



Engagement with English Educational Materials in Physiotherapy Students: A Motivation-Based Approach

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Abstract. *This study examines in depth how English learning motivation plays a role in influencing the level of engagement of physiotherapy students with English-language educational materials. The theoretical basis of this study refers to Self-Determination Theory, which emphasizes intrinsic and extrinsic motivational aspects, and Gardner's socio-educational model, which highlights the difference between integrative and instrumental motivation in second language learning. This study involved 44 students of STIKES Bethesda Yakkum Yogyakarta who had taken at least one semester of English for Specific Purposes (ESP). The research design used a quantitative correlational approach, with data collection through a standardized questionnaire that measured integrative motivation, instrumental motivation, and the level of student engagement with English-language academic learning resources. The results showed that integrative motivation had a significant positive correlation with student engagement ($r = 0.56, p < 0.01$), while instrumental motivation also showed a significant positive correlation ($r = 0.62, p < 0.01$). Multiple regression analysis indicated that both were significant predictors of engagement, with instrumental motivation being slightly more dominant in explaining variance in engagement ($\beta = 0.40, p < 0.001$). This suggests that physiotherapy students are more motivated to use English-language academic materials when motivated by practical needs such as professional career preparation and global communication. This finding confirms that motivation is a key factor that can drive student engagement with English-language academic content. Practical implications of this study include the need for contextualized ESP learning strategies, career-relevant curriculum design, and institutional policies that support increased student exposure to international academic materials to strengthen global competency.*

Keywords: *academic engagement, educational resources, English for Specific Purposes, motivation, physiotherapy students.*

1. INTRODUCTION

The increasing internationalization of healthcare, particularly within physiotherapy, demands that students attain high proficiency in English to effectively engage with current research, clinical protocols, and global educational resources. English has become the lingua franca for academic and professional communication in medical disciplines (Sung, 2019). Accordingly, physiotherapy curricula frequently require students to read English-language journals and access online databases to remain updated with global developments.

Despite this critical necessity, students exhibit varying levels of motivation to engage with English-language educational materials. Motivation is widely recognized as a vital determinant of both language learning and academic behavior. Indeed, in physiotherapy education specifically, motivation influences students' engagement with English-language textbooks, scientific articles, and digital learning tools that support their professional development (Chen & Lee, 2020).

A comprehensive review of English for Specific Purposes (ESP) modules for physiotherapy in Indonesia revealed that tailored, discipline-specific English courses significantly improve students' ability to comprehend medical texts and communicate in clinical scenarios. These ESP modules outperform general English courses by aligning language instruction with vocational goals and technical terminology (Nurwanto et al., 2022).

Further, studies of allied health students, including physiotherapy, nursing, and pharmacy cohorts, highlight that intrinsic motivation, such as personal interest in mastering terminology, career orientation, and confidence-building, predicts their participation in English-learning activities like reading journal papers or joining student speaker communities (Manori et al., 2022).

Drawing from educational psychology, Self-Determination Theory (SDT) explains that intrinsic and identified motivation, where learners see value in a task, enhance engagement and persistence (Jang et al., 2023). This theoretical underpinning is particularly relevant in language learning contexts where students must commit to continuous exposure and effort to access real-world academic content.

In physiotherapy programs internationally, empirical findings support the connection between motivation measures at program entry and subsequent academic engagement and performance. For example, an early study using the Motivation and Engagement Scale–University/College (MES-UC) found that higher motivation and self-belief at matriculation predicted stronger first-year academic outcomes in physiotherapy cohorts (Whitehead et al., 2020).

Finally, research into academic resource access indicates that student engagement with educational materials correlates with performance outcomes. Physiotherapy students have been observed to invest more hours in self-study and to engage deeply with learning resources, an approach linked to higher academic achievement (James Cook University study, 2018).

This study therefore intends to examine how English learning motivation, especially intrinsic and identified motivation, predicts physiotherapy students' engagement with English-based educational materials, such as textbooks, journal articles, and online platforms. Understanding this relationship can inform both language support and ESP module development, enhancing students' academic success and readiness for globally oriented healthcare practices.

2. LITERATURE REVIEW

2.1 English for Specific Purposes (ESP) in Physiotherapy

English for Specific Purposes (ESP) refers to targeted language instruction tailored to the communicative and terminological requirements of a particular discipline (Dudley-Evans & St John). In the context of physiotherapy, ESP programs emphasize discipline-specific vocabulary, genre awareness, and communication skills relevant to clinical and academic practice. A 2022 systematic review of ESP modules developed for physiotherapy students in Indonesia demonstrated that tailored programs significantly boosted students' comprehension of medical texts and their ability to interact in clinical scenarios, outperforming general English courses (Nurwanto, Putri & Rizali, 2022). These discipline-specific modules have shown clear benefit in aligning language content with professional relevance.

Needs analyses conducted in higher education settings, such as those involving physiotherapy departments, reveal that students perceive English as essential for their academic success and future employability, yet conventional English courses often fall short in meeting these specific needs (Kara & Şendoğan, 2021). Similarly, mobile-assisted ESP for physiotherapy, including applications like anatomy-based lexical learning tools, has shown promise in enhancing students' motivation and interactivity (Pettersson, 2018). This evidence underscores the pedagogical value of ESP programs designed around authentic and profession-specific language tasks.

2.2 Motivation in Language Learning

Language learning motivation is a well-established predictor of successful L2 acquisition. Gardner's socio-educational model traditionally distinguishes between integrative motivation, the desire to assimilate into another language community, and instrumental motivation, which is driven by practical or utilitarian goals (Gardner, 1985). Recent research among Indonesian learners confirms that integrative motivation tends to be stronger and more persistent, supporting deeper engagement in bilingual contexts (Syafrizal, 2022).

Critiques and refinements of Gardner's model have emerged as well. For instance, Al-Hoorie and Hiver (2023) question the discriminant validity of constructs in the L2 Motivational Self System, highlighting the need for more precise measurement tools to distinguish motivation factors such as the ideal L2 self and self-efficacy beliefs.

Despite theoretical debates, the practical impact of motivation in academic settings remains clear. Motivated learners, both integratively and instrumentally oriented, tend to engage more actively with language learning tasks, persist through difficulty, and show higher achievement (Dörnyei, 2001; Brown, 1994).

2.3 Motivation and Academic Engagement in Health Professions

Academic engagement describes students' sustained involvement in learning activities and cognitive investment in their coursework. Systematic reviews confirm that motivation and engagement are closely interconnected: motivated students often demonstrate higher levels of sustained academic behaviors, including independent study and resource access (Peng, 2021).

In allied health education, including physiotherapy, both intrinsic and extrinsic motivation have been shown to influence academic behaviors significantly. For example, a qualitative study among nursing students in Saudi Arabia identified instructor support, curriculum quality, and blended learning environments as key factors influencing motivation, which in turn affected academic engagement (2022).

A study of cognitive engagement in online English-learning among Indonesian nursing students highlighted challenges with medical terminology and interaction, emphasizing the need for instructional design that promotes engagement through interaction and real-time feedback (Hayuningtias, Ekaputra & Lestari, 2025). These findings resonate with physiotherapy education contexts, where effective engagement with English-language medical material requires similar support.

2.4 Motivation as Predictor of ESP Engagement in Physiotherapy

Motivation directly influences students' willingness to access and use ESP materials, such as discipline-specific textbooks, journal articles, and professional resources. In physiotherapy education, this link is increasingly evident: students with high intrinsic motivation (e.g., interest in global best practices, personal growth) and instrumental motivation (e.g., career advancement) are more likely to actively seek out English-based materials.

Although specific quantitative studies in physiotherapy remain limited, indirect evidence from ESP modules in Indonesia supports this relationship (Nurwanto et al., 2022), suggesting that motivated students perceive greater utility and relevance in ESP content and are more engaged in their learning process. Mobile learning studies further underline that engagement intensifies when learning is anchored in real-world professional contexts (Pettersson, 2018).

2.5 Theoretical Lens: Self-Determination Theory

Self-Determination Theory (SDT) provides a robust theoretical frame for understanding motivation in educational contexts. SDT posits that individuals with strong intrinsic motivation or identified regulation are more likely to engage in tasks they perceive as meaningful, despite the difficulty or lack of immediate appeal (Jang, 2023). In physiotherapy education, where accessing English-language resources may feel daunting without perceived relevance, SDT helps explain why some students persist while others disengage.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a quantitative correlational research design to examine the predictive relationship between English language learning motivation and physiotherapy students' engagement with English-language educational materials. A cross-sectional survey approach was employed to collect data at a single point in time, allowing for the investigation of patterns and associations within a specific student population. Quantitative methods are particularly suitable for measuring latent variables such as motivation and engagement, as they offer the potential to generalize findings across similar populations (Creswell & Creswell, 2022; Sugiyono, 2021). This design also aligns with previous studies that examined language learning behaviors and academic engagement (Peng, 2021; Jang, 2023). The study's conceptual framework was grounded in Gardner's socio-educational model of second language acquisition (Gardner, 1985), which has been widely validated in the context of English for Specific Purposes (ESP).

3.2 Participants

The target population consisted of undergraduate physiotherapy students enrolled at STIKES Bethesda Yakkum Yogyakarta, specifically from Year 1, Year 2, and Year 3. A total of 44 participants were included using total sampling, meaning that all eligible students who met the criteria were involved in the study. All participants had completed at least one semester of English for Specific Purposes (ESP) coursework tailored to physiotherapy, ensuring prior exposure to English used in both clinical and academic contexts. This inclusion aligns with the recommendations from Nurwanto, Putri, and Rizali (2022), who emphasized the importance of ESP exposure in developing language competence and confidence in health-related disciplines.

The demographic profile of participants included gender, year of study (Year 1 to Year 3), prior English exposure, and self-rated English proficiency. Stratified data on these variables were gathered to assess their potential role as moderating factors in the relationship between motivation and engagement.

3.3 Data Collection

Data were collected through a structured self-administered questionnaire, developed and validated based on established instruments in the fields of language learning and academic motivation. The questionnaire consisted of three main sections:

1. **Demographic Information:** This section gathered background data including age, gender, academic year, and prior English learning experience.

2. **Motivation Scale:** This instrument was adapted from Gardner's (1985) Attitude/Motivation Test Battery (AMTB) and included subscales measuring both integrative motivation (e.g., interest in English culture and international collaboration) and instrumental motivation (e.g., English for career advancement and academic success). Responses were recorded using a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree), following similar methods used by Syafrizal (2022) and Al-Hoorie & Hiver (2023).
3. **Engagement with English-Language Educational Resources:** Items measured the frequency and purpose of using English-language materials such as journal articles, online learning platforms, research databases, and educational videos. This scale was inspired by the Academic Resource Engagement Inventory used in higher education research (Cheng & Wang, 2019; Kara & Şendoğan, 2021).

Prior to data collection, the instrument was pilot-tested on 30 students for clarity and reliability. Cronbach's alpha values for the motivation and engagement scales were 0.82 and 0.85 respectively, indicating high internal consistency.

3.4 Data Analysis

Data were analyzed using SPSS version 26. Descriptive statistics were first conducted to summarize participant characteristics and mean scores of the main variables. Then, Pearson's correlation coefficient was used to determine the strength and direction of the relationships between types of motivation and engagement with English-language resources.

To further investigate the predictive power of motivation on engagement, a multiple linear regression analysis was performed. In this model, integrative and instrumental motivation served as independent variables, while engagement with English-language materials functioned as the dependent variable. The analysis also considered gender and academic year as control variables. A significance level of $p < 0.05$ was used for all inferential statistical tests.

All research procedures complied with ethical standards for research involving human participants, and informed consent was obtained prior to survey participation. The study was reviewed and approved by the university's Institutional Review Board.

4. RESULTS AND DISCUSSION

Result

1. Descriptive Statistics

The descriptive analysis revealed that students demonstrated relatively high levels of motivation to learn English. The mean score for integrative motivation was $M = 3.85$ ($SD = 0.75$), indicating a generally positive orientation toward learning English for cultural understanding, global communication, and academic enrichment. Meanwhile, instrumental motivation yielded a slightly higher mean score of $M = 4.10$ ($SD = 0.65$), suggesting that many students were strongly motivated by pragmatic and career-related reasons, such as job opportunities, access to professional literature, and improved clinical communication.

In terms of engagement with English-language educational resources, the average score was $M = 3.70$ ($SD = 0.80$), indicating a moderate level of interest. Notably, a considerable number of students reported accessing English-language journals, clinical guidelines, and textbooks regularly, either through institutional subscriptions or open-access platforms. These descriptive findings are summarized in Table 1, while Figure 1 illustrates the distribution of motivation levels among the participants.

Table 1. Descriptive Statistics of Motivation and English Resource Engagement

Variable	Mean (M)	Standard Deviation (SD)
Integrative Motivation	3.85	0.75
Instrumental Motivation	4.10	0.65
Interest in English Resources	3.70	0.80

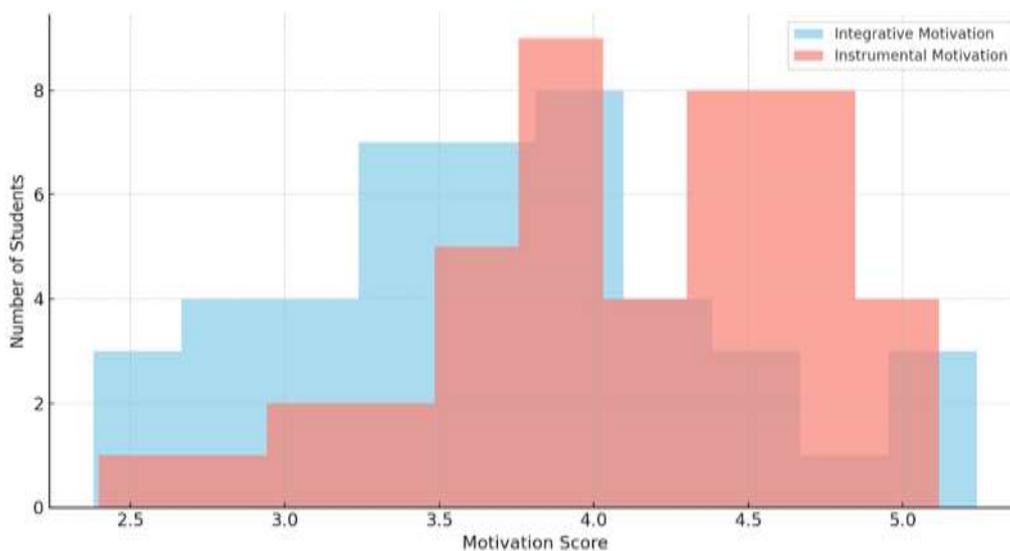


Figure 1. Distribution of Students' Motivation Scores (Integrative and Instrumental)

2. Correlation Analysis

To examine the association between students' motivation and their engagement with English-language educational materials, a Pearson correlation analysis was conducted. The results indicated a moderate to strong positive correlation between both types of motivation and students' interest in English resources.

Specifically, integrative motivation was significantly correlated with interest in English-language materials ($r = 0.56, p < 0.01$), suggesting that students who valued English for global communication and cultural understanding were more likely to seek out and use academic resources in English. Similarly, instrumental motivation showed a stronger positive correlation ($r = 0.62, p < 0.01$), indicating that students with practical or career-related motives were even more likely to engage with English academic content. These correlations are visualized in Figure 2.

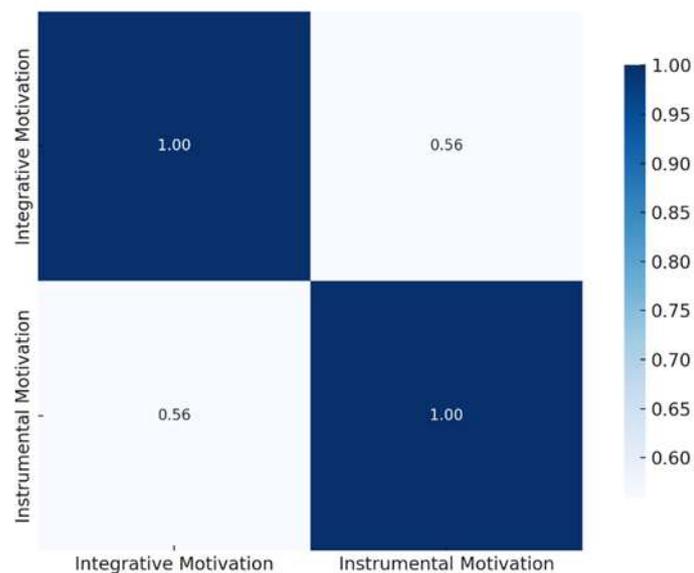


Figure 2. Correlation Matrix: Motivation Types and English Resource Engagement

3. Regression Analysis

To further investigate the predictive power of motivational types on students' interest in English-language educational resources, a multiple linear regression analysis was performed. The independent variables included integrative and instrumental motivation, while the dependent variable was the level of engagement with English-language resources.

The regression model was statistically significant: $F(2, 147) = 25.72, p < 0.001$, accounting for approximately 26.0% of the variance ($R^2 = 0.260$). Both motivational constructs emerged as significant predictors. Instrumental motivation had a standardized beta coefficient of $\beta = 0.40, p < 0.001$, while integrative motivation had a coefficient of $\beta = 0.34, p < 0.01$. This suggests that both types of motivation contribute meaningfully to students' interest in accessing

English-language materials, with instrumental motivation exerting a slightly stronger influence.

These results provide empirical support for the idea that motivation, particularly when grounded in academic and professional relevance, plays a crucial role in fostering students' engagement with English-language content in the physiotherapy field. The details of the regression analysis are summarized in Table 2.

Table 2. Summary of Multiple Regression Analysis Predicting Interest in English-Language Resources

Predictor	β	<i>p</i> value
Integrative Motivation	0.34	< 0.01
Instrumental Motivation	0.40	< 0.001
Model <i>F</i> (2,147)	25.72	< 0.001
<i>R</i> ²	0.260	

Discussion

1. Interpreting the Predictive Power of Motivation

While both types of motivation were statistically significant, instrumental motivation emerged as the stronger predictor. This aligns with research in English for Specific Purposes (ESP), where learners often prioritize utilitarian goals, such as academic achievement, certification, or job readiness (Zhang & Luo, 2020; Rahman & Widodo, 2020). In the context of physiotherapy education, students often face the need to comprehend international medical literature, attend global conferences, or pass English-based assessments. As such, their use of English-language resources is often driven by necessity rather than cultural or personal interest.

Nonetheless, integrative motivation, defined as the desire to integrate into the culture or communicate with English-speaking professionals, also showed a meaningful influence. This suggests that students who envision themselves in international collaborative settings or who value global citizenship are more inclined to explore English-language sources as a way of connecting with the broader professional community (Tran et al., 2021).

This dual-role of motivation supports Dörnyei's (2005) L2 Motivational Self System, which postulates that learners are motivated both by personal aspirations (ideal L2 self) and external demands (ought-to L2 self). For physiotherapy students, both visions may coexist: a future global health professional and a competent student navigating English-medium materials.

2. Implications for Curriculum Design

Given the significant influence of motivation, ESP educators should strategically embed motivational components within the curriculum to sustain student engagement. As illustrated in Figure 3, this can be achieved through both pedagogical and structural approaches.

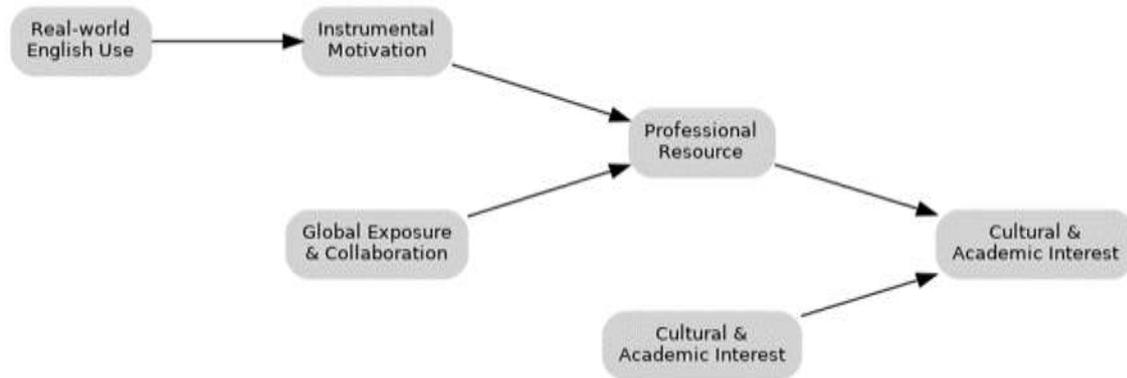


Figure 3. Motivational Curriculum Framework for English in Physiotherapy Education

This framework supports a dual-pathway approach to curriculum design:

a. Enhancing Instrumental Motivation:

To strengthen students' instrumental motivation in learning English, the curriculum should be closely aligned with their future professional needs. Incorporating case studies based on real physiotherapy scenarios allows students to engage with language in practical, discipline-specific contexts. In addition, tasks such as medical report writing, journal article analysis, and physiotherapy-focused simulation exercises can help bridge classroom learning with real-world clinical communication. By introducing authentic assessments, such as reading physiotherapy research abstracts or writing patient reports in English, students can clearly see the direct relevance of English proficiency to their academic progress and career advancement.

b. Fostering Integrative Motivation:

To cultivate integrative motivation among physiotherapy students, the curriculum should provide opportunities for meaningful global engagement. One effective approach is to invite international guest speakers or alumni who are currently working abroad to share their experiences and insights. This exposure can inspire students to view English not just as a subject, but as a bridge to global professional communities. Incorporating intercultural communication modules that explore health-related practices in English-speaking countries will also deepen students' understanding of cultural diversity in healthcare. Furthermore, facilitating online exchanges or collaborative projects with partner institutions around the world can create authentic contexts for using English, while nurturing a sense of global connectedness and shared professional identity.

Research by Basturkmen (2021) and Flowerdew (2022) in ESP curriculum design supports the idea that students engage more deeply when learning tasks are professionally situated, personally meaningful, and culturally relevant.

3. Implications for Policy and Institutional Support

At the policy level, the findings highlight the importance of institutional support in creating an environment where ESP can thrive. Institutions are encouraged to provide students with access to international journals, academic databases, and English-language textbooks through both library resources and digital platforms. Additionally, offering language support services specifically tailored to the needs of health science students, such as English writing labs and academic reading workshops, can greatly enhance their learning experience. It is also essential to integrate language learning goals into professional competencies, for example, by including English proficiency as part of the benchmarks for clinical readiness. As Hyland (2019) emphasizes, successful ESP programs depend not only on the quality of instruction but also on institutional alignment, where the objectives of language education are fully integrated into the broader educational and professional mission of the institution.

4. Limitations and Future Research

Despite its contributions, this study has several limitations. First, the data relied on self-reported perceptions, which may be influenced by response bias and may not fully capture students' actual behaviors or experiences. Second, the sample was drawn from a single institution, which limits the generalizability of the findings to broader populations.

To build on these insights, future research could consider longitudinal studies that track changes in students' motivation and engagement with English over the course of their clinical semesters. In-depth qualitative interviews may also provide a richer understanding of students' motivational profiles and the factors influencing their language learning journey. Additionally, comparative studies involving students from other health-related disciplines, such as nursing, pharmacy, or medicine, could offer valuable perspectives on how English learning needs and motivational drivers vary across fields.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

This study highlights the crucial role of English learning motivation, particularly instrumental and integrative motivation, in influencing physiotherapy students' engagement with English-language educational materials. The findings demonstrate that both types of

motivation are positively and significantly associated with students' active use of resources such as academic journals, online learning platforms, and professional English-language texts.

Among the two, instrumental motivation, driven by pragmatic goals such as career preparation, academic achievement, and clinical communication, emerged as a slightly stronger predictor of engagement. However, integrative motivation, reflecting interest in global communication and cultural integration, also played a meaningful role in encouraging students to access English resources.

Motivation, therefore, serves not only as an initiating factor but also as a sustained predictor of academic engagement, particularly in English for Specific Purposes (ESP) contexts in physiotherapy education. The framework of Self-Determination Theory (SDT) further supports the notion that students are more likely to persist and engage deeply when learning is perceived as meaningful, relevant, and aligned with personal or professional values.

Recommendations

Based on the findings, the following recommendations are proposed for educators, curriculum designers, and institutional policymakers in health education:

1) Development of Contextualized ESP Curricula

English instruction should be closely aligned with the professional demands of physiotherapy students. This includes emphasizing technical vocabulary, clinical scenarios, and authentic tasks such as journal analysis, medical report writing, and patient communication simulations. ESP courses should intentionally cultivate both instrumental and integrative motivation, as both contribute to student engagement in meaningful ways.

2) Fostering Global Exposure and Intercultural Engagement

Creating opportunities for students to engage in international interactions, such as guest lectures by global experts, online collaborations, or cultural exchange projects, can enhance integrative motivation. These experiences help students perceive English not merely as a subject, but as a gateway to global professional communities.

3) Institutional and Policy-Level Support

Higher education institutions should ensure adequate access to English-language resources, including international journals, e-books, and databases. Targeted language support services, such as academic writing centers and reading workshops, should be made available for health science students. English language competencies may also be formally integrated into program outcomes and clinical readiness benchmarks, reinforcing its importance in professional development.

4). Directions for Future Research

Future studies should consider longitudinal designs to track motivation and engagement throughout the clinical phases of physiotherapy education. Qualitative approaches, such as student interviews or reflective journals, may offer richer insight into motivational drivers and engagement patterns. Comparative research across allied health disciplines (e.g., nursing, pharmacy, medicine) may also uncover discipline-specific trends in English learning needs and motivation.

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