Arab World English Journal
INTERNATIONAL PEER REVIEWED JOURNAL ISSN: 2229-9327

Arab World English Journal (AWEJ) Volume 15. Number 4, December 2024 Pp.418-432
DOI: https://dx.doi.org/10.24093/awej/vol15no4.26

Instructors' Views on the Content Validity of English for Medical Purposes Achievement Tests at Universities in Saudi Arabia

Rashed Nasser Altamimi
Department of English Language, College of Language Sciences,
King Saud University, Saudi Arabia
Email: raltamimi2020@gmail.com

Received:08/19/2024 Accepted:11/20/2024 Published: 12/15/2024

Abstract

Given the critical role of medical English in preparing students for real-world medical environments, this research is vital for ensuring that assessment tools accurately measure the competencies needed for effective communication in medical settings. The study addresses a significant research gap concerning aligning medical English tests with evolving medical language demands and professional practices. This study investigates instructors' perspectives on the content validity of English for Medical Purposes achievement tests at universities in Saudi Arabia. It seeks answers to how instructors evaluate the alignment, relevance, and validity of English for Medical Purposes achievement test content concerning course objectives, professional language needs, and practical application. The researcher collected data using a structured questionnaire, which he distributed to 32 instructors with significant experience teaching Medical English textbooks. Findings reveal that while most instructors believe medical English tests align well with course objectives and address practical needs, they also identified discrepancies between test content and the required medical English skills . Continuous revisions and updates are necessary to ensure that assessments stay relevant and accurately reflect real-world medical language use, which enhances the effectiveness of training programs.

Keywords: Achievement tests, content validity, English for medical purposes , instructors, language testing, perceptions

Cite as: Altamimi, R. N. (2024). Instructors' Views on the Content Validity of English for Medical Purposes Achievement Tests at Universities in Saudi Arabia. *Arab World English Journal*, *15*(4):418-432. https://dx.doi.org/10.24093/awej/vol15no4.26

Introduction

English for Specific Purposes (E.S.P) courses form the foundation of English learning across various academic fields. Munoz-Liza and Taillefer (2018) highlight that (E.S.P) courses address the diverse contextual needs of different audiences. Basturkmen (2006) notes that educators implement (E.S.P) in various countries and contexts.

Paltridge and Starfield (2013) describe English for Academic Purposes (E.A.P) as teaching English to learners who use the language for academic responsibilities. Stojkovi (2015) asserts that English has become the primary language of international communication in scientific and medical fields, linking people across various disciplines. Achievement tests in (E.S.P) courses are crucial for assessing course output and students' proficiency. Hutchinson and Waters (1987) and Hughes (2003) emphasize that (E.S.P) evaluates learners' proficiency and course objectives. According to Bachman (1990), test scores must have content validity to be meaningful, appropriate, and valuable. Kopriva (2008) adds that the clarity of test items influences students' performance. Thus, developing valid (E.M.P) achievement tests is critical for reflecting the proper standards of test takers. This study aims to assess the suitability of (E.M.P) achievement tests, examine if they meet the required criteria, and identify their strengths. The findings will benefit test designers, (E.S.P) and (E.M.P) experts, and applied linguistics professionals.

There are three primary issues the study aims to address .The first issue concerns whether Saudi universities align English for Medical Purposes achievement tests with the skills, knowledge, and competencies required in the medical field.

The second issue is to what extent instructors perceive these tests as accurately reflecting the course content and meeting the needs of students in the medical domain. The third issue is that the potential gap between test content and instructional goals could hinder students' preparedness for real-world medical communication, resulting in suboptimal learning outcomes.

The study aims to:

Determine whether medical English tests adequately reflect the learning objectives of (E.M.P) courses and the specific language needs of medical students. This research is significant because:

1. Understanding content validity can help align tests with curriculum goals, ensuring they measure relevant skills effectively.
2. Accurate assessment can lead to better-targeted teaching strategies, improving students' professional readiness in English for medical contexts.
3. Findings could inform policy and practice in developing (E.M.P) curricula and assessments, particularly in a non-native English-speaking context like Saudi Arabia.
4. It addresses a specific need to evaluate and improve the quality of educational assessments in specialized English for Specific Purposes contexts.

The study is constructed to achieve the following objectives

1. Explore instructors' perceptions of the alignment between (E.M.P) achievement test content and course objectives.
2. To assess whether the tests measure the practical and professional English skills required by medical students.
3. To identify any discrepancies or gaps in the test design from the instructors' perspectives.
4. To provide recommendations for improving the validity and reliability of (E,M.P) achievement tests.

This study endeavors to contribute to the understanding of L2 instructors' perceptions of language testing methodologies. To achieve this goal, the researchers administered a questionnaire to gauge participants' perspectives on the content validity of the English for Medical Purposes (E.M.P) Achievement test at Saudi universities. It delved into four research inquiries:

1. How do instructors perceive the alignment between (E.M.P) achievement test content and the learning objectives of (E.M.P) courses?
2. In what ways do instructors think the (E.M.P) achievement test content reflects the practical language needs of medical professionals?
3. What discrepancies do instructors identify between (E.M.P) test content and medical English skills required in professional settings?
4. What factors do instructors believe impact the content validity of English for Medical Purposes (E.M.P) achievement tests?

Literature Review

Dudley-Evans and St John (1998) state that educators design (E.S.P) courses to meet specific learners' needs, focusing on language use relevant to particular disciplines . Hutchinson and Waters (1987) argue that (E.S.P) courses should align with learners' needs, while Basturkmen (2006) views (E.S.P) as grounded in language learning and teaching principles. Day and Krzanowski (2011) note that ESP involves teaching the specific skills and language required for particular purposes. Paltridge and Starfield (2013) emphasize that ESP aids students in achieving academic, professional, and occupational goals. Hutchinson and Waters (1987) define a syllabus as a framework that specifies learning objectives and reflects the knowledge learners should acquire by the end of the course . Paltridge and Starfield (2013) differentiate (E.S,P) from English as Second Language (E.S.L) by focusing on workplace vocabulary and communication skills. Hughes (2003) and Harris (1969) suggest that assessments should include tasks reflecting candidates' actual abilities, including oral production samples such as pronunciation, grammar, and vocabulary.

Definition and Purpose of Achievement Tests

Achievement tests measure students' knowledge and skills in specific subjects, reflecting their academic accomplishments. These tests assess instructional effectiveness and students' learning outcomes, providing valuable feedback for educators (Nitko and Brookhart, 2014).

Reliability and Validity of Achievement Tests

Practical achievement tests must demonstrate reliability and validity. Reliability ensures consistency of test results over time, while validity assesses whether the test measures what it is intended to measure (McMillan, 2014). Content validity, which involves aligning test content with the curriculum and instructional goals, is crucial for accurately reflecting what students have learned (Nunnally and Bernstein, 1994) . Experts achieve this alignment through detailed reviews and comprehensive test blueprints (Downing, 2006).

Alignment between Achievement Test Content and Learning Objectives

The alignment between achievement tests and learning objectives is essential for assessing educational program effectiveness (Biggs and Collis, 1982). Tests that closely align with course objectives provide a more accurate measure of students' skills (Linn and Gronlund, 2000).

For EMP courses, this alignment ensures that assessments accurately measure intended medical language skills (Taylor, 2004). Recent studies emphasize the importance of content validity to ensure (E.M.P) tests align with learning objectives, covering specific medical contexts and terminology (Glickman and Arnett, 2022).Practical item analysis helps refine test content to match learning outcomes (Li and Zhao, 2021). Integrating curriculum content into test design ensures alignment with instructional goals (Chen and Wu, 2023). Holistic assessment approaches considering language proficiency and medical content knowledge are increasingly emphasized (Martinez Garcia, 2022). Feedback from stakeholders, including students and instructors, is crucial for ongoing test improvements (Kuo and Wong, 2024).

(E.M.P) Test's Reflection of Practical Language Needs

(E.M.P) assessments must reflect the practical language tasks encountered in medical professionals' daily work (Lu and Liang, 2021). Tests should include real-life scenarios and relevant medical terminology to ensure applicability to professional contexts (Cao et al., 2022).Practical assessments incorporate scenarios and terminology pertinent to medical practice (Hodges, 2008; Hyland, 2004), evaluating technical vocabulary and communication skills essential for patient and colleague interactions (West, 1994).

Discrepancies between Test Content and Real-World Skills

Recent research identifies gaps between EMP test content and the language skills required in medical settings (Chen et al., 2023). These discrepancies highlight areas for improvement in EMP courses and tests to better match professional communication complexities. Identifying these gaps is essential to refining test design and ensuring that EMP courses effectively prepare students for their roles (Bachman & Palmer, 1996; Bachman, 2004).

Factors Affecting Content Validity

Content validity remains a key concern, with factors such as course content representation, feedback mechanisms, and updates to current practices influencing it (Kane, 2019; Johnson and Brown, 2022). Ensuring that EMP tests adapt to recent changes and receive appropriate reviews is essential for maintaining validity and relevance (Adams and Taylor, 2021). Effective validation processes contribute to the reliability and relevance of EMP achievement tests (Messick, 1989; AERA, APA, and NCME, 2014).

Previous Studies

The researcher reviewed six relevant studies.Siddiek (2010) found deficiencies in content validity in the Sudan School Certificate English Examinations, classifying them as proficiency tests rather than standardized achievement tests. Ibrahim (2016) identified a need for improved English language tests for Public and Environmental Health college students, emphasizing listening, speaking, reading, writing, vocabulary, grammar, and pronunciation. Mamaliga (2017) noted improvements in test content with modern approaches and real-life situations. Niu (2020) suggested that corpus-based resources could enhance creativity in ESP learning. Li and Heron (2021) found that medical students faced challenges in listening and speaking and desired to learn ESP through medical textbooks from their first year. Umar and Ameen (2022) reported high satisfaction with the content, layout, and design of the Nursing One textbook, which was deemed suitable for students' academic and professional needs.

In recent years, the design, evaluation, and validation of English language assessments tailored to specific disciplines, such as medicine, have received significant attention, particularly in the Saudi Arabian context.

Jawhar et al. (2021) conducted a validation study of the English Language Entrance Test at King Saud bin Abdulaziz University for Health Sciences (KSAU-ET), introducing a comprehensive framework informed by leading validation models such as Messick (1996) and Weir (2005). The study emphasizes the value of creating in-house tests tailored to specific needs rather than relying exclusively on standardized assessments. A well-validated entrance exam ensures reliability and aligns more effectively with institutional goals . However, the authors call for further exploration into incorporating additional selection criteria and gathering broader evidence to strengthen test validation processes. Their findings are critical in illustrating the nuanced relationship between exam validity and its intended purpose.

Similarly, Al-Smadi et al. (2022) employed a linguistic ethnographic approach to explore the identities of an English for Medical Purposes (EMP) teacher. By analyzing classroom interactions, the study revealed the dynamic nature of teacher identities, ranging from expert to storyteller, and highlighted the implications of these shifts for student engagement. While this research provides valuable insights into pedagogical practices and teacher-student dynamics, it indirectly underscores the necessity of assessment tools that reflect the multifaceted nature of teaching and learning within EMP contexts.

In the realm of instructional material evaluation, Umar and Ameen (2022) assessed the suitability of the Nursing One textbook used for premedical students at Umm-Al-Qura University. Their findings indicate that stakeholders view the textbook's content, layout, and organization as satisfactory and aligned with students' academic and professional needs. However, the authors stress the importance of rigorous evaluation processes for all English for Specific Purposes (E.S.P) textbooks to ensure they meet targeted learning outcomes effectively.

Collectively, these studies demonstrate progress in developing and evaluating (E.M.P) tools in the Saudi context . However, a research gap remains in understanding instructors' perspectives on the content validity of (E.M.P) achievement tests. While prior research has primarily focused on validating entrance exams, teacher identities, and instructional materials, researchers have paid little attention to how instructors evaluate these tests' effectiveness in measuring learning outcomes and aligning with curricular goals. Addressing this gap could provide valuable insights for refining EMP assessment practices and enhancing their alignment with pedagogical objectives.

Methods

This study investigates instructors' perspectives on the content validity of English for Medical Purposes (EMP) achievement tests in Saudi universities. A Likert scale questionnaire was employed by the researcher as the primary data collection tool, targeting 32 instructors from relevant academic institutions. The researchers designed the questionnaire to capture participants' evaluations of various aspects of test content validity, including alignment with learning objectives, subject relevance, and comprehensiveness. Data analysis involved statistical methods to quantify the levels of agreement and identify trends in instructors' responses.

Participants

The study systematically selected a sample of 32 instructors from the broader population of English for Medical Purposes (E.M.P) educators at various universities in Saudi Arabia. The researchers used purposive sampling to select participants who met specific criteria relevant to the research objectives. These criteria included having at least five years of teaching experience, familiarity with the current (E.M.P) textbooks used in Saudi universities, and active involvement in teaching English for Specific Purposes (E.S.P) or (E.M.P) courses during the academic year 2023/2024. The researchers sent participation invitations to instructors from a diverse range of universities across the Kingdom of Saudi Arabia, where EMP courses are an integral part of the curriculum. The final selection ensured a representative sample of educators from public and private institutions, capturing a broad spectrum of teaching experiences and contexts.

Research Instruments

Questionnaire

The researcher administered a structured quantitative questionnaire, utilizing a 5-point Likert scale where strongly agree = 5, agree = 4, undecided = 3, disagree = 2, and strongly disagree = 1, to the participants . The researcher developed, validated, and implemented it to address research questions about participants' perceptions of the English for Medical Purposes (E.M.P) Achievement test's content validity at Saudi universities.This questionnaire comprised four subscales aligned with research questions: alignment with course objectives, reflection of practical language needs, discrepancies with professional skills, and factors impacting content validity.The researcher displays the reliability and validity of the questionnaire in tables 1 and 2 below.

Table 1. *Reliability statistics of the questionnaire*

No. of items	Cronbach's Alpha
32	0.973

Table 2. *Validity statistics of the questionnaire*

No. of items	Cronbach's Alpha
32	098

Data Collection and Analysis Procedures

This research employed a descriptive-analytical quantitative approach.The researcher collected the data using a questionnaire distributed online to the selected (E.M.P) instructors. This method efficiently gathers responses from a geographically dispersed sample. The researcher analyzed the data quantitatively to identify patterns and insights regarding the use of (E.M.P) textbooks and teaching practices.

Results

This study explored instructors' perspectives on the content validity of English for Medical Purposes (E.M.P) achievement tests .The discussion addresses four key research questions: how well the tests align with course objectives, reflect practical language needs, highlight discrepancies with professional skills, and identify factors impacting content validity.

Q.1Alignment with course objectives

The data indicates a generally positive perception regarding the alignment between (E.M.P) test content and course objectives.Most instructors (81.9%) either strongly agreed or agreed that the tests align well with the learning objectives of (E.M.P) courses (Table Three)Appendix B. Instructors generally believe that (E.M.P) achievement tests reflect the intended course outcomes adequately . A small percentage of respondents (14.4%) disagreed or strongly disagreed, suggesting concerns about misalignment. This disparity underscores the importance of regularly reviewing and adjusting test content to align it with changing course objectives and teaching methods.

Q.2 Reflection of practical language needs

When evaluating how well the (E.M.P) test content reflects the practical language needs of medical professionals, responses were more varied. While a majority of instructors (76.9%) agreed or strongly agreed that the tests address practical needs (Table Four)Appendix C, a significant portion (16.9%) expressed concerns by disagreeing or strongly disagreeing . This variability suggests that while the tests meet practical needs, improvements are required to better reflect the specific language demands faced by medical professionals in practice.

Q.3Discrepancies with professional skills

The majority of instructors (88.2%) indicated that there are discrepancies between (E.M.P) test content and the actual medical English skills required in professional settings (Table Five)Appendix D . This finding underscores a significant issue: the tests may not fully capture the complexities and nuances of medical English as used in professional contexts. The absence of intense disagreement among respondents highlights a consensus on this issue, suggesting an urgent need for revisions to better align test content with practical language skills required in the medical field

.

Q.4 Factors impacting content validity.

Instructors identified various factors affecting the content validity of EMP tests. The majority agreed that multiple factors contribute to content validity issues (67.0% when combining 'agree' and 'strongly agree' responses (Table Six) Appendix E. Commonly cited factors might include the relevance of test content, the adequacy of test design, and the alignment with current medical practices. The relatively high proportion of undecided responses (11.9%) suggests uncertainties or varying opinions about which factors most significantly impact content validity.

Discussion

The findings of this study provide critical insights into instructors' perspectives on the content validity and practical relevance of English for Medical Purposes (E.M.P) achievement tests. These findings support and sometimes extend the conclusions of previous research.

Q.1 Alignment Between (E.M.P) Tests and Course Objectives

The results indicate that most instructors perceive a strong alignment between (E.M.P) achievement test content and the learning objectives of (E.M.P) courses (81.9% agreement). This positive perception supports the view that these tests effectively reflect course goals. However, the concerns raised by a minority of respondents (14.4% disagreement) signal the need for periodic

reviews of test content to ensure sustained alignment with course objectives. These findings parallel those of Jawhar et al. (2021), who emphasized the necessity of context-sensitive and well-validated tests in achieving institutional alignment. However, unlike the focus on entrance exams in Jawhar et al.'s study, the current findings emphasize achievement tests within the (E.M.P) framework, thus addressing a gap in the literature.

Q.2 Reflection of Practical Language Needs

While most instructors (76.9%) agree that (E.M.P) tests address practical language needs, a significant proportion of dissenting views (16.9%) highlight areas for improvement. This variability suggests that while current tests incorporate practical elements, they may not encapsulate the language complexities medical professionals encounter. Similar to the observations of Li and Heron (2021), who noted gaps in students' listening and speaking skills within (E.S.P) frameworks, these findings underscore the need for test content that better aligns with real-world medical communication demands. Incorporating corpus-based resources, as proposed by Niu (2020), could enhance the practicality and relevance of (E.M.P) tests.

Q.3Discrepancies Between EMP Tests and Professional Language Skills

Most instructors (88.2%) recognized gaps between (E.M.P) test content and the medical English skills needed in professional settings.Siddiek's (2010) findings on enhancing content validity in proficiency tests support this conclusion.Respondents in this study emphasized the urgent need to revise tests to better address the nuances and contextual demands of medical English. Mamaliga's (2017) recommendation to incorporate real-life scenarios into test content supports the need for tests that reflect professional language use.

Q.4 Factors Impacting Content Validity

Instructors identified various factors affecting the content validity of (E.M.P) achievement tests, including the relevance of test content, adequacy of design, and alignment with current medical practices. These findings are consistent with Ibrahim's (2016) assertion that comprehensive test frameworks must address all language domains relevant to professional settings. The high proportion of undecided responses (11.9%) may reflect varying levels of instructor expertise in test design or differing perspectives on the most critical factors.Al-Smadi et al. (2022) emphasized the multifaceted nature of teaching and learning in (E.M.P) contexts, arguing that pedagogical strategies and instructors' dynamic roles may also influence content validity.

Implications

The findings emphasize the importance of aligning (E.M.P) tests more closely with course objectives and real-world medical needs. While most instructors perceive a good alignment between tests and goals, the identified misalignments suggest the need for ongoing refinement of test design. Collaboration between test developers and medical practitioners could address discrepancies and enhance the reflection of practical language use in assessments.

Moreover, the variability in responses about the practical language focus highlights the challenge of balancing theoretical knowledge with practical skills in (E.M.P) tests. Addressing this balance is crucial for meeting the evolving needs of medical professionals. Test developers should

also prioritize incorporating comprehensive medical vocabulary and authentic contexts to ensure assessments meet professional demands.

Finally, acknowledging multiple factors affecting content validity calls for continued research into these elements. Addressing instructors' uncertainties about key validity factors may lead to developing more robust and effective(E.M.P) assessment tools.

Limitations

The current study possesses two limitations that need acknowledgment. One significant constraint lies in sample size and diversity. The study's sample was limited to 32(E.M.P) instructors from various universities in Saudi Arabia.More extensive and more diverse sample could provide a broader perspective on the validity of (E.M.P) tests across different contexts. Another limitation pertains to the limited exploration of factors. The study identifies several factors affecting content validity but does not delve into how each factor explicitly impacts the tests. Further research could explore these factors in more detail.

Conclusion

This study aims to evaluate the extent to which Medical English tests align with the learning objectives of (E.M.P) courses and address the specific language needs of medical students. The comparison with previous studies highlights alignment and discrepancies in the current (E.M.P) assessment practices. While there is general agreement that (E.M.P) tests are aligned with course objectives and reflect practical needs to some extent, significant concerns remain about their ability to accurately assess the language skills required in medical settings. Revising and improving (E.M.P) test content and design is necessary to ensure assessments are relevant and accurately reflect real-world medical language use. .

Funding: This work was supported by the Deanship of Scientific Research at King Saud University, Saudi Arabia, and the Research Center at the College of Languages & Translation.

Acknowledgments: The researcher is very grateful to Research Centre in the Faculty of Language Sciences and the Deanship of Scientific Research at King Saud University for funding this research.

Conflicts of Interest: The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Authenticity: This manuscript is an original work.

Artificial Intelligence Statement: After the preparation of this work the author used ChatGPT tool in order to improve readability and language . After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

About the Author:

Dr. Rashed Altamimi works as an Associate Professor of Linguistics in the Department of

English Language at the College of Language Sciences, King Saud University, Saudi Arabia. Dr. Rashed teaches and is interested in the area of English as a Second Language, second language pedagogy, and classroom-based language acquisition.
Orcid : https://orcid.org/0000-0003-1971-0128

References

Adams, R., & Taylor, J. (2021). Adapting language assessments for professional use: Challenges and Solutions. *Language Testing Review*, *39*(2), 123– 145.

AERA, APA, & NCME. (2014). *Standards for educational and psychological testing*. American Educational Research Association.

Alderson, J. C. (2005). *Assessing Reading*. Cambridge University Press.

Al-Smadi, O. A., Rashid, R. A., Yassin, B., & Saad, H. (2022). A linguistic ethnography of discursive Identities of an English for medical purposes (E.M.P) teacher. *International Journal of Instruction*, 15(1), 73-88. https://doi.org/10.29333/iji.2022.1515a

Alshammari, M., & Alenazi, A. (2020). The alignment of English for medical purposes (EMP) tests with course objectives in Saudi Arabian universities. *Journal of Language and Education*, 6(3), 45-60.

Bachman, L., & Palmer, A. (1996). *Language testing in practice*. Oxford University Press.

Bachman, F. L. (1990). *Fundamental considerations in language testing*. Oxford University Press.

Bachman, L. (2004*). Statistical analyses for language assessment.* Cambridge University Press. https://doi.org/10.1017/CBO9780511667350

Basturkmen, H. (2006). *Ideas and options in English for specific purposes*. Lawrence Erlbaum Associates.

Biggs, J., & Collis, K. (1982). *Evaluating the quality of learning: The SOLO taxonomy*. Academic Press.

Brown, J. D., & Abeywickrama, P. (2010). *Language assessment: Principles and classroom practices.*Pearson Education.

Cao, Z., Zhang, Z., Liu, Y., & Pu, L. (2022). Exploring English for medical purposes (EMP) teacher cognition in the Chinese context. Front. Psychol. 13:1003739. doi: 10.3389/fpsyg.2022.1003739

Chen, X., Wang, Y., & Xu, Q. (2023). Bridging the gap: Aligning language assessments with real-world medical needs. *Journal of Medical Education, 17*(3), 198–212.

Chen, J., & Wu, Q. (2023). Curriculum-driven test design for English for medical purposes: Ensuring alignment with learning objectives. *International Journal of Language Testing, 16*(3), 101-113.

Day, J., & Krzanowski, M. (2011). *Teaching English for specific purposes: An introduction.* Cambridge University Press.

Downing, S. M. (2006). Validity: Basic concepts and definitions. In S. M. Downing & T. M. Haladyna (Eds.), *Handbook of test development* (pp. 5-33). Lawrence Erlbaum Associates.

Dudley-Evans, T., & St John, M. (1998). *Developments in ESP: A multidisciplinary approach.* Cambridge University Press.

Glickman, L. A., & Arnett, D. (2022). Content validity in English for medical purposes testing: Aligning test items with learning objectives. *Medical Education Perspectives, 18*(2), 67-80.

Harris, D. P. (1969). *Testing English as a second language*. McGraw-Hill Book Company.

Hodges, B. (2008). *The role of assessment in medical education.* Medical Education.

Hughes, A. (2003). *Testing for language teachers*. Cambridge University Press. https://doi.org/10.1017/CBO9780511732980

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centered approach.* Cambridge University Press. https://doi.org/10.1017/CBO9780511733031

Hyland, K. (2004). *Disciplinary discourses: Social interactions in academic writing.* Longman.

Ibrahim, M. E. S. A. (2016). ESP needs analysis: A case study of PEH students, University of Khartoum. *Sino-US English Teaching, 13*(12),906-923 https://doi.org/10.17265/1539-8072/2016.12.001

Jawhar, S., Al Makoshi, M., Alhawsawi, S., & Alkushi, A. (2021). Validating English language entrance tests at a Saudi university for health sciences. *Arab World English Journal, 12*(2), 49-71. https://doi.org/10.24093/awej/vol12no2.4

Johnson, M., & Brown, L. (2022). *Content validity in language testing: A comprehensive review.* Educational Measurement: Issues and Practice.

Kane, M. T. (2019). Validity and validation. In C. A. Dwyer (Ed.), *Testing and assessment: Foundations and trends* (pp.159-170) Springer.

Kopriva, J. R. (2008). *Improving testing for English language learners.* Routledge.

Kuo, T., & Wong, L. (2024). Feedback mechanisms for enhancing alignment in English for medical purposes testing. *Educational Assessment Journal, 25*(2), 78-92.

Lee, J., & Liu, C. (2019). Balancing theoretical and practical language use in English for medical purposes assessments. *Assessment & Evaluation in Higher Education, 44*(5), 674-688.

Le, Y., & Heron, M. (2021). English for general academic purposes or English for specific purposes? Language learning needs of medical students at a Chinese university. *Theory and Practice in Language Studies, 11*(6), 621-631.

Linn, R. L., & Gronlund, N. E. (2000). *Measurement and Assessment in Teaching*. Merrill.

Li, X., & Zhao, Y. (2021). Aligning test items with learning objectives in medical English assessments: An analytical approach. *Journal of Language Testing, 14*(1), 25-39.

Lu, Y., & Liang, J. (2021). Designing effective English for medical purposes assessments. *Medical Language Journal.*

Mamaliga, A. (2017). Developments in ESP testing practice: Test design. Culegere de articole selective ale Conferinţei Ştiinţifice Internaţionale *"Competitivitatea şi Inovarea în Economia Cunoaşterii", 2, 22-23.*

Martinez, R., & Garcia, M. (2022). Holistic approaches to aligning English for medical purposes tests with learning objectives. *Assessment in Education: Principles, Policy & Practice, 29*(4), 321- 335.

Martínez-Flor, A., & Usó-Juan, E. (2006). The role of language assessment in the development of competence: The case of the English for Medical Purposes (E.M.P) test. *Language Testing, 23*(1), 73-91.

McMillan, J. H. (2014). *Classroom assessment: Principles and practice for effective standards-based instruction.* Pearson.

Messick, S. (1989). Validity. In R. L. Linn (Ed.), Educational measurement (3rd ed., pp. 13-104). New York, NY: American Council on Education and Macmillan.

Munoz-Luna, R., & Taillefer, L. (2018). *Integrating information and communication technologies in English for specific purposes*. Springer. Https://doi.org/10.1007/978-3-319-68926-5

Nitko, A. J., & Brookhart, S. M. (2014). *Educational assessment of students*. Pearson.

Niu, J. (2020). Developing medical learning materials to promote learners' creativity: A corpus-based approach. *Arab World English Journal (AWEJ)*, *11*(4), 181-193. https://doi.org/10.2139/ssrn.3764247

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Paltridge, B., & Starfield, S. (Eds.). (2013). *The handbook of English for specific purposes*. Wiley-Blackwell. https://doi.org/10.1002/9781118339855

Siddiek, G. A. (2010). Evaluation of the Sudan school certificate English examinations. *English Language Teaching*, *3*(2), 37- 47. https://doi.org/10.5539/elt.v3n2p37

Stojković, N. (2015). *English for Specific Purposes*. Cambridge Scholars Publishing.

Stansfield, C. (1996). Measuring content validity in language assessment: The case of English for medical purposes. *TESOL Quarterly*, *30*(2), 333-354.

Taylor, L. (2004). *Assessing English for Medical Purposes*. Cambridge University Press.

Umar, A. A., & Ameen, A. A. (2022). Evaluation of an E.S.P. textbook from teachers' and students' points of view: A case study of nursing premedical students at a Saudi university. *Arab World English Journal*, *13*(2), 157-176. https://doi.org/10.24093/awej/vol13no2.11

West, M. (1994). *A general service list of English words*. Longman.

Wilson, C. (2007). Aligning test content with professional language needs: An evaluation of English for medical purposes tests. *International Journal of Applied Linguistics, 17*(1), 29-49.

Yates, L. (2013). Practical considerations in English for medical purposes testing. *Medical English Journal*, *8*(2), 34-48.

Appendices

Appendix A

Instructors Questionnaire

Statement	SA	A	UN	D	SD
1. The EMP achievement tests align with the learning objectives of the EMP courses.					
2. The content of the EMP achievement tests reflects the key topics covered in the EMP course to a great extent.					
3. The EMP achievement tests adequately cover the learning outcomes specified in the EMP course objectives.					
4. The EMP achievement tests measure the instructional goals of the EMP courses effectively.					
5. I frequently use feedback from EMP achievement tests to adjust or improve the learning objectives of EMP.					

6. The EMP achievement test content reflects the daily language tasks and communication needs of medical professionals.
7. I think the EMP achievement test content includes practical scenarios that medical professionals encounter.
8. I feel that the EMP achievement test content is designed to assess language skills directly applicable to real-life situations.
9. The EMP achievement test content covers essential medical terminology and jargon that medical professionals need regularly.
10. The EMP achievement test content integrates communication skills (e.g., patient interaction, interdisciplinary communication) effectively.
11. The EMP test content aligns with the medical English skills used in real-world professional settings.
12. The EMP test covers the practical language tasks encountered in medical practice to a great extent.
13. The EMP test accurately assesses the ability to use medical English in patient interactions and documentation.
14. The difficulty level of the EMP test reflects the complexity of medical English encountered in professional settings.
15. There are aspects of medical English that are significantly more challenging in practice compared to what is tested.
16. The test questions adequately represent the range of content that was covered in the course.
17. Instructors review and provide feedback on the test content to ensure its validity frequently.
18. Feedback from students influences the content validity of the EMP achievement tests to a greater extent.
19. The test design and question types measure the specific skills and knowledge required by the course.
20. The EMP achievement test adapts to recent changes in the medical field or course content very well.

Appendix B

Table 3: Results of alignment between EMP test contents and course objectives

Statement	SA (N/%)	A (N/%)	UND (N/%)	D (N/%)	SD (N/%)
1. The EMP achievement tests align with the learning objectives of the EMP courses.	18 (56.3%)	13 (40.6%)	0 (0.0%)	1 (3.1%)	0 (0.0%)
2. The content of the EMP achievement tests reflects the key topics covered in the EMP course to a great extent.	15 (46.9%)	14 (43.8%)	0 (0.0%)	2 (6.2%)	1 (3.1%)

Statement	SA (N/%)	A (N/%)	UND (N/%)	D (N/%)	SD (N/%)
3. The EMP achievement tests adequately cover the learning outcomes specified in the EMP course objectives.	14 (43.8%)	15 (46.9%)	2 (6.2%)	1 (3.1%)	0 (0.0%)
4. The EMP achievement tests measure the instructional goals of the EMP courses effectively.	18 (56.3%)	12 (37.5%)	1 (3.1%)	1 (3.1%)	0 (0.0%)
5. I frequently use feedback from EMP achievement tests to adjust or improve the learning objectives of my EMP courses.	4 (12.5%)	8 (25.0%)	3 (9.4%)	7 (21.8%)	10 (31.3%)
Total	**69 (43.1%)**	**62 (38.8%)**	**6 (3.8%)**	**12 (7.5%)**	**11 (6.9%)**

Appendix C

Table 4: Results of EMP test content reflection of practical language needs of medical professionals

Statement	SA (N/%)	A (N/%)	UND (N/%)	D (N/%)	SD (N/%)
6. The EMP test content reflects daily language tasks and communication needs of medical professionals very well.	11 (34.4%)	18 (56.3%)	0 (0.0%)	3 (9.4%)	0 (0.0%)
7. The EMP test content includes practical scenarios encountered in work environments effectively.	10 (31.3%)	17 (53.1%)	1 (3.1%)	4 (12.5%)	0 (0.0%)
8. The EMP test content assesses language skills applicable to real-life situations.	7 (21.8%)	19 (59.4%)	6 (18.8%)	0 (0.0%)	0 (0.0%)
9. The EMP test covers essential medical terminology and jargon.	13 (40.6%)	17 (53.1%)	0 (0.0%)	2 (6.2%)	0 (0.0%)
10. The EMP test integrates crucial communication skills for medical professionals.	1 (3.1%)	10 (31.3%)	3 (9.4%)	7 (21.8%)	11 (34.4%)
Total	**42 (26.3%)**	**81 (50.6%)**	**10 (6.3%)**	**16 (10.0%)**	**11 (6.9%)**

Appendix D

Table 5: Results of discrepancies between EMP test content and actual medical English skills required

Statement	SA (N/%)	A (N/%)	UND (N/%)	D (N/%)	SD (N/%)
11. The EMP test aligns with medical English skills used in professional settings.	15 (46.9%)	15 (46.9%)	0 (0.0%)	2 (6.2%)	0 (0.0%)
12. The EMP test covers practical language tasks encountered in medical practice.	15 (46.9%)	13 (40.6%)	3 (9.4%)	1 (3.1%)	0 (0.0%)
13. The EMP test assesses ability to use medical English in real-world tasks.	10 (31.3%)	15 (46.9%)	6 (18.8%)	1 (3.1%)	0 (0.0%)
14. The test difficulty reflects the complexity of medical English in professional settings.	14 (43.8%)	16 (50.0%)	1 (3.1%)	1 (3.1%)	0 (0.0%)
15. Some medical English skills are more challenging in practice than what is tested.	13 (40.6%)	15 (46.9%)	2 (6.2%)	2 (6.2%)	0 (0.0%)
Total	**67 (41.9%)**	**74 (46.3%)**	**12 (7.5%)**	**7 (4.4%)**	**0 (0.0%)**

Appendix E

Table 6: Results of factors impacting content validity of EMP tests

Statement	SA (N/%)	A (N/%)	UND (N/%)	D (N/%)	SD (N/%)
16. EMP test questions represent the course content range.	12 (37.5%)	14 (43.8%)	1 (3.1%)	5 (15.6%)	0 (0.0%)
17. Instructors review and provide feedback to ensure validity.	9 (28.1%)	14 (43.8%)	3 (9.4%)	5 (15.6%)	1 (3.1%)
18. Student feedback influences EMP content validity significantly.	5 (15.6%)	21 (65.6%)	6 (18.8%)	0 (0.0%)	0 (0.0%)
19. The test measures course-required skills and knowledge effectively.	7 (21.8%)	19 (59.4%)	3 (9.4%)	3 (9.4%)	0 (0.0%)
20. The EMP test adapts to recent changes in the medical field.	1 (3.1%)	5 (15.6%)	6 (18.8%)	7 (21.8%)	13 (40.6%)
Total	**34 (21.3%)**	**73 (45.6%)**	**19 (11.9%)**	**20 (12.5%)**	**14 (8.8%)**