SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF LANGUAGE AND LIGUISTICS
ISSN(Online): 2984-7109
Volume-9, Issue-03, Published |12-11-2026|

DIGITAL LEARNING TOOLS AND A METACOGNITIVE APPROACH TO TEACHING PROFESSIONAL ENGLISH TO MEDICAL STUDENTS: QUESTIONNAIRE FINDINGS

Mukhayyo Ismailova
Tashkent State Medical University, Tashkent, Uzbekistan

Abstract. This article examines the difficulties medical students encounter when learning professional English and the digital resources they use to support their studies. The analysis is based on questionnaire responses from 66 students. Speaking was identified as the most challenging area by 48.5% of respondents, while 33.3% reported difficulties with medical terminology. YouTube and other video platforms were the most commonly selected resources (56.1%), followed by AI tools (54.5%) and Google (47.0%). Just over half of the participants (51.5%) said that they used internet resources and AI tools often or very often. The findings point to the value of combining digital resources with purposeful communication activities and opportunities for learners to reflect on their progress. However, the metacognitive section of the questionnaire was not fully represented in the exported dataset, so responses to those items could not be analysed statistically.

Keywords: professional English; English for Specific Purposes; medical students; digital learning environment; metacognition; artificial intelligence; self-regulated learning.

1. INTRODUCTION

English plays an important role in medical education. It gives students access to international research, helps them understand specialist terminology, and prepares them to communicate in academic and clinical settings. For this reason, English courses for medical students need to go beyond general language practice. Students should also have opportunities to use English in situations related to their future profession. This is consistent with the needs-based orientation of English for Specific Purposes (ESP), as described by Hutchinson and Waters (1987).

A range of digital resources is now available to support language learning, including electronic textbooks, video platforms, online dictionaries, interactive quizzes, and artificial intelligence applications. Their availability, however, does not in itself lead to better learning. Students need clear tasks that encourage them to work actively with the material, use feedback, and take responsibility for their progress.

A metacognitive approach places emphasis on learners' awareness of how they learn and on their ability to regulate the process. In practical terms, this involves planning what to learn, monitoring understanding while completing a task, and evaluating the result afterwards. Flavell (1979) discussed metacognition in relation to the monitoring of cognitive processes, while Zimmerman (2002) highlighted goal setting, strategic action, and self-reflection as key aspects of self-regulated learning. These ideas are relevant to professional English, since students need to recognise gaps in their language knowledge, choose appropriate learning resources, monitor their progress, and assess their own performance.

The present article is part of a wider research project concerned with combining a metacognitive approach and a digital learning environment in the teaching of professional English to medical students. The immediate purpose of the questionnaire

JOURNAL OF LANGUAGE AND LIGUISTICS
ISSN(Online): 2984-7109
Volume-9, Issue-03, Published |12-11-2026|

was to identify the language difficulties students experience and the digital tools they use. The responses are then considered in terms of what they may mean for the design of English for medical purposes courses.

2. MATERIAL AND METHODS

The research used a descriptive questionnaire design and included responses from 66 students. The questionnaire covered participants' background information, their self-assessed English proficiency, the difficulties they experience when learning professional English, the digital tools they use, and how often they engage in selected digital learning practices.

The responses were analysed using descriptive statistics, with frequencies and percentages calculated for the relevant items. For questions that allowed more than one answer, each option was counted separately; as a result, the percentages for these questions may add up to more than 100%. For questions about frequency, the categories "Often" and "Very often" were combined. Students' English levels were self-reported and were not checked against a standardised proficiency test.

The metacognitive section presented a limitation during data processing. In the exported CSV file, responses to these items appeared in additional columns without headings and were recorded only in the first respondent's row. Consequently, complete responses for all participants were not available, and it was not possible to calculate aggregate results or percentages for the metacognitive items.

Almost all respondents were first-year students (65 out of 66; 98.5%); only one participant was in the fourth year. The results should therefore be read as a description of this particular group rather than as representative findings for the wider medical student population.

3. RESULTS

3.1. Participant profile and self-assessed English proficiency

Of the 66 respondents, 35 were male (53.0%) and 31 were female (47.0%). Sixty-five participants (98.5%) were first-year students, while one participant (1.5%) was in the fourth year. Most responses in the programme field related to dentistry. However, the programme names were entered with inconsistent spelling, so the data would need to be standardised before any comparison between programmes could be made.

The participants assessed their own English proficiency as follows: A1 — 14 students (21.2%); A2 — 13 (19.7%); B1 — 19 (28.8%); B2 — 14 (21.2%); and C1 — 6 (9.1%). B1 was therefore the most frequently selected level. These figures represent students' own assessments and should not be interpreted as results of formal language testing.

SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF LANGUAGE AND LIGUISTICS
ISSN(Online): 2984-7109
Volume-9, Issue-03, Published |12-11-2026|

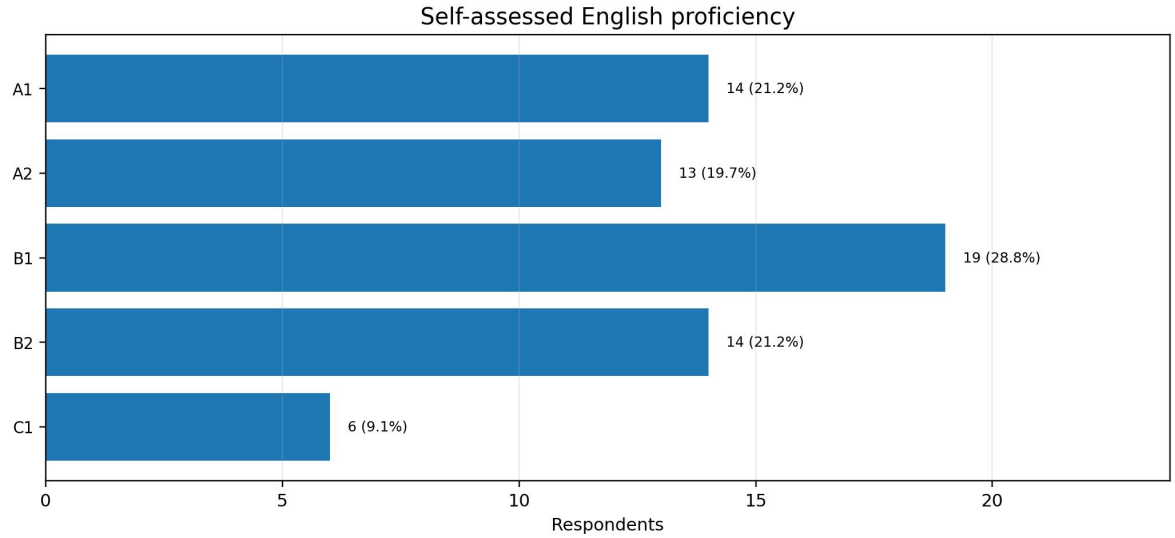


Figure 1. Participants' self-assessed English proficiency.

3.2. Difficulties in learning professional English

Speaking was the difficulty selected most often: 32 students (48.5%) chose this option. Medical terminology was selected by 22 respondents (33.3%). Grammar and vocabulary were each identified by 18 students (27.3%). Listening was mentioned by 16 (24.2%), and writing by 14 (21.2%). The responses suggest that students may benefit from more supported speaking practice, work with terminology in context, and activities that bring several language skills together.

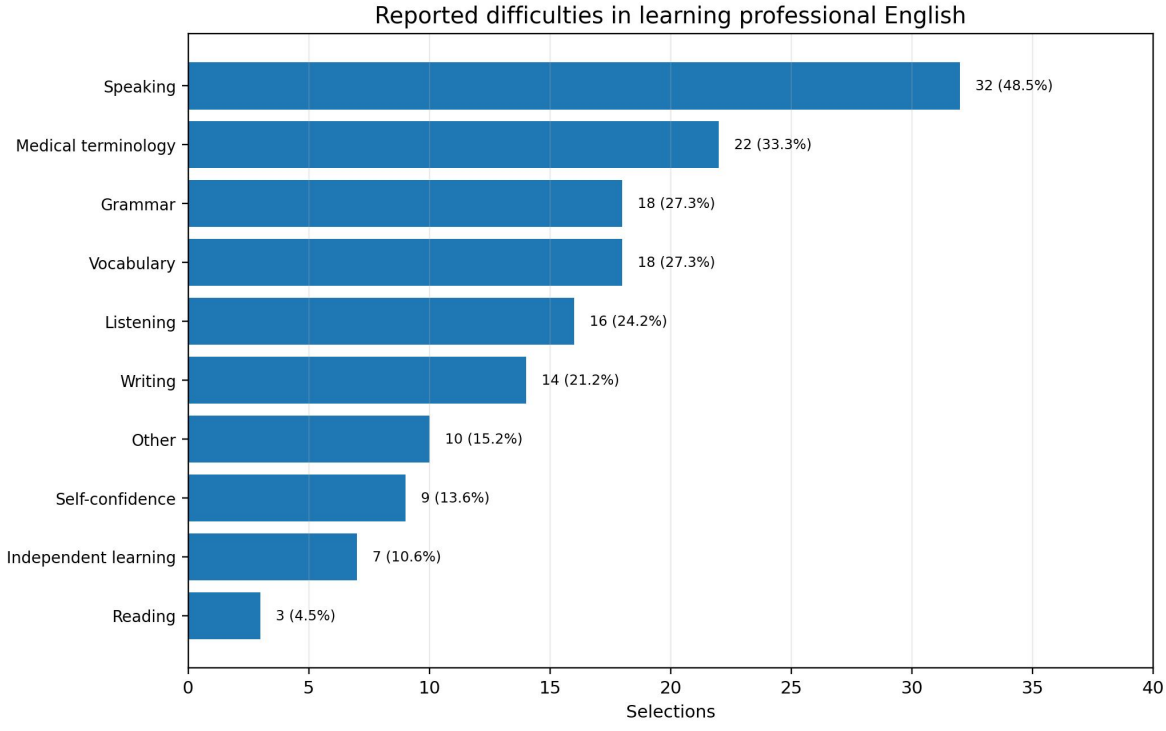


Figure 2. Reported difficulties in learning professional English (multiple-response item).

3.3. Use of digital learning tools

YouTube and other video platforms were selected by 37 respondents (56.1%), making them the most commonly reported digital resources. AI tools came next, selected by 36 students (54.5%), followed by Google, selected by 31 (47.0%).

Electronic textbooks were reported by 22 respondents (33.3%). Students also mentioned mobile applications, Kahoot, Telegram, and Quizlet. These figures show which tools students say they use; they do not indicate how effective the tools are for learning.

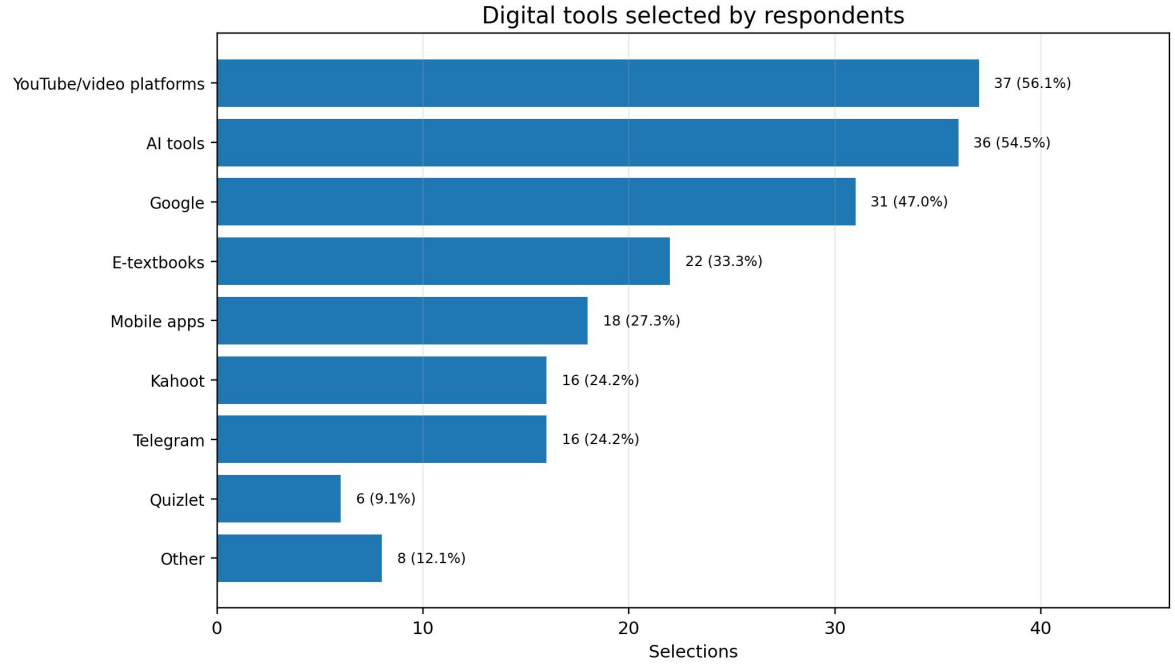


Figure 3. Digital tools selected by respondents (multiple-response item).

3.4. Frequency of digital learning practices

When the “Often” and “Very often” categories were considered together, 51.5% of respondents reported frequent use of internet resources, and the same proportion reported frequent use of AI tools. Digital dictionaries for learning medical terminology were used frequently by 45.5% of students. A further 43.9% said that digital tools often supported their independent learning, while 42.4% frequently tested themselves using digital tools. Independent planning of learning in a digital environment was reported frequently by 39.4% of respondents.

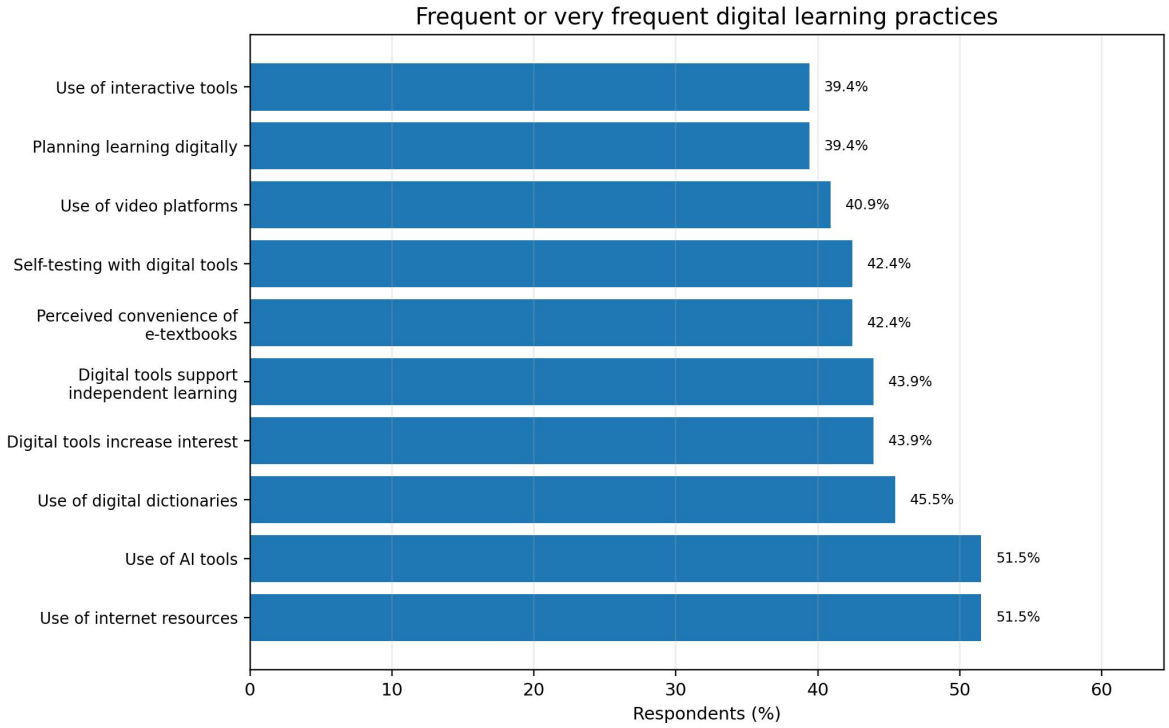


Figure 4. Frequent or very frequent use of selected digital learning practices.

3.5. Open-ended responses

In their written comments, students mentioned AI applications, Kahoot, textbooks, opportunities to practise speaking, question-and-answer activities, vocabulary learning, grammar exercises, and regular speaking sessions. Some also referred to the importance of teacher guidance, learner discipline, and well-organised lessons. These comments offer examples of students' views and needs. They were not, however, analysed using a formal qualitative coding procedure.

4. DISCUSSION

Speaking emerged as the most frequently reported difficulty, which underlines the importance of giving students regular opportunities to communicate for a clear purpose. In dentistry classes, for example, students can practise taking a patient's history, asking about symptoms, explaining a procedure, describing dental instruments, or giving post-treatment instructions. Role-plays, case discussions, short presentations, and paired information-gap activities can help connect language learning with situations students may encounter in their future work.

The frequent selection of video platforms and AI tools suggests that many students are already familiar with digital resources and use them as part of their learning. Teachers can make this use more purposeful by linking each resource to a specific learning outcome. For instance, students might watch a short video about dental instruments, note the key terms, explain the function of each instrument in English, and then complete a short self-check quiz. AI applications may also be used for dialogue practice, vocabulary clarification, and formative feedback on language. Any medical information produced by AI should be checked against reliable professional sources.

Digital activities can also be organised around the three stages of metacognitive learning. At the planning stage, students set a language goal and decide which resource will help them achieve it. While working, they monitor their understanding

and note any difficulties. After completing the task, they evaluate their performance and identify what they need to practise next. In this way, digital tools become part of a learning process in which students make informed choices and take increasing responsibility for their progress.

The questionnaire data do not allow the students' metacognitive skills to be assessed statistically, because responses to the relevant items were not fully exported. It would therefore be inaccurate to draw conclusions about the participants' actual levels of metacognitive competence from this dataset. The missing responses need to be recovered through a corrected data export. A subsequent study using a pre- and post-intervention design could then examine whether the proposed approach leads to changes in students' planning, monitoring, and self-evaluation.

5. CONCLUSION

The questionnaire responses from 66 students show that speaking (48.5%) and medical terminology (33.3%) were the most frequently reported difficulties in learning professional English. YouTube and other video platforms (56.1%), AI tools (54.5%), and Google (47.0%) were the digital resources selected most often. In addition, 51.5% of respondents reported frequent use of internet resources and AI tools, while 39.4% said that they often planned their learning independently in a digital environment.

Taken together, these preliminary findings point to the need for professional English courses that combine communication tasks relevant to medicine, contextualised work with terminology, and carefully selected digital resources. Planning, monitoring, and evaluation can provide a useful structure for helping students use these resources more independently. At the same time, the incomplete export of the metacognitive responses is an important limitation: the present study cannot establish students' metacognitive skill levels. Further research should first obtain a complete dataset and then evaluate the proposed teaching approach through a structured pedagogical intervention.

6. 6. ACKNOWLEDGEMENT

The author gratefully acknowledges the support of her academic supervisor, Lola Yunusovna Akramova. Her guidance and professional advice were valuable throughout the research process. The author also wishes to thank her for her assistance with conducting the questionnaire and for helping to shape the direction of the study.

7. REFERENCES

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. American Psychologist, 34(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906

Hutchinson, T., & Waters, A. (1987). English for Specific Purposes: A Learning-Centred Approach. Cambridge University Press. https://doi.org/10.1017/CBO9780511733031

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory Into Practice, 41(2), 64–70. https://doi.org/10.1207/S15430421TIP4102_2

JOURNAL OF LANGUAGE AND LIGUISTICS
ISSN(Online): 2984-7109
Volume-9, Issue-03, Published |12-11-2026|

Uzbekistan-based dissertations

Buranova, D. D. (n.d.). Tibbiyot oliy ta’lim muassasalarida ingliz tilini o‘qitishga sohaviy va amaliy yondashuvning konseptual asoslari [Conceptual foundations of a specialised and practice-oriented approach to teaching English in higher medical education institutions]. DSc dissertation, specialty 13.00.02, Uzbekistan State University of World Languages. Registration No. B2020.4.DSc/Ped177. Oliy attestatsiya komissiyasi (OAK). https://oak.uz/pages/28279

Atamuratova, M. M. (n.d.). Tibbiyot oliy ta’lim muassasalari talabalariga ingliz tilini o‘qitishda pragmatik kompetensiyani rivojlantirish metodikasini takomillashtirish [Improving the methodology for developing pragmatic competence in teaching English to students of medical higher education institutions]. PhD dissertation, specialty 13.00.02, Termez State University. Registration No. B2023.2.PhD/Ped4983. OAK. https://oak.uz/index.php/pages/28634

Nematova, Z. T. (n.d.). Autentik materiallar orqali tibbiyot oliy ta’lim muassasalari talabalarida mantiqiy tafakkurni rivojlantirish metodikasi (ingliz tili misolida) [Methods for developing logical thinking in medical university students through authentic materials (English language)]. PhD dissertation, specialty 13.00.02, Bukhara State University. Registration No. B2023.2.PhD/Ped5108. OAK. https://oak.uz/index.php/pages/32468

Ismailova, B. Yu. (n.d.). Metakognitiv yondashuv asosida ingliz tilidagi o‘quv materialini oliy ta’lim jarayonida samarali o‘zlashtirish texnologiyalari (nofilologik yo‘nalishlar) [Technologies for effective acquisition of English-language learning materials in higher education through a metacognitive approach (non-philological fields)]. PhD dissertation, specialty 13.00.02, Urgench State Pedagogical Institute. Registration No. B2025.2.PhD/Ped10056. OAK. https://oak.uz/pages/34543

Madmusaev, J. M. (n.d.). Raqamli ta’lim muhitida talabalarga ingliz tili leksikasini o‘rgatish metodikasi (boshlang‘ich ta’lim yo‘nalishi misolida) [Methods of teaching English vocabulary to students in a digital learning environment (with reference to primary education)]. PhD dissertation, specialty 13.00.02, Namangan State University. Registration No. B2023.2.PhD/Ped5079. OAK. https://oak.uz/pages/23645