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Regulations of AI Technologies and Their Impact on Higher Education

Validating the PANDORA GenAI Susceptibility Rubric for Higher Education Assessment: A Field Test of All Translation and Interpreting BA Assignments

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ABSTRACT

This study, conducted at a fully online Spanish higher education institution, documents the validation of a bespoke quality assessment tool designed to measure the susceptibility of formative assignments to AI academic misconduct. The research explored the impact of Generative AI (GenAI) technologies in the Humanities. The framework study consisted of four stages: the design of a rubric (Stages 1–3) and its large-scale validation (Stage 4) through a field test in the Translation and Interpreting Studies Bachelor's Degree. This paper presents stage 4 results where lecturers ($n = 29$), using a bottom-up approach, voluntarily applied the tool to their teaching contexts and analysed assignments ($n = 151$) using the rubric, revealing significant vulnerabilities in assessments easily converted by GenAI or lacking originality and collaboration. The findings guided AI-integrated assessment designs that encourage complexity, creativity, and ethical engagement. This study outlines effective GenAI practices in assessment design and emphasises innovative methods for academic integrity in higher education.

1 | Introduction

Recent research highlights growing concerns about GenAI's impact on assessment validity, integrity, and pedagogical practices. The focus, among others, is on learning authenticity, assessment validity, or authorship verification. Thus, Higher Education institutions (HEIs) struggle to balance innovation and academic integrity due to GenAI's growing presence, immediate incorporation, and role at universities. On their part, educators emphasise students' conduct and their use of GenAI to carry out formative assessment assignments, casting doubt (on most occasions without any sound proof) on the authorship of these documents. Meanwhile, students sometimes feel helpless in responding to such accusations. This institutional uncertainty reflects broader systemic deficiencies in higher education policy development, where fewer than 40% of institutions have

established comprehensive AI governance frameworks (An et al. 2025; Jin et al. 2025). In this framing, this paper shifts the focus from students' use of GenAI to educators' responsibility in designing AI-aware assessments that uphold academic integrity. Moreover, we aim to show that there is a gap between existing institutional AI-related guidelines and practical, implementable assessment frameworks.

The PANDORA GenAI Susceptibility Rubric (Bannister et al. 2025) addresses this gap by providing educators with a structured framework for evaluating assessment vulnerability to undeclared generative artificial intelligence usage. Developed through a three-phase mixed-methods approach involving 12 Arts and Humanities lecturers and 34 assessments, the rubric is grounded in Dawson et al.'s (2024) paradigmatic shift from moralistic academic integrity concerns towards assessment

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validity. The instrument evaluates assessments across eight criteria, including collaborative authorship, intellectual task complexity, and creativity opportunities, utilising a three-point scale with traffic light colour coding. Theoretically underpinned by assessment validity theory (Chapelle and Lee 2021), rubric transparency frameworks (Panadero et al. 2023), and dialogical assessment approaches (Bearman and Ajjawi 2019), the rubric serves as a practical tool for pedagogical reflection whilst positioning assessment validity as more significant than cheating detection in AI-enhanced HE. An interactive online version of the tool is available at: <https://pandoraunir.com/pandora-rubric/>.

Using as a starting point The PANDORA rubric published in early 2025 (Bannister et al. 2025), this study conducts a field test aimed at validating the rubric through 151 real assessments with the assistance of 29 lecturers, moving beyond theoretical discussions. Although this study focused on the Bachelor's Degree in Translation and Interpreting at an online Spanish university, we believe the results of our inquiries could contribute to the broader discourse on AI regulation and higher education assessment. The genesis of this study stems from our belief that this can be seen as a more vulnerable discipline than others due to its reliance on linguistic creativity and textual production. These are some of the areas where GenAI tools excel, thus highlighting the vulnerability of assessments in this field.

The PANDORA rubric tested in this manuscript entails positioning the tool as one that addresses educators' lack of concrete resources for assessing GenAI susceptibility, providing an actionable instrument for diagnosing and mitigating AI susceptibility in assessments. Through this research, we have identified assessment susceptibilities; and based on these, we have documented the modifications made by educators to either reduce the susceptibility of the assignment to the use of GenAI with successful results by students or to include its use by students for educational purposes when completing their assignments.

In addition to this immediate application, which is replicable in other disciplines with similar susceptibilities in the Humanities, this study provides a replicable model for other institutions seeking to refine AI-aware assessment strategies in higher education. In short, this study empirically attempts to validate the PANDORA rubric to address AI-related risks in formative assessment.

The paper reviews the most recent literature in the field of study at the time of writing. It then describes the methodology employed to field-test the tool, presents the validation results, and concludes with a discussion and analysis of the findings. Finally, the results serve as a starting point to describe implications for assessment design and academic integrity policies.

2 | Literature Review

2.1 | GenAI and Knowledge in Higher Education

The contemporary academy finds itself at a critical juncture where longstanding tensions between technological mediation and pedagogical authenticity have reached an unprecedented

inflection point (Rudolph et al. 2024). This illuminates profound questions about knowledge construction (Creely and Janssen 2025), assessment security and validity (Luo 2024), and institutional adaptability that go beyond narratives of technological disruption. The discourse surrounding these transformative pressures has crystallised around several interconnected domains requiring urgent theoretical reconceptualisation (Arantes 2024), pointing towards what we term the 'techno-epistemic turn' in HE. In other words, we are not merely before another iteration of technological integration into educational practice but rather in a fundamental shift in how knowledge is validated, assessed and transmitted within HEIs globally (Heydari and Maddah 2025). This transformation also demands a rigorous examination of the underlying assumptions that have historically guided academic practice and assessment design (Fawns et al. 2021), particularly as institutions grapple with increasingly sophisticated technological mediation of traditional academic processes.

Beyond surface-level technological determinism, these daunting questions demand actionable frameworks capable of responding to technological innovation and pedagogical authenticity in practice. In acknowledgement of this, Dawson et al. (2024) offer a paradigmatic reconceptualisation of assessment validity through the lens of technological mediation. This seminal work is a critical departure from traditional frameworks and illuminates how emerging digital affordances fundamentally alter the nature of assessment and our understanding of what constitutes a valid measurement of student learning. Their work points towards a more nuanced appreciation of validity that acknowledges the complex interplay between technological capability, pedagogical intention, and student learning outcomes, whilst simultaneously highlighting the inadequacy of existing frameworks to fully capture the complexity of contemporary assessment landscapes. This theoretical evolution demands a fundamental rethinking of how we conceptualise, implement, and validate assessment practices in an increasingly digitally mediated educational environment.

In practical terms, we recognise the existence of a series of additional emerging frameworks of relevance at the time of writing. These are required to maintain the rigour and validity that underpin meaningful academic endeavour in ways that transcend simplistic binary oppositions between human and machine-mediated learning processes. Such offerings include The MAGE Framework, as conceptualised by Zaphir et al. (2024), which shows valuable insights into the correlation between engineered prompts and GenAI response quality, despite its notable limitations in its scope, particularly concerning broader academic misconduct implications and comprehensive assessment redesign paradigms. In contrast, the Artificial Intelligence Assessment Scale (AIAS), developed by Perkins et al. (2024), has garnered considerable international recognition for its constructive methodological approach, marking a significant distancing from techno-teratological punitive measures towards a more nuanced equilibrium between pedagogical efficacy and ethical considerations in assessment design.

As a point of departure in the present study, to address the documented urgency of the matter in HE assessment praxis (c.f. Zhao et al. 2024), it is firstly necessary to articulate in the present

study that we hereby ascribe to the Bannister et al. (2025, 45) definition of GenAI susceptibility:

The undeclared use of GenAI to spectrally engineer a quasi- or fully synthetic AI-human hybrid output by any member of the academic community contrived to catalyse an erosion of ontological authenticity for epistemic refraction. In assessment validity, this unfair advantage renders such a submission a distorted reflection of knowledge acquisition, notwithstanding pre-existing assessment design flaws, which may inadvertently achieve comparable misrepresentations, ultimately corrupting the very *raison d'être* of the assessment itself. However, this issue transcends the confines of student-directed educational assessments, as the implications extend to broader academic spheres such as scientific writing authorship and scholarly publication, peer review, and intellectual integrity more broadly.

The differential impact of GenAI susceptibility across academic disciplines presents a complex and subtle challenge within contemporary HE (Bannister et al. 2025). While STEM-oriented assessments frequently emphasise quantitative problem-solving methodologies (Koc et al. 2024), humanities and social sciences often necessitate more discursive, interpretative approaches that could demonstrate heightened vulnerability to GenAI-assisted composition (Bannister 2024). The creative arts and practice-based disciplines present particularly fascinating case studies where the inherent emphasis on originality, personal expression, and procedural documentation may offer natural safeguards against AI-mediated academic misconduct (Chan 2023). However, disciplines such as law, business, and medicine occupy a more ambiguous position, where the integration of AI tools mirrors emerging industry practices while simultaneously raising critical questions about academic integrity and professional competency development (Saeger et al. 2024; Sauder et al. 2024; Smith 2024). This heterogeneous landscape of disciplinary vulnerability necessitates carefully calibrated, subject-specific approaches to assessment design rather than institution-wide blanket policies that may prove inadequate in addressing the unique challenges faced within each academic domain.

The present validity study came to fruition to make inroads into empirically substantiating these acknowledged disciplinary assumptions in assessment praxis. The strategic selection of Translation Studies as a disciplinary context for empirical validation merits careful consideration, given its inherently hybridised epistemological foundations. As Ciobanu (2024) articulates, the field's interdisciplinary nature manifests through its complex integration of linguistic analysis, cultural studies, cognitive science, and technological interfaces, thereby offering a particularly rich terrain for examining GenAI susceptibility in assessment design. This multilayered complexity is further illuminated by Akbulut's (2022) comprehensive analysis of Translation Studies' disciplinary hybridity, which foregrounds how the field's methodological diversity necessarily impacts

pedagogical approaches and assessment modalities. The discipline's unique positioning at the intersection of theoretical frameworks and practical applications presents distinctive challenges and opportunities in the context of GenAI integration, particularly given its simultaneous engagement with linguistic computation and human interpretative processes. Furthermore, it is precisely this interdisciplinarity which allows for study replication and result transferring to other areas such as linguistic studies, cultural studies, history, arts, and philosophy, to name just a few.

2.2 | Degranulating the Domain-Specific Impact of GenAI in Translation Studies

The precipitous magnification of human-AI interaction in Translation Studies HE deepens a multifaceted epistemological crisis long in the making (Stahuljak 2014). The pedagogical tensions surrounding machine translation technologies have historically prefigured current concerns (Paterson 2022) as statistical machine translation systems gradually evolved from crude word-replacement tools to increasingly sophisticated neural networks (Mercan et al. 2024). Thus, they challenge traditional notions of translator competence and assessment validity (Brufau Alvira 2024). This evolutionary trajectory of machine-assisted translation, whilst less conspicuous in broader academic discourse than contemporary GenAI tools, has nonetheless systematically exposed the theoretical and practical limitations of conventional approaches to translation pedagogy (Dusza 2023), particularly in their emphasis on product-oriented assessment frameworks that struggle to capture the processes of human-machine collaboration. In this spirit, research into machine translation in HE published a year before the release of ChatGPT 3.5 highlighted several critical tensions that foreshadow many of the issues often commented on in the GenAI-related scholarship. Academic integrity, institutional policy gaps, and graduate employability (Santamaria Urbieta and Alcalde Peñalver 2024) coalesced as the salient concerns of the day.

Studies such as those penned by Groves and Mundt (2021) underline the tensions between technological advancement and pedagogical traditions, where academic staff demonstrate cautious acceptance of machine translation as a reading aid while expressing heightened concerns about its application in productive writing tasks. Their findings reveal a marked absence of coherent institutional policies governing machine translation use, creating a problematic vacuum in academic governance. These issues prefigure many of the current challenges posed by GenAI tool usage, particularly in how institutions negotiate the balance between technological assistance and the development of core academic competencies that underpin Translation Studies graduate attributes and employability outcomes.

The emergence of increasingly capable GenAI tools has introduced an additional layer of complexity to the field. In essence, and in line with many other disciplines, this has catalysed the vulnerability of established frameworks for assessing linguistic competency and academic integrity compliance (Xu and

Jumaat 2024). The seamless integration of these sophisticated tools into students' quotidian workflow, which can produce outputs often indistinguishable from human translation, has profoundly disrupted the traditional pedagogical emphasis on process-oriented learning, where students cultivate critical thinking through deep engagement with source texts and cultural nuance (Zhang and Dong 2024). This disruption challenges our fundamental understanding of authentic language acquisition and translation competence in a GenAI-effected educational landscape (Chen 2024). Particularly concerning is the systematic erosion of essential cognitive processes traditionally developed through manual translation practice (Lee 2024), considering lexical choices, syntactic structures, cultural aspects, and pragmatic equivalence.

In this context, this study is relevant in that it evaluates the practical validity of The PANDORA GenAI Susceptibility Rubric in the context of Translation and Interpreting HE. Furthermore, it serves to document an account of the specific adaptation strategies employed by lecturers in assessment redesign as a direct consequence of the instrument's emphasis on pedagogical authenticity and assessment integrity within digitally mediated learning environments. This premise was operationalised through the formulation of the following research questions (RQs) to be explored:

RQ1. To what extent is The PANDORA GenAI Susceptibility Rubric a valid tool to facilitate lecturers' evaluation of their assessments?

RQ2. What patterns of GenAI susceptibility emerge from lecturers' analysis of HE assessments using The PANDORA GenAI Susceptibility Rubric, and how have lecturers adapted their assessments accordingly?

3 | Methodology

3.1 | Rubric Validation Process: A Final Field Test

To achieve these aims, our field test focused on the assessments within the Bachelor's Degree in Translation and Interpreting, as these assessments are highly diverse due to the program's interdisciplinary nature, involving languages, history and culture, translation, technologies, and linguistics, among others.

To achieve these goals and so address the research questions presented above, our study followed a mixed-methods methodology (Bryman 2012), combining quantitative data collected through the rubric's numerical values (e.g., the vulnerability level of the evaluated assessments or the identification of the parameters most susceptible to student use of GenAI) with qualitative information obtained through unstructured interviews with educators and the analysis of the modified assessments (e.g., the validity of the rubric in terms of usability and guidelines for assessment design in light of GenAI).

The process took place during July 2024. It began with the classification and collection of assessments, followed by interviews in which educators evaluated them while commenting on the rubric. Both quantitative and qualitative data were collected and

analysed. Educators were then asked to apply relevant modifications to their assessments according to the GenAI Susceptibility diagnostics provided and resourcing, if needed, to the expert team's tentative list of ideas. Finally, modifications were registered and analysed. This four-step process will now be presented in more detail as a rich description (Merriam 2009) to enhance the accuracy of our study, as well as its replicability and scalability.

3.1.1 | Step 1. Assessment Classification and Collection

The nature of the courses, as defined by the Translation and Interpreting Degree academic curriculum, was considered for the classification of assessments: language learning, translation competence, and tool control were straightforward categories. The remaining assessments were categorised under the theoretical knowledge and understanding category. If related to the PACTE's (2003) model, they would approximately correspond to the interconnected bilingual, transference, instrumental, and extralinguistic knowledge about translation sub-competences. However, it should be noted that this classification only pursues the potential finding of susceptibility factors specific to courses with similar learning objectives. Indeed, assessments are not singular measurements but often target diverse learning objectives and competencies. For instance, many courses falling in the translation competence category (in particular, specialised translation courses) included assessments involving computer-assisted translation (CAT) tool control. Additionally, all the interpreting courses' assessments in the study refer to theoretical, historical, or operational elements. The classification of the 151 activities examined for this study is presented in Table 1.

Being a remote-learning HEI, all course assessments are uploaded to the courses' specific pages on the virtual campus. Although all instructors are familiar with the assessments used in their courses, since courses take place during either the first or the second semester, instructors have exclusive access to the assessments used in the specific semester. Given that academic coordinators can access all relevant material from both semesters, all assessments were mechanically downloaded with the help of the then-academic coordinator and directly sent or shown to the educators before and during the interviews to speed up the process.

3.1.2 | Step 2. Educators' Interviews and Assessments' Analysis With the PANDORA GenAI Susceptibility Rubric

Regarding the semi-structured interviews, sampling was primarily purposive, targeting all educators in charge of courses within the Translation and Interpreting Degree of this university. In cases where educators were unavailable, quota sampling was employed. For instance, a colleague translation lecturer could analyse assessments belonging to translation courses other than theirs when the corresponding lecturer was not available. Thanks to the collaboration of the academic coordinator of the degree at the time, all targeted educators received a message to schedule their appointments. For over 2 weeks, two members of the research team conducted individual interviews with

TABLE 1 | Assessment classification.

Assessment category	Courses	No. assessments			
Language learning	Spanish I	3	65		
	Spanish II	3			
	Spanish Norm	3			
	English I	5			
	English II	5			
	English III	5			
	English IV	5			
	French I	4			
	French II	4			
	French III	4			
	French IV	4			
	German I	5			
	German II	5			
	German III	5			
German IV	5				
Translation competence	General Translation Eng-Sp	3	48		
	General Translation Sp-Eng	3			
	General Translation Fr-Sp	3			
	General Translation Sp-Fr	3			
	General Translation Ger-Sp	3			
	General Translation Sp-Ger	3			
	Translation of Scientific Texts	3			
	Translation of Technical texts	3			
	Translation of Tourism Texts	3			
	Translation of Literary and Humanistic texts	3			
	Translation of Legal and Economic Texts	3			
	Editorial Translation	3			
	Translation of Specialised texts I Fr-Sp	3			
	Translation of Specialised texts II Fr-Sp	3			
	Translation of Specialised texts I Ger-Sp	3			
	Translation of Specialised texts II Ger-Sp	3			
	Tool control	Documentation and IT Resources		3	21
		Computer-Assisted Translation Tools		3	
		Software localization		3	

(Continues)

TABLE 1 | (Continued)

Assessment category	Courses	No. assessments	
Knowledge and understanding	Audiovisual Translation	3	17
	Project Management	3	
	Machine Translation and Post-editing	3	
	Terminology	3	
	History, Politics, and Culture (English-speaking countries)	3	
	Translation Studies Concepts, History, and Theories	3	
	Applied Linguistics	3	
	Freelancer's tax management and marketing	3	
	Bilateral Interpreting (English)	1	
	Consecutive Interpreting (English)	1	
	Consecutive Interpreting (French)	1	
	Consecutive Interpreting (German)	1	
	Simultaneous Interpreting (English)	1	

participants. During the semi-structured interviews, the rubric was introduced, and educators were asked to evaluate the formative assessments of their courses. This was done both orally, allowing researchers to take notes, and numerically through the rubric. Interactive copies of the rubric were prepared on an online Excel document so that all numerical information was registered and later available to the three research team members, as shown in Figure 1:

The researchers took notes regarding the parameters that required further explanations and potential ideas for modifications. Furthermore, during the interviews, assessments were processed through an AI tool (mainly ChatGPT 3.5) to demonstrate its capabilities to educators when needed. A total of 19 online interviews were conducted, yielding 151 assessment diagnostics.

3.1.3 | Step 3. Data Management and Analysis

The quantitative data management involved transferring values from the online rubrics to Excel tables using the same colour code as in the rubric-design process (Bannister et al. 2025) to facilitate the visualisation of the results. The data obtained were organised by assessment groups according to the initial classification (see Table 1), as shown in Figures 2–5.

For the qualitative component, the two interviewing researchers held a meeting to share and synthesise their notes on the educators' comments regarding the criteria which needed more

The PANDORA GenAI susceptibility rubric	%	Expand and select the level you consider appropriate for each criterion	VALUE	RELATIVE VALUE
AI Tool-Susceptibility of Input Format	10%		0	0
AI Tool-Susceptibility of Output Format	10%		0	0
AI Tool-Susceptibility of Intellectual Task	10%		0	0
Collaborative Authorship	10%		0	0
Topic	10%		0	0
Opportunity for Creativity	10%		0	0
Instruction Translatability into Prompts	10%		0	0
Assessment Criteria	10%		0	0
AI Tools Access to Topic Information	10%		0	0
Authorship Evidence	10%		0	0
TOTAL				0

FIGURE 1 | The PANDORA GenAI susceptibility rubric (Bannister et al. 2025).

explanations. These mainly focused on refining the wording and elaborating a tentative list of ideas for assessment modifications. In this sense, the criterion regarding the canonicity of the topic was slightly confusing for educators; hence its re-wording as ‘AI Tool access to topic information’ The more canonical assessment topics are (masterpieces, universal literature, already translated texts, etc.), the easier it is for GenAI models to find texts about them. In contrast, GenAI models find it more challenging to create satisfactory texts about topics with few internet references (local artworks, untranslated books, connecting concepts to personal objects, etc.). Also, the criterion regarding authorship was refined by adding the adjective ‘collaborative’ to help educators understand the difference between the extent to which an assessment is truly collaborative versus individual or patch-worked activities, and the final criterion regarding the provision of authorship evidence.

As for the tentative list of best practices when it comes to reducing the GenAI susceptibility of assignments suggested to educators, it included the following ideas: visual and audiovisual input and output formats, asking for a connection of work to course live session comments, chain collaborative assignments, use of the track-changes feature or the version-record feature of the word processor to register process, digitally signed self-assessment record,

including assessment criterion to value particularly creative solutions, allowing students to choose and justify the selected topic, using process-oriented assessments, relating consecutive assessments allowing students to build on their previous work, including assessment criteria regarding the process, or avoiding well-known universal topics (leaving them for live sessions instead).

3.1.4 | Step 4. Assessment Modification and Modifications Analysis

Educators were given an additional 2 weeks to submit their modified assessments. They were provided with a document containing the tentative ideas collected to address the most significant susceptibilities identified thanks to the PANDORA GenAI susceptibility rubric. From the 151 assessments analysed, 109 were modified either to reduce GenAI susceptibility (71) or to include GenAI for didactic purposes (38), as shown in the following tables (Tables 2 and 3). The assessments of 13 subjects were not modified. Two main reasons support these decisions: either the rubric indicated a very low susceptibility level for the assignments (for instance, in courses like Software localisation and computer-assisted translation tools), or the teacher did not want to modify the activity, there was no teacher in charge of

ASSESSMENT	AI Tool-Susceptibility of Input Format	AI Tool-Susceptibility of Output Format	AI Tool-Susceptibility of Intellectual Task	Collaborative Authorship	Topic	Opportunity for Creativity	Instruction Translatability into Prompts	Assessment Criteria	AI Tool Access to Topic Information	Authorship Evidence	SUSCEPTIBILITY LEVEL	COURSE
1	0,1	0,2	0,3	0,3	0,3	0,3	0,2	0,3	0,2	0,3	2,5	Spanish II
2	0,1	0,2	0,2	0,3	0,3	0,3	0,2	0,3	0,2	0,3	2,4	Spanish II
3	0,1	0,2	0,1	0,1	0,3	0,3	0,2	0,2	0,2	0,2	1,9	Spanish II Col.
10	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English II
11	0,3	0,3	0,2	0,3	0,3	0,3	0,2	0,3	0,2	0,3	2,7	English II
12	0,2	0,3	0,2	0,2	0,3	0,2	0,2	0,3	0,3	0,1	2,3	English II Col.
28	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	2,9	English I
29	0,3	0,2	0,2	0,1	0,2	0,1	0,3	0,3	0,3	0,1	2,1	English I Col.
30	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	0,3	2,8	English III
31	0,3	0,2	0,2	0,1	0,3	0,1	0,3	0,3	0,3	0,1	2,2	English III Col.
32	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	0,3	2,8	English IV
33	0,1	0,1	0,2	0,1	0,2	0,1	0,3	0,3	0,3	0,2	1,9	English IV Col.
35*	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English I
36	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English I
37	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English I
38	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English II
39	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English II
40	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English III
41	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English III
42	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English III
43	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English IV
44	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English IV
45*	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,6	English IV
46	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	0,1	2,6	Spanish I
47	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	2,8	Spanish I
48	0,3	0,1	0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,1	2,3	Spanish I
64	0,3	0,1	0,2	0,1	0,3	0,1	0,3	0,3	0,3	0,1	2,1	Francés II Col.
65	0,3	0,1	0,2	0,1	0,3	0,1	0,3	0,3	0,3	0,1	2,1	Francés IV Col.
66	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	Francés I
67	0,3	0,2	0,2	0,3	0,3	0,2	0,3	0,2	0,2	0,3	2,4	French I Col.
68	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,2	0,3	0,3	2,7	French III Col.
79*	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French I
80	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French I
81	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French II
82	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French II
83	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French II
84	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French III
85	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French III
86	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French III
87	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French IV
88	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French IV
89*	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	French IV
108	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	0,3	2,8	Spanish Norm
109	0,3	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	2,9	Spanish Norm
110	0,3	0,3	0,3	0,1	0,2	0,2	0,3	0,2	0,3	0,3	2,5	Spanish Norm
126*	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German I
127	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German I
128	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German I
129	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German I
130	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German II
131	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German II
132	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German II
133	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German II
134	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German III
135	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German III
136	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German III
137	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German III
138	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German IV
139	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German IV
140	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German IV
141*	0,3	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,2	2,7	German IV
142	0,3	0,1	0,2	0,1	0,3	0,3	0,2	0,2	0,3	0,2	2,2	German I Col.
143	0,3	0,1	0,2	0,1	0,3	0,2	0,2	0,3	0,3	0,2	2,2	German II Col.
144	0,3	0,1	0,2	0,1	0,3	0,2	0,3	0,2	0,3	0,2	2,2	German III Col.
145	0,3	0,1	0,2	0,1	0,3	0,2	0,2	0,3	0,3	0,2	2,2	German IV Col.
TOTAL	0,286	0,203	0,212	0,263	0,285	0,248	0,286	0,291	0,292	0,208	2,6	

FIGURE 2 | Language learning courses.

ASSESSMENT	AI Tool-Susceptibility of Input Format	AI Tool-Susceptibility of Output Format	AI Tool-Susceptibility of Intellectual Task	Collaborative Authorship	Topic	Opportunity for Creativity	Instruction Translatability into Prompts	Assessment Criteria	AI Tool Access to Topic Information	Authorship Evidence	SUSCEPTIBILITY LEVEL	COURSE
7	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	2,5	GT Sp-Eng
8	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	GT Sp-Eng
9	0,3	0,3	0,3	0,1	0,3	0,2	0,2	0,3	0,2	0,3	2,5	GT Sp-Eng
13	0,3	0,2	0,2	0,3	0,1	0,1	0,1	0,2	0,3	0,3	2,1	Editorial Translation
14	0,3	0,1	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,2	2,5	Editorial Translation
15	0,3	0,1	0,2	0,1	0,3	0,2	0,1	0,1	0,3	0,2	1,9	Editorial Translation
16	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	ST II French
17	0,3	0,1	0,2	0,3	0,3	0,3	0,3	0,2	0,3	0,3	2,6	ST II French
18	0,3	0,3	0,3	0,3	0,3	0,1	0,3	0,3	0,2	0,3	2,7	ST II French
19	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	Translation of Technical Texts
20	0,3	0,2	0,3	0,3	0,3	0,2	0,3	0,3	0,2	0,3	2,7	Translation of Technical Texts
21	0,3	0,3	0,3	0,2	0,3	0,2	0,3	0,3	0,3	0,3	2,8	Translation of Technical Texts
22	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	Translation of Scientific Texts
23	0,3	0,3	0,2	0,3	0,2	0,2	0,3	0,3	0,3	0,3	2,7	Translation of Scientific Texts
24	0,3	0,1	0,2	0,2	0,3	0,2	0,3	0,3	0,2	0,3	2,4	Translation of Scientific Texts
52	0,2	0,3	0,2	0,3	0,3	0,2	0,2	0,2	0,3	0,3	2,5	GT Ger-Sp
53	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	2,9	GT Ger-Sp
54	0,2	0,2	0,2	0,1	0,3	0,1	0,3	0,3	0,2	0,3	2,2	GT Ger-Sp
55	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,2	0,3	0,3	2,8	ST I German
56	0,3	0,3	0,3	0,1	0,3	0,2	0,3	0,2	0,3	0,3	2,6	ST I German
57	0,2	0,1	0,2	0,3	0,3	0,1	0,1	0,3	0,1	0,3	2	ST I German
58	0,2	0,2	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,8	ST II German
59	0,3	0,3	0,2	0,1	0,2	0,2	0,3	0,3	0,3	0,3	2,5	ST II German
60	0,3	0,3	0,2	0,3	0,3	0,1	0,3	0,2	0,3	0,3	2,6	ST II German
69	0,3	0,3	0,3	0,3	0,1	0,2	0,1	0,1	0,3	0,3	2,3	GT Sp-Ger
70	0,1	0,2	0,2	0,3	0,1	0,2	0,1	0,1	0,3	0,3	1,9	GT Sp-Ger
71	0,2	0,3	0,2	0,2	0,3	0,1	0,2	0,1	0,3	0,3	2,2	GT Sp-Ger
78	0,3	0,3	0,3	0,3	0,2	0,2	0,2	0,2	0,3	0,3	2,6	Translation of Legal and Economic Texts
90	0,2	0,1	0,2	0,3	0,3	0,2	0,2	0,1	0,3	0,3	2,2	Translation of Legal and Economic Texts
91	0,3	0,2	0,2	0,2	0,3	0,2	0,1	0,1	0,2	0,3	2,1	Translation of Legal and Economic Texts
98	0,2	0,2	0,2	0,3	0,1	0,2	0,2	0,1	0,3	0,3	2	Translation of Tourism Texts
99	0,1	0,2	0,2	0,3	0,2	0,2	0,2	0,1	0,3	0,3	2,1	Translation of Tourism Texts
100	0,1	0,2	0,2	0,1	0,2	0,1	0,2	0,1	0,3	0,1	1,6	Translation of Tourism Texts
111	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	GT Eng-Sp
112	0,3	0,3	0,3	0,3	0,1	0,1	0,3	0,3	0,3	0,3	2,6	GT Eng-Sp
113	0,3	0,3	0,3	0,2	0,3	0,2	0,3	0,3	0,3	0,3	2,8	GT Eng-Sp
117	0,3	0,3	0,1	0,3	0,2	0,1	0,1	0,1	0,2	0,3	2	Translation of Literary and Humanistic Texts
118	0,1	0,3	0,1	0,3	0,1	0,1	0,1	0,1	0,1	0,3	1,6	Translation of Literary and Humanistic Texts
119	0,3	0,3	0,1	0,2	0,3	0,1	0,1	0,1	0,1	0,3	1,9	Translation of Literary and Humanistic Texts
120	0,3	0,2	0,2	0,1	0,3	0,1	0,3	0,3	0,3	0,1	2,2	GT Sp-Fr
121	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	0,3	2,8	GT Sp-Fr
122	0,1	0,1	0,2	0,1	0,2	0,1	0,3	0,3	0,3	0,1	1,8	GT Sp-Fr
146	0,3	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	2,9	GT Fr-Sp
147	0,1	0,1	0,2	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,4	GT Fr-Sp
148	0,1	0,1	0,2	0,3	0,3	0,2	0,3	0,2	0,3	0,3	2,3	GT Fr-Sp
149	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	3	ST I French
150	0,2	0,1	0,1	0,1	0,3	0,3	0,3	0,1	0,3	0,3	2,1	ST I French
151	0,1	0,1	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	2,6	ST I French
TOTAL	0,250	0,233	0,233	0,250	0,258	0,183	0,244	0,227	0,273	0,283	2,4	

FIGURE 3 | Translation competence courses.

the subject at that precise moment, or they failed to submit the modifications on time.

Lastly, a record of the implemented modifications was created based on the susceptibility criteria they were attending to, as shown in Table 4.

4 | Results

This section presents results in connection with our research questions.

4.1 | The Validity of the PANDORA GenAI Susceptibility Rubric (RQ1)

Firstly, while the invitation to participate was extended to all 24 educators in the programme at the time, 19 voluntarily attended the interviews and effectively analysed their assessments using the rubric. In cases where some educators were unavailable, their colleagues analysed their corresponding assessments on their behalf. Second, out of the 151 activities evaluated, 109 were modified. This constitutes a remarkably high number that underscores the impact of the diagnostics derived from the rubric. This strong engagement, both in the interviews and in the educators'

ASSESSMENT	AI Tool-Susceptibility of Input Format	AI Tool-Susceptibility of Output Format	AI Tool-Susceptibility of Intellectual Task	Collaborative Authorship	Topic	Opportunity for Creativity	Instruction Translatability into Prompts	Assessment Criteria	AI Tool Access to Topic Information	Authorship Evidence	SUSCEPTIBILITY LEVEL	COURSE
49	0,3	0,1	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,1	2,5	Documentation and IT Resources
50	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	2,9	Documentation and IT Resources
51	0,3	0,2	0,2	0,3	0,3	0,2	0,2	0,3	0,3	0,3	2,8	Documentation and IT Resources
61	0,3	0,3	0,1	0,3	0,3	0,2	0,2	0,1	0,3	0,3	2,4	Machine Translation and Post-Editing
62	0,1	0,1	0,1	0,3	0,3	0,3	0,1	0,1	0,1	0,1	1,6	Machine Translation and Post-Editing
63	0,2	0,1	0,2	0,1	0,3	0,1	0,2	0,1	0,1	0,1	1,5	Machine Translation and Post-Editing
72	0,1	0,1	0,1	0,3	0,1	0,1	0,1	0,1	0,3	0,1	1,4	Terminology
73	0,1	0,1	0,1	0,2	0,1	0,2	0,1	0,1	0,2	0,2	1,4	Terminology
74	0,1	0,1	0,1	0,3	0,2	0,1	0,1	0,1	0,2	0,2	1,5	Terminology
92	0,3	0,1	0,2	0,3	0,2	0,2	0,3	0,2	0,3	0,3	2,4	Computer Assisted Translation Tools
93	0,1	0,1	0,2	0,1	0,2	0,2	0,1	0,2	0,2	0,1	1,5	Computer Assisted Translation Tools
94	0,1	0,1	0,2	0,2	0,1	0,3	0,1	0,1	0,1	0,1	1,4	Computer Assisted Translation Tools
95	0,3	0,1	0,2	0,3	0,1	0,1	0,2	0,1	0,3	0,1	1,8	Project Management
96	0,2	0,1	0,1	0,3	0,3	0,1	0,2	0,1	0,3	0,3	2	Project Management
97	0,2	0,2	0,2	0,1	0,1	0,1	0,2	0,2	0,3	0,2	1,8	Project Management
101	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,2	0,3	0,3	2,7	Audiovisual Translation
102	0,3	0,3	0,2	0,3	0,3	0,1	0,2	0,3	0,2	0,3	2,5	Audiovisual Translation
103	0,3	0,3	0,1	0,2	0,2	0,1	0,2	0,3	0,1	0,3	2,1	Audiovisual Translation
123	0,3	0,2	0,3	0,3	0,2	0,2	0,2	0,2	0,3	0,3	2,5	Software Localization
124	0,1	0,1	0,1	0,3	0,3	0,1	0,1	0,1	0,1	0,3	1,6	Software Localization
125	0,1	0,1	0,1	0,2	0,3	0,1	0,1	0,1	0,1	0,3	1,5	Software Localization
TOTAL	0,210	0,162	0,176	0,248	0,229	0,167	0,176	0,171	0,224	0,219	2,0	

FIGURE 4 | Tool control courses.

ASSESSMENT	AI Tool-Susceptibility of Input Format	AI Tool-Susceptibility of Output Format	AI Tool-Susceptibility of Intellectual Task	Collaborative Authorship	Topic	Opportunity for Creativity	Instruction Translatability into Prompts	Assessment Criteria	AI Tool Access to Topic Information	Authorship Evidence	SUSCEPTIBILITY LEVEL	COURSE
4	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	History, Politics and Culture (English speaking countries)
5	0,3	0,2	0,3	0,3	0,3	0,2	0,3	0,2	0,3	0,3	2,7	History, Politics and Culture (English speaking countries)
6	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	2,8	History, Politics and Culture (English speaking countries)
25	0,2	0,1	0,2	0,3	0,3	0,3	0,3	0,2	0,3	0,3	2,5	Freelancers' tax management and marketing
26	0,2	0,3	0,3	0,2	0,3	0,2	0,3	0,3	0,3	0,3	2,7	Freelancers' tax management and marketing
27	0,3	0,2	0,2	0,3	0,2	0,1	0,2	0,1	0,1	0,2	1,9	Freelancers' tax management and marketing
34	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,3	0,3	0,3	2,8	Consecutive Interpreting German
75	0,3	0,1	0,2	0,3	0,1	0,1	0,1	0,2	0,3	0,1	1,8	Applied Linguistics
76	0,3	0,1	0,1	0,3	0,1	0,1	0,1	0,1	0,2	0,3	1,7	Applied Linguistics
77	0,3	0,1	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,2	1,5	Applied Linguistics
104	0,3	0,3	0,3	0,2	0,2	0,2	0,2	0,2	0,3	0,3	2,5	Bilateral Interpreting English
105	0,1	0,3	0,1	0,1	0,2	0,1	0,1	0,1	0,1	0,3	1,5	Consecutive Interpreting English
106	0,3	0,2	0,2	0,2	0,3	0,2	0,2	0,3	0,3	0,3	2,5	Consecutive Interpreting French
107	0,2	0,1	0,2	0,1	0,3	0,1	0,2	0,1	0,1	0,1	1,5	Simultaneous Interpreting English
114	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	Translation Studies Concepts, History and Theories
115	0,3	0,3	0,3	0,3	0,3	0,2	0,3	0,3	0,3	0,3	2,9	Translation Studies Concepts, History and Theories
116	0,3	0,3	0,3	0,2	0,3	0,2	0,3	0,3	0,3	0,3	2,8	Translation Studies Concepts, History and Theories
TOTAL	0,271	0,224	0,241	0,247	0,247	0,171	0,218	0,218	0,247	0,265	2,3	

FIGURE 5 | Knowledge and understanding courses.

responses to the diagnostic results, can be interpreted as confirmation of the rubric's validity in that it sheds light regarding the perils and opportunities of GenAI in HE assessments and in that it sparks reflection and provides a path to follow for those educators willing to update their assessment materials in the era of GenAI. Table 5 presents a summary of the impact of the use of The PANDORA rubric.

4.2 | GenAI Susceptibility Patterns and Assessment Design Modifications (RQ2)

On the one hand, according to The PANDORA scale of 1–3 (Bannister et al. 2025), the average susceptibility across all assessments analysed in this study was 2.4, indicating a high susceptibility to student use of GenAI for their assessments. When grouped by category, the highest vulnerability was observed in

language learning assessments (2.6), followed by translation competence assessments (2.4) and knowledge and understanding assessments (2.3), with tool control assessments (2.0) showing the lowest vulnerability. These findings (see Table 6) highlight the need for innovative approaches to formative assessment to ensure effective teaching and learning outcomes in a variety of assessments.

On the other hand, specific rubric criteria also shed light on the current state of GenAI susceptibility. The most problematic criteria were input format, collaborative authorship, topic selection, and accessibility of information on the Internet. The remaining criteria scored at moderate levels of susceptibility, with none falling into the low-risk range. When analysing these results by assessment groups, the trends remained consistent, though a more granular analysis revealed illuminating differences.

TABLE 2 | Modified assessments per category.

Assessment category	Courses	No. modified assessments	
Language Learning (LL)	Spanish I	3	65/65
	Spanish II	3	
	Spanish Norm	3	
	English I	5	
	English II	5	
	English III	5	
	English IV	5	
	French I	4	
	French II	4	
	French III	4	
	French IV	4	
	German I	5	
	German II	5	
	German III	5	
German IV	5		
Translation Competence (TC)	General Translation Eng-Sp	3	26/48
	General Translation Sp-Eng	1	
	General Translation Fr-Sp		
	General Translation Sp-Fr		
	General Translation Ger-Sp	3	
	General Translation Sp-Ger		
	Translation of Scientific Texts	3	
	Translation of Technical texts	3	
	Translation of Tourism Texts	3	
	Translation of literary and humanistic texts	2	
	Translation of Legal and Economic Texts	2	
	Editorial Translation		
	Translation of Specialised texts I Fr-Sp		
	Translation of Specialised texts II Fr-Sp		
Translation of Specialised texts I Ger-Sp	3		
Translation of Specialised texts II Ger-Sp	3		

(Continues)

TABLE 2 | (Continued)

Assessment category	Courses	No. modified assessments	
Tool Control (TC)	Documentation and IT Resources	3	8/21
	Computer-Assisted Translation Tools		
	Software localization		
	Audiovisual Translation	3	
	Project Management	2	
	Machine Translation and Post-editing		
	Terminology		
	History, Politics, and Culture (English-speaking countries)	1	
	Translation Studies Concepts, History, and Theories	3	
	Applied Linguistics	3	
Knowledge and Understanding (KU)	Freelancer's tax management and marketing		10/17
	Bilateral Interpreting (English)	1	
	Consecutive Interpreting (English)		
	Consecutive Interpreting (French)	1	
	Consecutive Interpreting (German)	1	
	Simultaneous Interpreting (English)		

TABLE 3 | Type of modification per category.

Type of modification	Number of assessments				Total
	LL	TC	TC	KU	
GenAI susceptibility reduction	65	26	5	10	109
GenAI incorporation for didactic purposes	36	20	6	9	71
	29	6	2	1	38

For tool control assessments, susceptibility was mitigated most effectively by factors such as output format, opportunities for creativity and evaluation criteria focused on process-based evidence; these assessments often required students to demonstrate the specific steps followed when using a tool.

In language learning assessments, the highest susceptibility arose from the accessibility of topic-related information on the internet, input format, and the common practice of pre-assigning

TABLE 4 | Suggested modifications.

Criterion	Modification
AI tool-susceptibility of input format	Texts in images
AI tool-susceptibility of output format	Audio or audiovisual output formats (mostly video recordings)
AI tool-susceptibility of intellectual task	Inclusion of higher-order cognitive tasks involving analysis, assessment, arguments, and creation, with process tracking (record of sources consulted, colour-codes to underline words or ideas in texts, arguments related to the concepts and examples provided in live sessions or personal context, etc.)
Collaborative authorship	<ul style="list-style-type: none"> Enhanced dependence among assessment parts (revisions, progressive steps, etc.) Inclusion of proof of collaboration in the assessment criteria
Topic	<ul style="list-style-type: none"> Relevant topics to be chosen and justified by students Inclusion of criterion in the assessment criteria regarding the quality of the justification
Opportunity for creativity	Allocation of points to creativity in content-related criteria (points for particularly good solutions to translation problems, etc.)
Instruction translatability into prompts	<ul style="list-style-type: none"> Reduction of detailed instructions More general references to the syllabus or course content
Assessment criteria	<ul style="list-style-type: none"> Increased points for translation reports Inclusion of criterion regarding proof of collaboration (all students should appear and participate in the videos, and all students' footsteps should be identifiable in texts) Inclusion of criterion regarding proof of process compliance (screenshots, track changes device, version record, comparative progressive tables with tracking of changes, underlying of elements using colour codes, etc.)
AI tool access to topic information	Selection of less well-known texts and topics (less present on the internet)
Authorship evidence	Inclusion of authorship proof requirements (the student's face must appear in the recording, all students must appear in collaborative videos, etc.)

TABLE 5 | Summary table of the impact of use of the Rubric.

Group category	No. assessments	Scoring 1–3	No. assessments modified	%
Language learning courses	48	2.6	26	54.2
Translation competence courses	65	2.4	65	100
Tool control courses	21	2	8	38.1
Knowledge and understanding courses	17	2.3	10	58.8

writing topics, a necessity for training specific language skills, even more concise in lower language levels. Also, evaluation criteria for these assessments often focused heavily on the final product. However, criteria like output format and intellectual task complexity were less susceptible to GenAI, likely influenced by oral production tasks that required audio or audiovisual recorded submissions, which pose a challenge for free GenAI tools.

For translation competence assessments, a reduced susceptibility was associated with less detailed instructions, leading students to use generic prompts like 'translate', which overlooked critical elements in translation decisions such as cultural elements management, tone and register selection, consideration of target audience expectations, and target text function. This opens opportunities to emphasise the didactic pertinence of translation reports, where students justify their translational

decisions. Susceptibility was also reduced by output formats requiring CAT tools and evaluation criteria that incorporated translation reports, albeit with few points assigned.

Finally, regarding knowledge and understanding assessments, opportunities for creative productions helped to mitigate susceptibility to GenAI use, aligning with the intellectual task complexity criterion. Conversely, input format contributed significantly to increased susceptibility.

In sum, the findings suggest that the following strategies can reduce susceptibility to GenAI use and simultaneously enhance the overall quality of assessments.

1. Promoting student autonomy (e.g., justified topic selection and opportunities for creativity beyond predefined guidelines).

TABLE 6 | Scoring per group category.

Group category	Scoring 1–3
Language learning courses	2.6
Translation competence courses	2.4
Tool control courses	2
Knowledge and understanding courses	2.3
Total	2.4

2. Designing authentic and verifiable collaborative assessments based on interdependent tasks.
3. Requiring outputs in formats other than Word documents or PowerPoint presentations.
4. Designing coherent evaluation criteria that emphasise processes, demonstrating students' work progression and authorship.
5. Reducing reliance on widely available internet information.

From a qualitative perspective, the modifications introduced by educators are significant in two respects. First, as shown in Table 2, educators with assessments belonging to specific course categories (language learning and translation competence) felt more compelled to revise their assessments. In this sense, educators owning language learning assessments opted to modify them all (65 out of 65), followed by those owning translation competence assessments (26 out of 48), knowledge and understanding assessments (10 out of 17) and tool control assessments (8 out of 21). Second, they indicate where educators found it most pertinent to incorporate or exclude GenAI.

For tool control and knowledge and understanding assessments, as shown in Table 3, modifications primarily aimed at making it more difficult and less interesting for students to use GenAI. Conversely, language learning assessments showed a nearly equal split between modifications aimed at excluding GenAI and those integrating it, reflecting the potential educators see in AI as a language-learning resource.

Educators focusing on translation competence assessments predominantly opted to isolate tasks from GenAI, enabling students to develop their own translation skills, such as adopting routine workflows, making informed translational decisions, and self-editing. When GenAI was incorporated, it served as a tool to prompt reflection on its role as a translation assistant, examining its utility and limitations.

These observed modifications align with the researchers' recommendations list following the interview discussions. Educators generally preferred adjustments that included changing submission formats, emphasising process-based evaluation, and reducing task detail to foster autonomy. They significantly improved evaluation criteria to include evidence of collaboration, authorship, and process documentation.

For GenAI integration as a pedagogical tool, educators allowed freedom in tool selection and designed tasks that compared human versus machine outputs. GenAI was used as a

preliminary linguistic reviewer, yet always framed as an assistant rather than a substitute. This aligns with Levels 1 and 2 of UNESCO's (2024) AI Competency Framework for Students, emphasising understanding AI's technical and ethical impacts and applying it with a human-centric approach, as articulated by Mollick's (2024) 'human-in-the-loop' perspective.

5 | Discussion

5.1 | Critical Reflections on Validating the PANDORA Rubric's Efficacy

The empirical validation of assessment instruments within contemporary HE contexts demands rigorous scrutiny, particularly given the rapidly evolving technological landscape characterising modern pedagogical practice. The PANDORA rubric's validation process through field-testing, as evidenced through this study, demonstrates compelling indicators of both instrumental and catalytic validity within the specified institutional context. The substantial engagement of teaching staff (79.2% participation rate) provides robust empirical evidence of the instrument's accessibility and perceived utility among practitioners. This engagement level proves particularly noteworthy given the intensive nature of assessment evaluation processes and the competing demands on academic staff time within contemporary HE environments. The willingness of educators to engage in detailed evaluation processes suggests an acute recognition of the pressing need to examine and potentially recalibrate assessment practices in response to emerging GenAI technologies.

This empirical validation process aligns with what Dawson et al. (2024) identify as the critical need for paradigmatic reconceptualisation of assessment validity through technological mediation. The significant involvement of teaching staff with The PANDORA rubric illustrates what Rudolph et al. (2024) describe as the unprecedented inflection point between technological mediation and pedagogical authenticity while also addressing Creely and Janssen's (2025) concerns about knowledge construction in contemporary HE contexts.

The subsequent modification of 72.2% of evaluated assessments (109 out of 151) further strengthens the rubric's catalytic validity, demonstrating its capacity not merely to diagnose susceptibility but to facilitate pedagogical transformation actively. This high modification rate indicates that the rubric's diagnostic outputs provided sufficiently clear and actionable insights to motivate substantial assessment redesign. The bifurcation of these modifications between GenAI susceptibility reduction (71 assessments) and pedagogical integration (38 assessments) reveals nuanced decision-making processes among educators, suggesting the rubric's utility in supporting diverse approaches to assessment enhancement. The qualitative refinement of specific parameters, particularly regarding canonical topic accessibility and collaborative authorship constructs, reflects the instrument's responsiveness to practitioner feedback while maintaining theoretical integrity. This iterative enhancement process aligns with contemporary approaches to instrument validation in educational research, acknowledging the dynamic nature of assessment design in technologically mediated learning

environments. Clarifying these parameters through practitioner feedback demonstrates the importance of combining theoretical robustness with practical usability in assessment instrument design.

5.2 | Emergent Patterns in GenAI Susceptibility

The differential susceptibility patterns across disciplinary domains reveal complex intersections between subject matter, assessment design, and technological susceptibility that warrant detailed examination. The quantitative analysis reveals a hierarchical pattern of susceptibility that demands critical interrogation, particularly regarding its implications for assessment design and pedagogical practice. These findings substantiate Bannister et al.'s (2025) theoretical conceptualisation of GenAI susceptibility, particularly regarding the “spectral engineering” of hybrid outputs in academic assessment. The observed patterns align with Koc et al.'s (2024) analysis of disciplinary differentiation, where humanities-based assessments demonstrate heightened vulnerability compared to quantitative problem-solving methodologies. Moreover, the findings regarding translation competence assessments echo Brufau Alvira's (2024) observations about the evolving nature of translator competence and assessment validity in technologically mediated learning environments.

The heightened vulnerability in language learning assessments (mean susceptibility score 2.6) presents particularly challenging implications for pedagogical practice. This elevated susceptibility appears predominantly linked to three key factors: the accessibility of topic-related information on the internet, traditional input format preferences, and the necessary practice of pre-assigning writing topics for specific language skill development. These findings suggest that traditional approaches to language acquisition evaluation may require substantial reconceptualisation in the GenAI era, particularly regarding assessment design and authentication mechanisms. The findings reveal particular susceptibilities in mechanical application exercises emphasising lower-order cognitive tasks, alongside challenges related to excessive instructional detail and individualistic assessment approaches. This pattern suggests an urgent need for pedagogical reorientation, moving beyond traditional assessment modalities towards more sophisticated evaluation frameworks.

Translation competence assessments' positioning (2.4) illuminates the challenges faced by disciplines straddling theoretical knowledge and practical application. The analysis reveals that reduced susceptibility was associated with less detailed instructions, which paradoxically exposed critical gaps in GenAI's capacity to navigate complex translational decisions regarding cultural elements, tone, register, and target audience expectations. This finding suggests potential protective mechanisms inherent in assessments requiring sophisticated professional judgement and contextual awareness.

The relative resilience of tool control assessments (2.0) offers valuable insights into potential protective mechanisms, notably through factors such as output format requirements, opportunities for creativity, and evaluation criteria focused on

process-based evidence. This resilience appears linked to the inherent requirement for students to demonstrate specific procedural steps and tool utilisation competencies, suggesting potential frameworks for enhancing assessment security across other disciplinary contexts. The analysis of specific rubric criteria reveals particularly problematic areas across all assessment categories, notably input format, collaborative authorship, topic selection, and accessibility of information on the internet. However, the granular analysis reveals illuminating differences in how these susceptibilities manifest across different assessment types, suggesting the need for discipline-specific approaches to assessment enhancement.

These findings necessitate a reconceptualisation of assessment design principles, particularly regarding the balance between technological integration and academic integrity. The emergence of process-focused evaluation criteria and enhanced emphasis on collaborative authenticity suggests potential pathways for maintaining assessment rigour whilst acknowledging technological realities. Furthermore, the data suggest that successful assessment design in the GenAI era may require greater emphasis on contextual understanding, practical application, and demonstrated procedural knowledge rather than purely content-based evaluation.

5.3 | Pedagogical Implications

The findings from this study necessitate a fundamental reconceptualisation of assessment design principles in HE, particularly regarding the intersection of technological integration, pedagogical effectiveness, and academic integrity. Several critical implications emerge from the empirical evidence, demanding careful consideration within contemporary educational frameworks. These findings both extend Heydari and Maddah's (2025) analysis of the fundamental shift in knowledge validation within HEIs and address what we term the 'techno-epistemic turn' in HE. In addition, the emerging emphasis on process documentation and collaborative authenticity aligns with Fawns et al.'s (2021) call for rigorous examination of the underlying assumptions guiding academic practice and assessment design.

The study reveals the importance of discipline-specific approaches to assessment design in the GenAI era. The varying patterns of susceptibility and modification across different subject areas suggest that generic institutional policies regarding assessment design may prove insufficient. Instead, the findings advocate for nuanced, discipline-aware frameworks that acknowledge the unique challenges and opportunities presented by GenAI within different pedagogical contexts. Furthermore, the emergence of process-focused evaluation criteria and enhanced emphasis on collaborative authenticity suggests potential pathways for maintaining assessment rigour in specific technological realities. In particular, the shift towards emphasising evidential demonstration of process through mechanisms such as version control, collaborative documentation, and multimedia submissions indicates promising directions for assessment innovation.

Lecturer responses to GenAI susceptibility diagnostics reveal complex patterns of adaptation that require examination.

These modifications show engagement with technological challenges and pedagogical needs, highlighting new assessment approaches in higher education. Assessment strategies reflect Mercan et al. (2024)'s view of machine-assisted learning's evolution, particularly the tension between product-oriented frameworks and human-machine collaboration. Educators aim to preserve critical thinking through deep engagement with source texts and cultural nuances (Zhang and Dong 2024).

The revision approach in language learning (100% modification) highlights the urgency of addressing GenAI vulnerabilities and the challenges of maintaining assessment authenticity. This poses a threat to language acquisition in a GenAI-influenced educational landscape, as noted by Chen (2024). In contrast, the selective modification strategy in translation assessments (54.2%) indicates a responsiveness to GenAI integration, showing a measured alignment with the discipline's established use of technology. This reflects thoughtful decision-making on balancing technological use with core competencies development.

Modification patterns in tool control and knowledge assessments show similar strategies with different emphases. Lower modification rates (38.1% and 58.8%) suggest existing assessment designs may resist GenAI exploitation by emphasising practical demonstration and process documentation.

Student agency and creativity in assessment design have also been highlighted as a renewed element for consideration. The successful incorporation of student-selected and justified topics, well-justified creative decisions, and authentic collaborative work suggests that increased student autonomy may act as a protective factor against inappropriate GenAI use. Furthermore, it may also enrich learning outcomes. Moreover, the study's findings are consistent with UNESCO's (2024) AI Competency Framework and Mollick's (2024) human-in-the-loop paradigm, suggesting the potential for integrated approaches that neither wholly reject nor uncritically embrace GenAI technologies. This balanced perspective appears particularly relevant for disciplines where technological assistance already forms part of professional practice, suggesting opportunities for authentic assessment design that reflects real-world contexts.

The findings from this study carry significant implications for institutional policy development regarding assessment design and technological integration. The empirical evidence suggests the need for flexible yet robust institutional frameworks that can accommodate discipline-specific approaches, together with academic integrity. Such frameworks must balance technological innovation with pedagogical effectiveness, supporting educators in developing assessment strategies that emphasise authentic learning experiences, collaborative engagement, and precise authorship validation mechanisms. Moreover, institutions must consider how policy frameworks can effectively support the development of coherent evaluation criteria that value process and outcome in student assessment.

5.4 | Study Limitations

The present study, apart from offering valuable insights into GenAI susceptibility patterns and assessment transformation in

HE, needs careful acknowledgement of several methodological and contextual limitations that impact the interpretation and generalisability of findings. The study's situation within a single distance learning institution, with its specific technological infrastructure, pedagogical frameworks, and institutional policies characteristic, may not fully align with traditional campus-based settings or hybrid learning contexts. Furthermore, while this study offers valuable interdisciplinary perspectives, the institutional emphasis on translation studies may not comprehensively capture the full spectrum of GenAI susceptibility patterns across other academic disciplines.

The rapidly evolving nature of GenAI technologies presents significant temporal limitations. The study's execution during July 2024 provides a snapshot of technological capabilities and vulnerabilities that may quickly become outdated as GenAI tools advance. This temporal constraint impacts the longevity of specific assessment modification strategies and may necessitate ongoing revalidation of The PANDORA rubric's parameters. Moreover, the dynamic nature of technological advancement suggests that assessment modification strategies may require continuous adaptation to maintain effectiveness against emerging GenAI capabilities. The reliance on voluntary participation in the assessment modification process introduces potential self-selection bias, potentially skewing results towards educators already engaged with technological innovation. Furthermore, the quota sampling approach employed for unavailable educators, though pragmatic, may have impacted the authenticity of assessment evaluation in cases where colleagues analysed assessments outside their immediate expertise. The study's focus on immediate assessment modifications precludes examination of long-term implementation effectiveness and student learning outcomes, limiting our understanding of sustained impact.

5.5 | Future Research Trajectories

These limitations suggest crucial directions for future research endeavours. Longitudinal studies examining the sustained effectiveness of assessment modifications across diverse institutional contexts would significantly enhance our understanding of assessment transformation in the GenAI era. Cross-institutional comparative analyses could further validate the utility of the PANDORA rubric in diverse educational settings, while integrating student perspectives and experiences with modified assessment designs would yield valuable insights into learner engagement. Additionally, investigation of cultural and linguistic factors in GenAI susceptibility patterns across international educational contexts would enhance the global applicability of these findings. Last, the interdisciplinary nature of Translation Studies allows for research replicability in other disciplines within the Humanities, as well as for transferability of good practices in assessment design.

These significant methodological and contextual limitations do not diminish the study's valuable contribution to understanding GenAI susceptibility in HE assessment. Instead, they provide crucial context for interpreting findings and highlight important areas for future research exploration. They also acknowledge the complex nature of educational research in rapidly

evolving technological landscapes. Last, they contribute to current debates on the ethical implications of AI use by changing the focus of the effort from students to instructors in how they design assessments.

6 | Conclusions

After carefully revisiting the 151 assignments used in the Bachelor's Degree in Translation and Interpreting and modifying 109 of them, we can confirm that the PANDORA rubric is a practical, accessible tool for evaluating assessment susceptibility to GenAI, which answers RQ1 (To what extent is The PANDORA GenAI Susceptibility Rubric a valid tool to facilitate lecturers' evaluation of their assessments?). The rubric provides clear guidance for lecturers who previously lacked concrete frameworks to assess AI-related risks. Through the interviews carried out during this research, educators have attested to the usefulness of the rubric as an intervention tool, allowing them to critically rethink, reflect, and redesign their assessments. Their awareness of GenAI implications in their respective disciplines increased when engaging with the rubric. One of the main modifications carried out by educators allowed them to shift the focus from product-based evaluation to process-based assessment as they emphasised authorship, creativity, and collaboration.

The findings presented here also pinpoint that using this rubric not only allows teachers to reduce GenAI susceptibility but also leads to broader assessment improvements, which have a direct impact on the quality of teaching practices for students. These modifications and improvements refer to greater rubric coherence and ensure assessment criteria align with higher-order cognitive skills rather than mere content reproduction. They also forced educators to reconsider learning objectives, which made them ensure that assessments pursued the integration of skills that AI cannot easily replicate (e.g., critical thinking, originality or metacognition, among others). Rethinking learning objectives in the AI era remains crucial for HEIs, as these need to ensure that students develop competencies that remain valuable in AI-enhanced academic and professional contexts.

This study has highlighted discipline-specific susceptibilities and the existence of diverse approaches to reducing GenAI vulnerability in assessment practices or to integrating GenAI in assignments for educational purposes. These findings answer RQ2, demonstrating that GenAI susceptibility is context-dependent and that effective assessment redesign requires discipline-specific adaptation rather than a one-size-fits-all approach. However, the rapid advance of this technology calls for faculty training on AI-aware assessment, which means that institutions need to support faculty development through training programmes that ensure AI is used ethically and is integrated pedagogically into assessment practices.

The findings here contribute to AI-aware assessment discourse beyond Translation Studies and demonstrate that hands-on tools and frameworks can help mitigate GenAI challenges. We pretend for this study to serve as a model for other institutions and to show them how the PANDORA rubric framework can be implemented, validated, and refined over time. It should be noted that while the study focuses on one online institution, the results

support a broader call to action for higher education institutions to develop scalable and adaptable assessment strategies in the AI era. Similarly, although the study focused on a Translation Studies degree, we believe that its results can be transferred to other disciplines within the humanities.

Last, the implications regarding the role of instructors in the integration of an ethical use of AI in HE courses are remarkable, shifting from student-centred approaches in which ineffective control measures are implemented, towards an instructor-centred perspective. Through redesigned AI-aware assessments, AI use by students can be both avoided and guided for educational purposes depending on the learning objectives in each case. We believe this idea can contribute in more pragmatic and effective ways to the elaboration of AI-use guides and frameworks in HE institutions, while the specific results of the study can be taken as suggestions for managers, instructors and students to better deal with AI in their specific contexts.

Author Contributions

Alexandra Santamaría Urbieto led the project's conceptualisation, supervision, project administration, and funding acquisition, while also contributing to methodology design, validation, and review and editing of the manuscript. Nuria Brufau Alvira was responsible for methodology and validation, and co-authored both the original draft and revised versions. Peter Bannister conducted the literature review, data curation, and investigation, and co-authored the manuscript draft and subsequent revisions. All authors have read and approved the final manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

References

- Akbulut, F. D. 2022. "A Study on the Interdisciplinary Nature of Translation Studies." *Journal of Language Research* 6, no. 1: 45–56. <https://doi.org/10.51726/jlr.1193899>.
- An, Y., J. H. Yu, and S. James. 2025. "Investigating the Higher Education Institutions' Guidelines and Policies Regarding the Use of Generative AI in Teaching, Learning, Research, and Administration." *International Journal of Educational Technology in Higher Education* 22: 10. <https://doi.org/10.1186/s41239-025-00507-3>.
- Arantes, J. 2024. "Postdigital Teacher Identities." In *Encyclopedia of Postdigital Science and Education*, edited by P. Jandrić. Springer. https://doi.org/10.1007/978-3-031-35469-4_77-1.

- Bannister, P. 2024. "English Medium Instruction Educator Language Assessment Literacy and the Test of Generative AI in Online Higher Education." *Research in Applied Linguistics* 14, no. 2: 7–19. <https://doi.org/10.22055/rales.2024.45862.3214>.
- Bannister, P., A. Santamaría, and N. Brufau. 2025. "Appraising Higher Education Assessment Validity: Development of The PANDORA GenAI Susceptibility Rubric." *Journal of Applied Learning & Teaching* 8, no. 1: 41–55. <https://doi.org/10.37074/jalt.2025.8.1.20>.
- Bearman, M., and R. Ajjawi. 2019. "Can a Rubric Do More Than Be Transparent? Invitation as a New Metaphor for Assessment Criteria." *Studies in Higher Education* 46, no. 2: 1–10. <https://doi.org/10.1080/03075079.2019.1637842>.
- Brufau Alvira, N. 2024. "Propuesta consensuada (Delphi) de prácticas docentes para la adquisición de la competencia traductora. Mutatis Mutandis." *Revista Latinoamericana de Traducción* 17, no. 1: 192–221. <https://doi.org/10.17533/udea.mut.v17n1a09>.
- Bryman, A. 2012. *Social Research Methods*. 4th ed. Oxford University Press.
- Chan, C. K. Y. 2023. "Is AI Changing the Rules of Academic Misconduct? An In-Depth Look at Students' Perceptions of 'AI-Giarism'." *arXiv*.
- Chapelle, C. A., and H. Lee. 2021. "Conceptions of Validity." In *The Routledge Handbook of Language Testing*, edited by G. Fulcher and L. Harding, 21–34. Routledge. <https://doi.org/10.48550/arXiv.2306.03358>.
- Chen, Y. 2024. "Generative Artificial Intelligence Empowering Translation: Current Status, Challenges, and Prospects." *Educational Review* 8, no. 12: 1447–1454. <https://doi.org/10.26855/er.2024.12.005>.
- Ciobanu, D. 2024. "Interdisciplinarity in Translation and Interpreting." *Journal of Translation Studies (Peter Lang)* 4, no. 1: 13–23. <https://doi.org/10.3726/JTS012024.01>.
- Creely, E., and K. Janssen. 2025. "Onto-Epistemological Understandings of Generative Artificial Intelligence in Education." *International Journal of Changes in Education* 2: 55–65. <https://doi.org/10.47852/bonviewIJCE52024380>.
- Dawson, P., M. Bearman, M. Dollinger, and D. Boud. 2024. "Validity Matters More Than Cheating." *Assessment & Evaluation in Higher Education* 49, no. 7: 1005–1016. <https://doi.org/10.1080/02602938.2024.2386662>.
- Dusza, D. G. 2023. "Machine Translation in the Writing Process: Pedagogy, Plagiarism, Policy, and Procedures." In *Handbook of Academic Integrity*, edited by S. E. Eaton. Springer. https://doi.org/10.1007/978-981-287-079-7_152-1.
- Fawns, T., G. Aitken, and D. Jones. 2021. "A Little More Conversation, A Little Less Factionalisation: Thoughts for the Postdigital Future of Online Postgraduate Education." In *Online Postgraduate Education in a Postdigital World. Postdigital Science and Education*, edited by T. Fawns, G. Aitken, and D. Jones. Springer. https://doi.org/10.1007/978-3-030-77673-2_12.
- Groves, M., and K. Mundt. 2021. "A Ghostwriter in the Machine? Attitudes of Academic Staff Towards Machine Translation Use in Internationalised Higher Education." *Journal of English for Academic Purposes* 50: 100957. <https://doi.org/10.1016/j.jeap.2021.100957>.
- Heydari, B., and N. Maddah. 2025. "The Shifting Dynamics of Online Knowledge Platforms and the Implications for Generative AI Sustainability." https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5117087.
- Jin, Y., L. Yan, V. Echeverria, D. Gašević, and R. Martinez-Maldonado. 2025. "Generative AI in Higher Education: A Global Perspective of Institutional Adoption Policies and Guidelines." *Computers and Education: Artificial Intelligence* 8: 100348. <https://doi.org/10.1016/j.caeai.2024.100348>.
- Koc, M., E. Tezcan, Z. H. Ulutas, and M. Ayhan. 2024. "The Relationship Between Virtual Reality Attitudes and Metaverse in Sports Sciences Students." *Journal of ROL Sport Sciences* 5, no. 3: 410–423. <https://doi.org/10.5281/zenodo.13894615>.
- Lee, T. 2024. "Artificial Intelligence and Posthumanist Translation: ChatGPT Versus the Translator." *Applied Linguistics Review* 15, no. 6: 2351–2372. <https://doi.org/10.1515/applirev-2023-0122>.
- Luo, J. 2024. "A Critical Review of GenAI Policies in Higher Education Assessment: A Call to Reconsider the "Originality" of Students' Work." *Assessment & Evaluation in Higher Education* 49, no. 5: 651–664. <https://doi.org/10.1080/02602938.2024.2309963>.
- Mercan, H., Y. Akgün, and M. C. Odacıoğlu. 2024. "The Evolution of Machine Translation: A Review Study." *International Journal of Language and Translation Studies* 4, no. 1: 104–116.
- Merriam, S. M. 2009. *Qualitative Research: A Guide to Design and Implementation*. John Wiley & Sons.
- Mollick, E. 2024. *Cointelligence. Living and Working With AI*. Portfolio-Penguin.
- PACTE. 2003. "Building a Translation Competence Model." In *Triangulating Translation: Perspectives in Process Oriented Research*, edited by F. Alves. John Benjamins.
- Panadero, E., A. Jönsson, L. Pinedo, and B. Fernández-Castilla. 2023. "Effects of Rubrics on Academic Performance, Self-Regulated Learning, and Self-Efficacy: A Meta-Analytic Review." *Educational Psychology Review* 8, no. 4: 113. <https://doi.org/10.1007/s10648-023-09823-4>.
- Paterson, K. 2022. "Machine Translation in Higher Education: Perceptions, Policy, and Pedagogy." *TESOL Journal* 14, no. 2: e690. <https://doi.org/10.1002/tesj.690>.
- Perkins, M., L. Furze, J. Roe, and J. MacVaugh. 2024. "The Artificial Intelligence Assessment Scale (AIAS): A Framework for Ethical Integration of Generative AI in Educational Assessment." *Journal of University Teaching and Learning Practice* 21, no. 6. <https://doi.org/10.53761/q3azde36>.
- Rudolph, J., M. F. Ismail, and S. Popenici. 2024. "Higher Education's Generative Artificial Intelligence Paradox: The Meaning of Chatbot Mania." *Journal of University Teaching and Learning Practice* 21, no. 6. https://researchers.cdu.edu.au/files/110569809/744-Rudolph_et_al_final_2.pdf.
- Saeger, D. K. J., L. R. Finley, and M. J. Wickam. 2024. "The AI Revolution: Awareness of and Readiness for AI-Based Digital Tools and Technologies in Business Education." *Journal of Research in Business Education* 64, no. 1. <https://jrbe.nbea.org/index.php/jrbe/article/view/106>.
- Santamaría Urbieta, A., and E. Alcalde Peñalver. 2024. "Se busca lingüista computacional: ¿qué necesitan saber los formadores de traducción sobre la situación actual de la profesión?" *Mutatis Mutandis* 17, no. 1: 143–165.
- Sauder, M., T. Tritsch, V. Rajput, G. Schwartz, and M. M. Shoja. 2024. "Exploring Generative Artificial Intelligence-Assisted Medical Education: Assessing Case-Based Learning for Medical Students." *Cureus* 16, no. 1: e51961. <https://doi.org/10.7759/cureus.51961>.
- Smith, C. 2024. "Reimagining Assessment in the Era of Generative Artificial Intelligence: A Reflection on Legal Education." *Innovative Practice in Higher Education* 9, no. 1. <https://salford-repository.worktribe.com/output/2538018>.
- Stahuljak, Z. 2014. "An Epistemology of Tension: Translation and Multiculturalism." *Translator* 10, no. 1: 33–57. <https://doi.org/10.1080/13556509.2004.10799167>.
- UNESCO, F. Miao, and K. Shiohira. 2024. "UNESCO'S AI Competency Framework for Students."
- Xu, T., and N. F. Jumaat. 2024. "ChatGPT-Empowered Writing Strategies in EFL Students' Academic Writing: Calibre, Challenges and Chances."

International Journal of Interactive Mobile Technologies (IJIM) 18, no. 15: 95–114. <https://doi.org/10.3991/ijim.v18i15.49219>.

Zaphir, L., J. M. Lodge, J. Lisec, D. McGrath, and H. Khosravi. 2024. “How Critically Can an AI Think? A Framework for Evaluating the Quality of Thinking of Generative Artificial Intelligence.” *arXiv*. <https://doi.org/10.48550/arXiv.2406.14769>.

Zhang, Y., and C. Dong. 2024. “Exploring the Digital Transformation of Generative AI-Assisted Foreign Language Education: A Socio-Technical Systems Perspective Based on Mixed-Methods.” *System* 12, no. 11: 462. <https://doi.org/10.3390/systems12110462>.

Zhao, F., Z. Liu, J. Zhou, and C. Yin. 2024. “A Learning Analytics Framework Based on Human-Centered Artificial Intelligence for Identifying the Optimal Learning Strategy to Intervene in Learning Behavior, *JSTOR*.” *Educational Technology & Society* 5, no. 3: 132. <https://www.jstor.org/stable/48707972>.