



ENHANCING EPISTEMIC COMPETENCE OF PHILOLOGY STUDENTS IN DIGITAL LEARNING ENVIRONMENTS

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ABSTRACT	KEYWORDS
The rapid transformation of higher education through digital technologies has changed how students acquire, evaluate, interpret, and construct knowledge. In philological education, where linguistic evidence and textual interpretation are central, epistemic competence is increasingly essential. This article analyzes theoretical and pedagogical approaches to enhancing philology students' epistemic competence in digital learning environments. Using conceptual analysis and a critical synthesis of scholarship on epistemic cognition, digital literacy, and technology-enhanced education, the study develops a five-dimensional framework encompassing cognitive-epistemic understanding, critical analysis, metacognitive reflection, digital research, and ethical communication. It discusses problem-based inquiry, corpus-based analysis, collaborative interpretation, reflective portfolios, and critical verification of AI-generated materials as instructional strategies. These approaches are presented as pedagogical propositions rather than experimentally validated outcomes. The article argues that digital tools can support responsible academic judgment when they are accompanied by explicit instruction in evidence evaluation, awareness of uncertainty, and academic integrity. The framework provides a basis for curriculum design and future empirical research in university philology programs.	Epistemic competence; philology students; digital learning environments; epistemic cognition; critical thinking; digital literacy; artificial intelligence; reflective learning.

INTRODUCTION

Digital technologies have reshaped educational practices in universities by expanding access to scholarly databases, electronic corpora, literary archives, learning management systems, and artificial intelligence applications. These resources create meaningful opportunities for independent research. Yet an increased quantity of accessible material does not necessarily improve the accuracy or justification of students' knowledge. Philology students routinely encounter conflicting linguistic explanations, competing literary interpretations, and sources of uneven scholarly quality. Their academic preparation therefore requires more than the ability to retrieve information: it requires

reasoned judgments about the origin, credibility, limitations, and evidential basis of knowledge claims.

Epistemic competence may be understood as the integrated capacity to examine how knowledge is produced and justified, distinguish evidence from assertion, evaluate alternative interpretations, recognize uncertainty, and revise judgments in response to stronger evidence. This competence is particularly relevant to philology, where texts and language phenomena can invite multiple plausible readings, but those readings nevertheless require methodological consistency and textual or linguistic support. As Chinn, Buckland, and Samarapungavan (2011) explain, epistemic cognition encompasses aims, standards of knowledge justification, intellectual virtues, and inquiry practices. Developing such capacities supports students' intellectual autonomy and scholarly responsibility.

The objective of this article is to clarify the dimensions of epistemic competence relevant to philological study and propose practical methods for strengthening them in digital environments. The guiding question is how digital tools, instructional activities, and assessment practices can be combined to encourage evidence-based interpretation without encouraging uncritical dependence on technology.

2. MATERIALS AND METHODS

This study uses a conceptual, qualitative research design based on analytical comparison and synthesis of established literature. It draws on scholarly accounts of epistemic cognition, research into students' evaluation of online information, and international guidance on responsible applications of generative AI in education. The discussion considers the disciplinary requirements of philological research, including linguistic analysis, translation, discourse studies, and literary criticism. First, central characteristics of epistemic competence are distinguished from related notions of technical proficiency and information access. Second, pedagogical affordances and limitations of digital learning are examined in relation to students' justification of knowledge claims. Third, these insights are integrated into a proposed framework and a set of learning activities and assessment indicators.

The article does not report data obtained from a classroom experiment, participant interviews, or student surveys. Consequently, recommendations are theoretical and practice-oriented, and claims of instructional effectiveness remain hypotheses to be examined through subsequent empirical research. This distinction is important for the transparency and validity of the study.

3. RESULTS AND DISCUSSION

The conceptual synthesis suggests five mutually reinforcing dimensions of epistemic competence. The cognitive-epistemic dimension concerns the difference between established claims, interpretations, theoretical propositions, and unsupported opinions. The critical-analytical dimension involves evaluating sources, examining the adequacy of evidence, identifying inconsistencies, and comparing explanations. The reflective-metacognitive dimension requires students to monitor their reasoning, acknowledge their assumptions, and revise interpretations when new evidence emerges. The digital-research dimension concerns critical and purposeful use of corpora, academic databases, digital archives, and research tools. Finally, the ethical-communicative dimension integrates responsible citation, intellectual honesty, transparent use of AI, and respectful discussion of different perspectives. These dimensions are analytically distinguishable but should be addressed together during learning activities.

A key educational distinction lies between digital fluency and epistemic responsibility. A student may search academic resources quickly while failing to judge whether a claim is appropriately supported. Research by McGrew and colleagues (2018) indicates that students often face difficulties evaluating online sources. Wineburg and McGrew (2019) describe lateral reading as an expert practice in which a source's credibility is checked by consulting independent information outside the original website. Philology lecturers can adapt this strategy by asking students to compare online grammatical explanations, verify the scholarly standing of literary criticism, or investigate authorship and publication context before relying on a text.

Problem-based digital inquiry offers one possible instructional pathway. Students might investigate how an expression changes meaning across periods, genres, or communities. Rather than simply locating a dictionary definition, they would formulate a research question, assemble relevant material, distinguish primary data from commentary, evaluate evidence, and explain the limits of their findings. Such activities allow epistemic standards to become visible within authentic philological tasks. The lecturer's role is to model how competing explanations are weighed and to require reasons for accepting or rejecting them.

Corpus-based linguistic analysis provides another useful setting for disciplined interpretation. Electronic corpora make it possible to examine collocations, frequencies, register differences, and contextual meaning across collections of texts. For example, a student comparing the word "identity" across academic and journalistic texts can assemble concordance evidence and identify recurring patterns. However, corpus data are shaped by genre coverage, sampling decisions, and search procedures; the numbers alone cannot settle an interpretation. Instructors should therefore ask students to discuss corpus limitations alongside their results. Such reflection helps distinguish a defensible linguistic conclusion from an overgeneralization.

Collaborative digital learning can also strengthen the justification of interpretations. In shared documents or online seminars, groups can compare translations of a literary passage and debate lexical, stylistic, and cultural choices. The educational benefit arises when students must refer to linguistic evidence and engage constructively with counterarguments, not merely when they divide tasks among themselves. Guided peer review can require each participant to identify the strongest evidence for a proposed interpretation, a possible weakness, and an alternative explanation. The resulting exchange treats disagreement as an opportunity for inquiry rather than a problem to eliminate.

Reflective portfolios make the process of knowledge construction more explicit. Students can preserve initial interpretations, source-evaluation notes, feedback, and subsequent revisions, explaining which new evidence changed their judgment. This approach allows assessment to address reasoning processes as well as finished products. Criteria may include the relevance and quality of sources, accuracy of evidence use, awareness of uncertainty, consistency of argumentation, and transparency of academic attribution. Progress in epistemic competence should therefore be examined through authentic tasks and rubrics, not inferred from general familiarity with digital platforms.

Generative AI creates both a teaching opportunity and an important challenge. AI applications can rapidly propose translations, explanations, or literary readings, but fluent output is not synonymous with verified scholarship. UNESCO's guidance on generative AI stresses human agency, ethical governance, and critical use in educational settings (Miao & Holmes, 2023). A productive classroom exercise is to provide students with an AI-generated interpretation and require them to check its claims

against original texts, dictionaries, corpora, and peer-reviewed research. Students should identify unsupported citations and revise weak reasoning while disclosing how the tool was used. Under these conditions, AI output becomes an object of analysis rather than an unquestioned academic authority. Implementation can follow a coherent instructional sequence without creating separate isolated topics in the curriculum. Lecturers first introduce standards for credible evidence and responsible interpretation, then model source comparison and digital inquiry. Students subsequently apply these practices to progressively less structured linguistic and literary projects, receive feedback, and reflect on changes to their conclusions. Evaluation should combine source-verification tasks, evidence-based essays, corpus investigations, and reflective commentary. Such an approach aligns technical activity with disciplinary habits of inquiry and makes epistemic expectations explicit.

Several limitations must be acknowledged. The proposed five-dimensional framework is a conceptual synthesis rather than a validated measurement instrument. Institutional resources, language proficiency, teachers' technological preparation, and students' prior research experience may affect implementation. Moreover, not all forms of textual interpretation can be reduced to a single determinate answer; epistemic rigor also involves representing reasonable disagreement and uncertainty accurately. Future studies should test the framework through classroom interventions and longitudinal designs, develop reliable assessment rubrics, and compare outcomes across philological disciplines and digital platforms.

4. CONCLUSION

Epistemic competence is a central condition for intellectually responsible philological study in digital learning environments. Beyond accessing digital resources, students must learn to assess source credibility, justify interpretations with textual or linguistic evidence, recognize uncertainty, reflect on their own reasoning, and communicate findings ethically. This article proposed a five-dimensional framework combining cognitive-epistemic, critical-analytical, reflective-metacognitive, digital-research, and ethical-communicative capacities. It also outlined an integrated pedagogical approach using digital inquiry, corpus-based analysis, collaborative interpretation, reflective portfolios, and critical evaluation of AI-generated content. The framework offers a basis for course design and classroom assessment, but its practical effects require empirical validation. By making standards of evidence and reflection visible throughout instruction, philological programs can better prepare students to participate independently and responsibly in contemporary academic knowledge practices.

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