliefs about pedagogy, teacher identity, and responsibility for student learning (Kildē, 2024). As AI becomes more prominent in education, understanding teachers' intentions and practices with generative AI is increasingly important, since successful integration relies on their acceptance and pedagogical agency (Kumar & Sharma, 2025). Despite the rapid and ongoing development of AI tools, research on language teachers' perceptions and use of GenAI remains limited, warranting further exploration of how teachers relate to these technologies in practice (Tram, 2025). Since teachers' acceptance and sustained use are prerequisites for realising the educational benefits of AI, there is a growing need to examine the factors shaping how language teachers engage with GenAI.

Responding to this need, this study asks: what factors shape in-service English language teachers' engagement with generative AI in their teaching, as interpreted through the UTAUT framework? To address this question, the study draws on the Unified Theory of Acceptance and Use of Technology (UTAUT) as an analytical framework and uses semi-structured interviews to develop a context-sensitive understanding of how teachers make sense of and negotiate GenAI in their everyday practice. This focus is particularly relevant in the Norwegian context, where the national curriculum frames digital competence as a fundamental skill and positions teachers as key agents of educational change in a rapidly evolving digital society (The Norwegian Directorate for Education and Training, 2025). Without a deeper understanding of the factors that facilitate or constrain teachers' willingness to integrate GenAI, such policy ambitions may have limited impact on classroom practice and long-term educational outcomes.

2. Literature Review

2.1. Language Teachers' Adoption of GenAI

Language teachers have been integrating GenAI into their practices due to its perceived practical and pedagogical affordances. GenAI tools are perceived to enhance teaching efficiency and reduce workload (Moorhouse et al., 2024). Teachers report using GenAI mainly to support lesson planning, material development, idea generation, and feedback preparation, as these uses reduce time pressure and streamline routine professional tasks (Kohnke et al., 2023b; Liu, 2025; Song et al., 2025). In Song et al.'s case study, many teachers reported adopting GenAI as an "efficiency-enhancing" tool, suggesting that pragmatic benefits often function as the entry point to adoption.

In addition to efficiency, teachers adopted GenAI in their classes for its perceived pedagogical value. Kildé's (2024) systematic review of 12 empirical studies in foreign language education demonstrated that teachers increasingly view GenAI as a resource for differentiation, generating examples and explanations, and scaffolding learning, although actual classroom integration remains uneven and constrained by competence gaps. Liu (2025) similarly reported that teachers used GenAI tools to support their teaching. According to Song et al. (2025), teachers as pedagogical innovators deliberately experimented with GenAI to redesign tasks and learning activities. In language teacher education contexts, explicit training was documented to further strengthen these motivations by increasing teachers' pedagogical confidence and professional competence with GenAI, making adoption more purposeful and less experimental (Moorhouse et al., 2024).

Professional responsibility and future-oriented concerns also seemed to play a role. Teachers reported adopting GenAI because they perceived engagement with such tools as necessary to remain professionally informed and to develop their own and their students' AI-related competencies (Kohnke et al., 2023b). Kildé (2024) similarly claimed that teachers' interest in GenAI is linked to the perceived need to develop both their own and their students' AI-related competences in rapidly changing educational environments. Thus, research suggests that generative AI is not only influencing classroom practices but is also reshaping teachers' professional roles, preparedness, and perceptions of their work. Questions of competence, identity, responsibility, and professional development, therefore, emerge as central to understanding language teachers' adoption of GenAI.

2.2. Factors Shaping Language Teachers' Adoption of GenAI

Teachers' adoption of GenAI is determined by a complex ecology of competence, beliefs, ethical judgment, and institutional conditions. Eedelouei (2026) identified a range of factors influencing teachers' use of GenAI, including competence, professional identity, contextual and structural conditions, emotional factors, and pedagogical, ethical, and assessment-related tensions. In this study, rather than a linear process of uptake, GenAI integration was reported to be uneven, negotiated, and developmental. Song et al. demonstrated that teachers follow different integration trajectories and assume different user positions (ranging from cautious adapters to innovators), depending on how individual, technological, and environmental factors interact over time.

Teachers' digital competence, pedagogical knowledge, confidence, and prior experience with technology also influenced their adoption of GenAI tools. Both Kohnke et al. (2023b) and Kildé (2024) reported that many language teachers feel underprepared to use GenAI meaningfully, even when their attitudes are generally positive, due to limited AI-related pedagogical knowledge and insufficient training. This competence gap often limited GenAI use to low-risk, preparatory tasks rather than deeper integration into instruction. From a teacher agency perspective, Eedelouei (2026) claimed that teachers'

GenAI-related decisions are best understood as practical–evaluative judgements shaped by material, structural, and cultural conditions, rather than as simple acceptance or resistance.

In addition, concerns about reliability, hallucinations, academic integrity, overreliance, and the potential constraints on students' critical thinking and learning agency act as strong moderating forces. [Liu \(2025\)](#) demonstrated that these concerns shape not only whether teachers use GenAI themselves, but also whether they endorse students' use of it. At the institutional and contextual levels, the absence of clear guidelines, limited infrastructure, time pressure, and weak support for professional development further constrain adoption. However, it was also argued that targeted teacher education and professional development can significantly mediate these constraints. [Moorhouse et al. \(2024\)](#) showed that explicit training enhances teachers' professional competence with GenAI, although some dimensions (e.g., guiding students' responsible use) remain more difficult to develop.

2.3. Applying the UTAUT Model to Teachers' Adoption of Generative AI

UTAUT is a theoretical framework for analysing and predicting the factors influencing an individual's intention to adopt and use new technologies. Developed by [Venkatesh et al. \(2003\)](#), the model posits four core constructs that impact intention and behaviour: performance expectancy (perceived usefulness for job performance), effort expectancy (perceived ease of use), social influence (perceived social pressure or encouragement to use), and facilitating conditions (perceived organisational and technical support for effective technology use). In the context of English as a Foreign Language (EFL) pedagogy, performance expectancy refers to the extent to which teachers believe that generative AI will enhance their teaching effectiveness, for example, by streamlining lesson planning or providing personalised feedback ([Zaim et al., 2024](#)). Effort expectancy captures the perceived ease of use associated with these tools, which is crucial for teachers navigating the technical complexities of AI ([Zhuang & Li, 2025](#)). Social influence examines the impact of the opinions of important others, such as school leadership or colleagues, on a teacher's decision to use AI, while facilitating conditions involve the availability of technical support and institutional infrastructure ([Xue et al., 2025](#)), as well as knowledge sharing ([Maipita et al., 2023](#)) necessary for integration.

Recent research that used UTAUT to investigate AI adoption in educational settings suggested that teachers' engagement with GenAI was shaped by multiple factors, including individual, contextual, and technological conditions, with perceived usefulness, attitudes, trust, and technological pedagogical content knowledge TPACK emerging as key drivers ([Xu et al., 2025](#)). [Zhang and Wareewanich \(2024\)](#) investigated the factors influencing preschool teachers' willingness to use generative AI using the UTAUT framework. The study found that teachers' adoption of generative AI was primarily shaped by perceived usefulness, social and institutional support, and infrastructural conditions, rather than by perceived ease of use, highlighting the importance of organisational support and professional capacity-building for AI integration in education. Similarly, [Tram \(2025\)](#) concluded that language teachers' AI integration was driven by adoption intention, which was mainly shaped by performance expectancy, effort expectancy, and AI self-efficacy. These beliefs were strongly influenced by teachers' AI-TPACK (their knowledge of pedagogical, content, and AI-related integration). Facilitating conditions were reported to play an indirect role, supporting the development of this knowledge base rather than directly driving adoption.

Researchers have also expanded the UTAUT framework to include additional dimensions, such as trust and privacy, to better explain adoption in academic settings ([Rana et al., 2024](#)). While UTAUT offers a useful lens for examining technology adoption, generative AI raises context-specific considerations that extend beyond its original constructs. In

educational settings, teachers' engagement with GenAI is often shaped by experimentation and professional judgement, rather than perceived usefulness alone. The distinction between exploratory and strategic behavioural intent captures whether teachers are informally testing AI in low-stakes contexts or integrating it more deliberately into sustained pedagogical practice, a pattern increasingly noted in emerging GenAI classroom research (e.g., Moorhouse et al., 2024; Moorhouse & Kohnke, 2024). Privacy and trust also surfaced as central concerns. There are concerns about student data protection, ethical responsibility, and institutional policy issues that are widely documented in AI-in-language education research (Akman Yeşilel, 2025; Peer Mohamed, 2024; Selvam & González Vallejo, 2025). These extensions were therefore included to better reflect the conditions shaping teachers' adoption decisions.

Systematic reviews indicated that while performance expectancy is the strongest predictor of intention to use AI, the adoption process is also shaped by the users' career development stage and regional resource support (Zhuang & Li, 2025). Furthermore, the framework was often combined with TPACK to ensure that technological adoption is grounded in professional development and teacher learning (Dogan et al., 2025). While UTAUT is often used in quantitative studies to measure how strongly different factors influence technology use, it is increasingly being used in qualitative studies to help make sense of people's experiences with technology. To illustrate, Xue et al. (2025) noted that researchers are increasingly integrating UTAUT with qualitative methods to capture nuances that surveys miss. They argue that qualitative research is necessary to explore deeper insights into how educational stakeholders perceive AI and suggest that UTAUT provides the theoretical scaffold to organise these insights, including specific ethical anxieties and human–AI collaboration experiences within the specific educational context.

3. Methodology

This study adopts an exploratory qualitative case study design (Yin, 2018) to examine how upper-secondary English teachers in Norway experience and make sense of the use of generative AI in their teaching. The study draws on semi-structured interviews with four teachers from the same upper secondary school in a mid-sized urban municipality in southeastern Norway. The school serves approximately 1250 students across academic and vocational programmes and reflects a diverse student population. At the time of data collection in 2024, students were provided with personal laptops or iPads, and digital platforms were routinely integrated into teaching and assessment practices. This technology-rich environment meant that generative AI tools were readily accessible to students, even though formal school-level policies regulating their use were still under development.

At the time of data collection in 2024, Norway did not yet have unified national guidelines specifically regulating the classroom use of generative AI. Instead, governance was largely decentralised, with higher education institutions (and by extension educational sectors) developing their own policies and recommendations. Comparative analyses of Nordic institutions revealed considerable variation and gaps in AI guidance, reflecting an emergent, locally interpreted policy landscape (Jóhannesdóttir et al., 2025).

3.1. Participants

The study involved four upper-secondary school teachers who worked in the same Norwegian school context. The participants were recruited through convenience sampling, based on their accessibility and willingness to participate. While limited in size, the sample reflected variation in teaching experience and self-reported familiarity with generative AI tools, capturing diverse perspectives. There were three female teachers and one male teacher. Their teaching experience ranged from 10 to 30 years. All participants held at least a

master’s degree, and one held a doctoral degree. Alongside English, their teaching subjects included Norwegian, social sciences, history, and French, reflecting the interdisciplinary background of language teachers in upper-secondary education. The participants also differed in their self-reported familiarity with generative GenAI tools, ranging from very limited familiarity to moderate and sustained experimentation. To protect anonymity, all names used in this article are pseudonyms. Table 1 provides an overview of the participants’ background characteristics.

Table 1. Profile of the participating teachers.

Pseudonym	Gender	Teaching Experience	Highest Degree	Subjects Taught	Self-Reported Familiarity with GenAI Tools
Astrid	Female	14 years	PhD	English, Social Sciences	Very low
Anna	Female	10 years	MA	English, Social Sciences, French	Low
Anne	Female	30 years	MA	English, Norwegian	Low
Anders	Male	20 years	MA	English, Social Sciences, History	Moderate

Although the study includes only four participants, this is consistent with the exploratory case study design, which aims to gain depth rather than broad generalisation (Merriam & Tisdell, 2016). The sample was sufficient given the focused aim of the study and the richness of the interview data, in line with the principle of information power (Malterud et al., 2016). The small number of participants enabled close, detailed engagement with each teacher’s account and supported an in-depth examination of how generative AI is encountered and understood in everyday professional practice. During analysis, themes were developed iteratively across cases, and no substantially new patterns emerged in later stages. While the findings are grounded in a single school context, detailed contextual descriptions are provided to help readers assess the relevance of the results to similar settings (Lincoln & Guba, 1985).

3.2. Data Collection

Data were collected through semi-structured one-on-one interviews conducted online via Zoom, a video-conferencing platform that enables real-time audio and video communication. The interviews were conducted during the spring term of the 2024 academic year, and each lasted 35 to 50 min. Prior to data collection, all participants received a written information letter describing the purpose of the study, the types of questions to be asked, the voluntary nature of participation, and how data would be stored and used. The interview guide was shared with the participants in advance, allowing them time to familiarise themselves with the topics and reflect on their experiences before the interview. Written informed consent was obtained from all participants before the interviews. The study was conducted in accordance with Norwegian research ethics regulations and received ethical approval from the Norwegian Agency for Shared Services in Education and Research (SIKT).

The interviews were organised around four main thematic areas. The first part focused on background information, including teaching experience, institutional context, student groups, and educational background. The second part explored teachers’ general views and prior knowledge of generative AI, including their perceptions of its potential role in education, their self-reported familiarity with generative AI tools, and whether and how they had used them (such as DALL.E, Canva, ChatGPT, and Grammarly). The third part of the interview focused on experiences with and perceived pedagogical uses of generative AI, including specific functions participants had tried (e.g., lesson planning, material development, or assessment-related tasks), as well as perceived benefits and challenges. The final part addressed ethical considerations, inviting participants to reflect on issues

such as academic integrity, student learning, and responsible use, and to discuss how generative AI might be used ethically and pedagogically in English language teaching. All interviews were conducted in English, audio-recorded, and transcribed verbatim for analysis, totalling 25,928 words. To ensure confidentiality, all identifying information was removed from the transcripts, and participants were assigned pseudonyms.

3.3. Data Analysis

The interview data were analysed using both a theory-informed and data-driven thematic analysis approach. All transcripts were imported into NVivo (version 14), a qualitative data analysis software, to support systematic coding, organisation, and retrieval of the data. The analysis followed [Braun and Clarke's \(2021\)](#) reflexive thematic analysis approach, involving repeated reading, initial coding, theme development, and refinement.

In the first phase, the analysis was guided by the UTAUT framework ([Venkatesh et al., 2003](#)) and two extension dimensions (exploratory and strategic behavioural intent and use, and privacy and trust) ([Rana et al., 2024](#); [Xu et al., 2025](#)). An initial coding scheme was developed based on the core UTAUT constructs involving performance expectancy, effort expectancy, social influence, and facilitating conditions, as well as related concepts such as AI-self-efficacy. The transcripts were reviewed, and data were coded using these theoretically informed categories to examine how teachers' accounts reflected or challenged the UTAUT dimensions.

After deductive coding in the second phase, the analysis was extended using an inductive, data-driven approach to identify themes not fully captured by the UTAUT framework. This involved open coding, allowing additional patterns, concerns, and interpretive frames to emerge from the data. These inductive codes were then compared, refined, and grouped into broader themes, which were subsequently examined in relation to the UTAUT constructs. This iterative movement between theory and data enabled the analysis to remain both theoretically grounded and empirically open ([Proudfoot, 2023](#)). In the deductive phase, excerpts such as "I use it to brainstorm ideas but not for grading" were coded under performance expectancy and exploratory and strategic use, while statements such as "I don't trust where the data goes" were coded under privacy and trust. In the inductive phase, related codes were grouped into broader themes through iterative comparison across transcripts. Thus, the core analytical categories aligned with UTAUT were deductively derived from the literature, whereas the additional themes concerning shifts in assessment practices and professional roles emerged inductively from the data. This hybrid strategy ensured both theoretical coherence and sensitivity to context-specific insights. Data analysis, using both deductive and inductive coding, was iterative and recursive, involving repeated readings of the transcripts, continuous refinement of the coding structure, and ongoing comparisons across cases. After some time had passed, a selection of transcripts was reviewed and recoded to confirm that the interpretations were stable. The trustworthiness of the study was maintained in line with [Lincoln and Guba's \(1985\)](#) criteria through systematic coding, reflexive and transparent documentation of analytic decisions, and the generation of contextualised descriptions of the research setting and participants.

4. Findings

4.1. Findings Within the UTAUT Framework

This section presents the findings of the qualitative analysis organised within the UTAUT framework and its extensions. The analysis identified themes that outline how teachers make sense of, evaluate, and adopt (or refrain from adopting) generative AI in their professional practice. As shown in [Table 2](#), these themes reflected not only core UTAUT constructs (performance expectancy, effort expectancy, social influence, and facilitating con-

ditions), but also two extension dimensions (exploratory and strategic behavioural intent and use, and privacy and trust) which emerged as central in shaping teachers' adoption.

Table 2. Emerging themes in the UTAUT framework and its extensions.

	Theme	Definition	Evidence from Transcripts
Extensions	Exploratory and strategic behavioural intent and use	An exploratory, limited and strategic plan to use AI vs. an actual classroom application.	Students interviewed the AI pretending or asked AI to be a famous person, for instance, Napoleon. . . it could be a way to create authentic oral situations. (Anne)
	Privacy & trust	Concerns over the reliability of AI output, the "Shortcut" culture emerging among students, data protection, surveillance, and misuse.	I get that the school must protect them, but honestly, do you know how much data is being collected daily (Astrid)
UTAUT Constructs	Performance expectancy	Belief that AI will improve teaching/learning efficiency.	It makes me more motivated. . . because I have to rethink how I teach (Anders)
	Effort expectancy	Perceived ease of use of the AI technology.	I think we started with Google Translate, and now, with ChatGPT, especially, it's too easy to for students to just ask a question and then you get a text back. (Anna)
	Social influence	Multi-directional Influence of peers, school administration, or society.	I talked to some teachers who told me that they have used AI as a communication partner (Anne)
	Facilitating conditions	Insufficient infrastructure, school policies, and support.	Teachers, we have not been allowed to use ChatGPT in class until now, because of students' personal data protection concerns (Astrid)

4.1.1.1. Behavioural Intent & Use: Teachers' Current Uses and Non-Uses of Generative AI

Teachers' responses about their adoption of GenAI varied, ranging from active, systematic experimentation to deliberate avoidance. To illustrate, Anders reported using GenAI extensively and openly in classroom practice. His use included lesson planning, generating activity ideas, producing example texts, supporting feedback processes, and encouraging students to use AI as a learning aid for drafting, revising, and reflecting on their work. In this case, AI was framed as a collaborative tool, and its use was explicitly discussed with students and other colleagues.

In contrast, Anne and Astrid tended to report very limited and cautious engagement with generative AI. While they were aware that students used such tools, they largely avoided integrating them into their teaching. Their non-use seemed to stem from concerns about privacy, data protection, and the difficulty of verifying students' independent work. As Anne noted, the risk of undermining trust in the teacher–student relationship and the uncertainty surrounding authorship made the use of AI in assessed work particularly problematic. Anna, on the other hand, occupied a middle position, using generative AI occasionally for inspiration, material development, or demonstration purposes, but avoiding systematic integration into assessment practices. This teacher described AI as potentially useful, yet difficult to incorporate in a pedagogically and ethically responsible way under current conditions.

Across all four cases, generative AI was used more readily for planning, preparation, and low-stakes learning activities than for assessment practices involving text production. Even the most active user, Anders, was careful to limit when and how AI could be used, while the more cautious teachers responded by redesigning tasks and assessments to make AI less central. These findings suggest that teachers' current practices are better described

not as adoption versus rejection, but as selective, context-sensitive decisions about when, where, and how to use AI in everyday teaching.

4.1.2. Privacy & Trust

Concerns about privacy and trust emerged as factors shaping teachers' willingness to engage with generative AI. Participants expressed unease not only about data protection and surveillance, but also about the pedagogical reliability and cultural appropriateness of AI-generated content. Astrid questioned the broader data ecosystem surrounding such tools, noting, *"I get that the school must protect them, but honestly, do you know how much data is being collected daily?"* Similarly, Astrid stated a tension about exposing the privacy of the students: *"We're told to embrace AI, but at the same time we're told not to use it because it can expose the students."* These perspectives emphasized how privacy concerns extended beyond the classroom to systemic issues of data governance.

At the same time, Anna raised concerns about how students use AI outputs, noting that *"they don't really work on it at all. They just deliver whatever they got from ChatGPT,"* and thus there were questions about *"whether or not AI is ethical to use it. . . or if it should be considered cheating"*, undermining trust in student work. Furthermore, Astrid commented: *"Confronting a student about this is not a pleasant experience. . . and you don't necessarily have evidence."* These findings suggested that trust in both the technology and its educational consequences inhibited adoption. Even when generative AI is perceived as potentially useful, concerns about privacy, misuse, and reliability constrained teachers' willingness to integrate it into their practice. On the other hand, it is important to note that Anders suggested trust needed to be negotiated and actively built through teaching practices: *"Cheating doesn't end up well. . . you end up learning nothing. We should raise awareness on this".*

4.1.3. Performance Expectancy

In terms of performance expectancy, all teachers described generative AI as potentially useful for specific, bounded pedagogical purposes, particularly for lesson planning, idea generation, text modelling, and support materials. Anders explained that he uses AI to *"get ideas for tasks and projects"* and to help structure teaching materials, while Anna mentioned using it to find or adapt texts and to generate example materials: *"I think the benefits definitely are that ChatGPT can give more examples of things to do in the classroom, either new ways to analyse the text or other ways to work with a short story or alternative ways maybe of working with a short story or examples of short stories or texts that maybe I wouldn't have found myself"*. Anne similarly noted that AI could be useful for *"planning and preparing lessons"* and for getting suggestions when designing tasks, even though she herself had only experimented with it to a limited extent.

At the same time, this perceived usefulness was limited and conditional. Astrid, for instance, stated that while AI can produce texts that look *"really good,"* they are often *"very vague"* and therefore not always suitable as direct teaching materials. Likewise, Anna criticised the style and cultural framing of the output, describing it as *"a very Americanized version. . . with a lot of flowery language,"* which she found limited its usefulness in her specific teaching context. Overall, teachers' performance expectancy was thus pragmatic rather than enthusiastic: generative AI was seen as helpful for preparation and support work, but not as a universally reliable pedagogical resource.

4.1.4. Effort Expectancy

Effort expectancy also played an important role in shaping teachers' engagement with generative AI. Several participants emphasised that using AI effectively is not effortless, as it requires careful prompting, critical evaluation of outputs, and adaptation to specific teaching purposes. Anne described her early attempts as frustrating, noting that *"maybe*

I asked the wrong questions or didn't give the right clues," and explained that the results she obtained were often not directly usable in her teaching. She considered AI was not a timesaver, but rather something that demands additional work and experimentation: *"It's quite a lot to grasp, actually. I think I need more hands-on training"*.

Astrid expressed a similar concern, explaining that even when AI produces seemingly good texts, *"you have to read it very carefully"* and *"check whether it fits the purpose"*, which again reduced the sense that the tool is easy or efficient to use. Astrid pointed out: *"For me, it was very time-consuming and challenging to integrate."* By contrast, Anders appeared more willing to invest time in experimenting and refining prompts, but even in his account, effective use was described as requiring trial and error rather than being immediately intuitive.

4.1.5. Social Influence

Social influence was exemplified in multiple forms. All teachers noted that generative AI is already widely used by students, often in ways teachers do not control. Anne described how students openly discuss using AI, making it *"an unavoidable part of school life,"* which creates bottom-up pressure. Even teachers who were sceptical felt they had to at least be familiar with the technology, since students were already using it.

Social influence also stemmed from professional conversations and examples from colleagues. Anna noted that *"we have had several people who have spoken about the good things and how to use it."* Similarly, Anne explained, *"I talked to some teachers who told me that they have used AI as a communication partner,"* suggesting that colleagues' experiences function as a reference point for what is possible in practice. She further stated, *"There were some other teachers at the school who mentioned that they used it for assessing. So, I tried to do that. I tried to see whether I could offer more constructive feedback to them, and whether ChatGPT could do the same. I asked one of the students if it was right for me to use it"*.

4.1.6. Facilitating Conditions

Facilitating conditions emerged as a major constraining factor across all teachers' responses. Several teachers pointed to the lack of clear institutional guidelines, approved tools, and coherent policies for using generative AI in teaching. Anne declared, *"Because of students' privacy. . . we have not been allowed to use it,"* and added that the absence of clear rules makes the situation *"really frustrating"*. Astrid similarly highlighted the lack of reliable guidelines for monitoring or verifying AI use, which made it difficult to implement the technology responsibly. Even Anders, who was the most active user, described working largely without formal support structures, relying instead on his own judgement and experimentation. Overall, the data suggested that weak facilitating conditions significantly limited adoption, even when perceived usefulness was relatively high.

4.2. Findings Beyond UTAUT: Factors That Impact Teachers' Adoption of GenAI

While the UTAUT framework helped explain important aspects of teachers' willingness and engagement with generative AI, the interviews also identified factors that impacted teachers' adoption of GenAI beyond UTAUT constructs. Across all four cases, the data implied two interrelated dimensions, (1) a shift in assessment practices and (2) a reorientation of teachers' professional roles, as summarised in Table 3. These shifts reflected broader pedagogical transformations rather than discrete adoption drivers and were therefore analysed separately as dimensions beyond the UTAUT framework. For some teachers, they prompted caution and selective non-use; for others, they emerged through active experimentation with generative AI. These themes seemed to extend beyond being additional factors influencing adoption. Rather, they tended to reflect a broader transformation of the teaching and assessment context in which adoption decisions are

made. For some teachers, these changes prompted caution and selective non-use; for others, they were consequences of active experimentation with generative AI.

Table 3. Emerging themes beyond the UTATUT framework.

Theme	Definition	Evidence from Transcripts
Shift in assessment	Reorienting assessment from product to process and reflection	<i>We cannot use tests and writing tasks as we have done. It has no meaning anymore (Anne)</i>
Shift in teacher roles	AI as a source of professional renewal; Teacher as guide, not knowledge gatekeeper	<i>The teacher needs to be a coach in the AI age (Anders)</i>

4.2.1. Shift in Assessment

Across the interviews, generative AI was described not merely as a new instructional tool, but as something that challenged the reliability and validity of writing-based assessment as evidence of student learning. Both Anne and Anna explained that they no longer felt confident that take-home or digital writing tasks could be treated as evidence of students' own words. As Anne put it, *"we cannot use tests and writing tasks as we have done. . . it has no meaning anymore,"* adding that traditional home assignments followed by grading *"cannot be done any longer"*. Similarly, Anna described how students openly admit to bringing *"extra phones"* to assessments, making authorship increasingly impossible to verify.

In addition, this was not framed simply as a problem of cheating or rule breaking. Rather, Astrid described doubts about what exactly teachers are assessing when generative AI can produce extensive texts with minimal effort. Astrid noted that AI-generated texts often looked *"really good"* but remained *"very vague"* and *"not grounded in anything concrete,"* making it increasingly difficult to judge what students learn. As she noted, even when teachers suspect AI use, *"I don't have any evidence that they have used ChatGPT,"* which further weakened confidence in assessment decisions.

This loss of trust in written outcomes has already led to changes in assessment practices. Anders explained that he now required students to submit not only a final product but also a written reflection on how they used ChatGPT, stating that *"they need to not only hand in the product, but also tell me how they have applied ChatGPT while using it"*. He also described designing projects that were not graded or only loosely connected to final grades, to *"make it less tempting to cheat"* and to allow room for experimentation. According to Anders this shift reflected a broader reconceptualisation of assessment: *"We can use AI for assessment. Not assessment of learning, but assessment for learning, because you can easily give feedback on text"*. Here, Anders distinguished between summative assessment of finished products and formative assessment that supports learning processes. He continued: *"Text will be as important as it was before, maybe not as an assessment product, but more of a learning product. . . . So, you can't assess them anymore on their retelling of facts, but you can assess them on how they work with research questions and how they try to argue for it and how they try to conclude around it"*. This perspective illustrated a shift from product-based evaluation toward process-oriented assessment, where reasoning, reflection, and argumentation become more central than factual reproduction.

Other teachers reported relying more heavily on oral examinations and in-class work, even though these solutions were described as time-consuming and unsustainable. Anne noted that she now conducts individual conversations with students about their texts because *"that is the only thing we can do,"* even though this may take *"15–20 min for each student"* in large classes. At the same time, teachers were sceptical of *"going backwards"* to hand-

written exams by abandoning laptops and iPads for in-class exams as an anti-plagiarism measure. Anna, for example, argued against this as both unrealistic and pedagogically misguided, claiming that students were no longer used to writing by hand and that national examinations remain digital.

Teachers argued that they experienced GenAI as exceeding performance expectations or perceived value, but as something that forced them to rethink what counts as evidence of learning. This assessment shift functioned in two ways regarding adoption. For Anne and Astrid, the perceived breakdown of writing-based assessment served as a reason to limit or avoid integrating AI into teaching. For Anders, in contrast, using AI made the inadequacy of existing assessment practices visible and thus necessitated their redesign. In this sense, the assessment shift seemed to be part of a broader transformation reshaping the entire decision-making context.

4.2.2. Shift in Teacher Roles

Alongside changes in assessment practices, the interviews also revealed a reorientation of teachers' professional roles. Several participants described this shift from seeing themselves primarily as assessors of finished products to acting as guides, facilitators, and designers of learning processes. Anders argued that when access to information and text production is no longer scarce, the teacher can no longer function as a gatekeeper of knowledge. As he explained, *"before, the teacher was the one who had the information. Now everyone has it. So, the job is not to check if they can repeat it, but to see what they can do with it."* He further described how his teaching has moved from *"reciting information to using information,"* and that students increasingly need to *"explain their choices, their process, and how they have worked,"* rather than merely submitting a final text. In this perspective, generative AI was not simply a tool to be controlled, but a pedagogical catalyst that made process-oriented teaching more necessary and more visible. Anders summarised this change by saying: *"The product is not the interesting part anymore, the thinking is"*.

Other teachers, including those who were more sceptical about AI, described parallel changes in their everyday practices that were geared towards a process-oriented approach to learning. Astrid explained that she now places much more weight on in-class work and oral explanations because *"otherwise I don't really trust what I'm reading in student work anymore"*. Anna similarly noted that *"you have to talk to them, ask them questions, and see how they think,"* because *"the text itself doesn't tell you that anymore"*. Although these changes were often triggered by concerns about cheating and authorship, they reflected a shift towards teaching approaches which focused more on process and reflection. At the same time, this change was described as professionally demanding and emotionally taxing. Anne referred to this tension by saying, *"We have to rethink our role, our teaching, and our assessment, but we don't really know how yet, and that's the frustrating part"*. Teachers indicated that their reactions to generative AI involved more than just deciding whether to use a specific technology. Rather, they reconsidered what it means to teach and evaluate students in a context where product-oriented approaches can no longer be taken as straightforward evidence of student learning.

5. Discussion

5.1. Teachers' Adoption of GenAI: A UTAUT-Informed Interpretation

The findings suggested that teachers do not simply adopt or reject GenAI. Instead, they make careful decisions about when, how, and for what purposes AI can be used in pedagogically and ethically acceptable ways. This pattern of use aligned with previous studies showing that language teachers' adoption of GenAI is typically cautious, uneven, and guided by professional judgment rather than impacted by technological enthusiasm

(Žammit, 2025; Kildē, 2024). This perspective also resonated with Song et al.'s (2025) observation that teachers follow different and evolving trajectories of AI integration, ranging from cautious adapters to more innovative users, depending on how pedagogical beliefs, contextual constraints, and perceived risks interact in time. Teachers' engagement with GenAI was influenced by a combination of material resources, institutional structures, and professional values, rather than following a linear model of technology acceptance (Eedelouei, 2026).

While the UTAUT framework helped illuminate some dimensions of this process, particularly teachers' perceptions of usefulness, effort, social influence, and facilitating conditions (Venkatesh et al., 2003), the findings of this study suggested that teachers' engagement with GenAI was also guided by trust and privacy. This is consistent with Rana et al.'s (2024) trust- and privacy-augmented UTAUT model, which shows that ethical and data-protection concerns fundamentally shaped willingness to use AI in educational contexts. Similarly, the findings align with those of Xue et al. (2025), who argued that institutional infrastructure, policy clarity, and professional support are not merely enabling factors but central components driving teacher adoption.

In line with recent UTAUT-based research in educational contexts, performance expectancy was considered to play a role in adoption, as teachers recognise the potential of AI for planning, idea generation, and support work (Xu et al., 2025; Zaim et al., 2024). However, teachers in this study considered perceived usefulness to be limited rather than a general driver of adoption. This supported Kildē's (2024) claims that teachers often restrict the use of GenAI to low-risk, preparatory activities rather than integrating it deeply into instruction or assessment. Moreover, regarding effort expectancy, participants in this study described using GenAI as requiring substantial pedagogical, cognitive, and ethical work, including careful prompting, critical evaluation of outputs, and adaptation to specific instructional purposes. This resonated with prior research, which stated that many teachers felt underprepared to use GenAI meaningfully despite generally positive attitudes, due to limited AI-related pedagogical knowledge and insufficient training (Kohnke et al., 2023b; Kildē, 2024).

Social influence also emerged as multi-directional, since teachers reported bottom-up pressure (students already use AI, making it unavoidable), collegial influence (colleagues' experimentation encourages limited trials), and top-down influence (school policies are unclear or restrictive, often discouraging use). Consistent with earlier studies, students' widespread use of AI created bottom-up pressure on teachers to engage with the technology (Žammit, 2025), while colleagues' experimentation can function as a source of inspiration or legitimation (Song et al., 2025). At the same time, unclear or restrictive institutional policies exerted a tension that limited use, a pattern also noted by Rana et al. (2024) and Xu et al. (2025). Thus, teachers reported feeling both influenced and restrained by social influence.

5.2. Beyond Technology Acceptance: Shifts in Assessment and Professional Roles

While the UTAUT framework provided a useful lens for interpreting key dimensions of teachers' engagement with generative AI, the findings suggested that some of the most consequential effects of GenAI were evident beyond technology adoption, including shifts in assessment practices and a reorientation of teachers' professional roles. These shifts indicated that GenAI was not merely conceived as a new instructional resource to be accepted or rejected, but as a catalyst reshaping instructional design in language education.

A growing body of literature has already noted that generative AI poses serious challenges to academic integrity, authorship, and the reliability of traditional writing-based assessment (Cong-Lem et al., 2024; Sun et al., 2025; Javed, 2024). Most of this work, however, frames the problem primarily in terms of misuse, plagiarism, or ethical risk. The present

findings suggested that the challenge for teachers involved how to justify the continued use of certain assessment formats as valid evidence of learning. This finding aligns with recent discussions of AI-resilient and assessment-for-learning-oriented pedagogies (Tafazoli & McCallum, 2025; Tram, 2025). What emerges from the present study is that teachers viewed the shift from product-oriented to process-oriented assessment not merely as a pedagogical preference, but as a necessity in AI-rich environments. It was argued that when texts can no longer be assumed to represent students' independent thinking, greater weight must be placed on reasoning, reflection, decision-making, and students' ability to account for their own learning processes. This may explain why teachers' responses to GenAI often appear cautious in their adoption (Žammit, 2025; Kildē, 2024).

Findings also suggested a reorientation of teachers' professional roles. Previous research reported that AI pushes teachers away from being transmitters of knowledge toward more facilitative and coaching-oriented roles (Kildē, 2024; Tafazoli & McCallum, 2025). The present findings supported this view but also showed that this role shift was challenging, as it entailed increased responsibility, uncertainty, and emotional labour, requiring teachers to justify assessment decisions, redesign tasks, and engage more directly with students' learning processes. From a teacher agency perspective, this echoed Eedelouei's (2026) argument that teachers' responses to GenAI should be understood as practical-evaluative judgements shaped by cultural, structural, and moral considerations, rather than as technical implementation choices. Teachers' willingness to engage with GenAI tends to be associated with how they understand their role and their responsibility for assessment integrity for effective learning.

Overall, these findings suggest that while UTAUT provides a useful framework for interpreting teachers' engagement with generative AI, its explanatory scope is limited when applied to AI-supported educational contexts. Teachers' decisions were shaped not only by perceived usefulness, effort, social influence, and facilitating conditions, but also by trust in AI outputs, data privacy concerns, institutional ambiguity, and ongoing experimentation in practice. These dimensions foreground teachers' professional judgement and ethical considerations that extend beyond traditional technology acceptance constructs. In this sense, the study builds on UTAUT by refining its application, demonstrating that GenAI adoption in education is embedded within broader pedagogical, assessment, and professional considerations that shape both whether teachers adopt AI and under what conditions such adoption becomes educationally viable.

The findings also resonate with a growing body of literature documenting cautious or low levels of acceptance of GenAI among teachers. Across studies, teachers' engagement is often characterised by hesitation, selective use, or reluctance to integrate AI into high-stakes instructional and assessment practices (e.g., Kildē, 2024; Žammit, 2025; Kohnke et al., 2023b). The present study supports this pattern and demonstrates that reluctance does not necessarily reflect rejection of the technology itself. Rather, teachers' caution appeared grounded in concerns about assessment validity, data privacy, authorship, and professional responsibility.

6. Conclusions

This study explored how Norwegian upper-secondary English teachers made sense of and engaged with generative AI, using the UTAUT framework as an analytical lens. The findings suggested that while participants recognised the potential of GenAI for planning, idea generation, and pedagogical support, their use of the technology remained bounded by concerns about assessment validity, academic integrity, privacy, and institutional approaches. By combining UTAUT constructs with qualitative analysis, this study aimed to contribute to the growing body of research showing that teachers' technology-related deci-

sions extend beyond constructs such as usefulness and effort. Thus, the study considered factors beyond existing UTAUT constructs, suggesting that trust, privacy and perceived change in assessment, and teacher roles influenced teachers' willingness to engage with GenAI in their day-to-day classroom practice. Moreover, the findings implied that GenAI is not considered merely a new instructional tool, but a catalyst for deeper transformations in how teachers understand assessment and their own professional roles.

The theoretical contribution of this study lies in demonstrating that while UTAUT is helpful for understanding initial adoption intentions, it does not fully capture the pedagogical and ethical tensions teachers navigate when working with GenAI. In this study, engagement was shaped not only by usefulness or ease of use, but also by experimentation in practice, trust in AI outputs, privacy concerns, and perceived shifts in assessment and professional roles. These dimensions extend the framework by showing that AI adoption in education is negotiated within broader questions about teaching, responsibility, and classroom practice, rather than simply technology uptake.

The study points to considerations for educational policy, assessment practices, and teacher education in AI-resilient learning environments. First, schools and educational authorities need clear policies and support for GenAI tools that address privacy concerns and provide practical guidance for classroom use. Another implication of this study concerns assessment. When text production can no longer be assumed to represent students' independent thinking, traditional product-oriented assessment practices lose their validity. The shift in teachers' reported use of process-oriented, dialogic, and reflective forms of evaluation in this study suggests that educational systems need to rethink what counts as valid evidence of learning. A second implication concerns teacher education and professional development. Professional development should go beyond technical demonstrations and focus on AI-related pedagogical competence, including critical evaluation of output, bias and cultural fit, and strategies for guiding responsible student use. Professional development initiatives should therefore focus not only on how to use AI tools, but on how to design effective tasks, feedback practices, and assessment formats. At the institutional and policy level, the study highlights the importance of clear guidelines and support structures. In the absence of such frameworks, responsibility is placed on individual teachers, resulting in cautious and uneven practices.

The study is limited since it is based on a small number of participants from a single school context, and it does not aim to make statistical generalisations. Additionally, the sample comprised three female and one male teacher. While gender was not an analytical focus, the small sample size prevents exploration of gendered perspectives on GenAI adoption and should be considered when interpreting the findings. However, the qualitative design allows for insights into how teachers reason about and negotiate GenAI in practice. Future research should combine qualitative and quantitative approaches to examine how widespread these patterns are across different school types and national contexts. Longitudinal studies could help track how teachers' practices and beliefs change as technologies and policies develop.

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