Exploring Student Perceptions of Technological Pedagogical Content Knowledge (TPACK) in Translation Courses

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ABSTRACT

Technological Pedagogical Content Knowledge (TPACK) is regarded as one of the most significant models for showcasing students' perceptions in translation courses. This study was undertaken to investigate the perceptions of both novice and experienced translation students from institute Pendidikan dan Bahasa Invada regarding the utilization of technological pedagogical content knowledge in professional development teaching. In pursuit of the study's three objectives, the mixmethod method was utilized by the two authors due to its appropriateness. Data gathering involved distributing a 20-item questionnaire to a purposive sample comprising 75 novice and experienced female translation students chosen from institute Pendidikan dan Bahasa Invada during 2021/2022. Additionally, a significant proportion of the instructors demonstrated an average level of knowledge regarding TPACK. Their perceptions towards TPACK were notably positive. Moreover, the study's results highlighted the substantial role of educational backgrounds in digital technologies in the professional development of novice and experienced translation instructors at IPB Cirebon. The study's implications were deliberated upon, with recommendations proposed to equip all institution in Cirebon with educational software, e-learning platforms, teaching software, and to provide novice and experienced translation students’ with sessions on new digital skills, cybersecurity workshops, and innovative digital skills training.

Keywords:
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TPACK
Translation Courses

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1. BACKGROUND

In the current educational paradigm, the integration of technology into pedagogical practices is increasingly critical. The Technological Pedagogical Content Knowledge (TPACK) (Grossman, 2009) framework provides a robust model for elucidating the essential competencies required by educators to seamlessly incorporate technology into their instructional methodologies (Adipat, 2021). This framework underscores the interrelationship between technology, pedagogy, and content knowledge, positing that optimal teaching efficacy resides at the convergence of these three domains. This framework underscores the interrelationship...
between technology, pedagogy, and content knowledge, positing that optimal teaching efficacy resides at the convergence of these three domains (Wiziack & dos Santos, 2021).

The seven core components of the TPACK framework are not isolated entities but are intrinsically interconnected. (Akturk & Ozturk, 2019) The architecture of TPACK is characterized by complexity, interaction, and dynamic balance among its elements. Extensive research has been conducted on educators' TPACK proficiency levels, resulting in numerous TPACK assessment (Akyuz, 2018) studies targeting elementary and secondary school teachers across various disciplines, including mathematics, physics, and computer science. Notably, faculty members in the sciences demonstrate a greater interest in TPACK levels compared to their counterparts in the humanities.

Translation (Laviosa, 2014) education is characterised by the structured process of providing students with the skills and knowledge necessary to become competent translators. This definition is consistent with the understanding that translation education involves a range of activities, including language acquisition, textual analysis, translation practice, collaborative work, technological integration and continuous professional development. The ability to do a translation (Rosalina et al., 2024) involves attempting to express an identical idea or statement in another language to replace the originally written in that alternative language.

In translation courses, (Alemán-Saravia et al., 2023) the application of TPACK is particularly pertinent due to the dynamic and multifaceted nature of language learning and translation processes. Translation (Cheah et al., 2019) courses often require students to develop not only linguistic and cultural competencies but also the ability to use various technological tools and resources. These tools range from online dictionaries and translation software to more advanced computer-assisted translation (CAT) tools. Word-for-word translation, scientifically known as literal translation, involves the direct transfer of the source language into a grammatically appropriate target language text. Recognised as the reversible solution, literal
translation is often used when translating between two languages of the same family and culture (e.g. French and Italian). Descriptive translation works in conjunction with transcription, mainly to translate terms, cultural words and unique objects that have no lexical equivalent in the target language. The aim of descriptive translation is therefore to provide the reader of the target language with an explanatory understanding (Sigacheva et al., 2021).

2. METHOD

A mixed method (De Sutter & Lefer, 2020) was applied in this study. In line with the study's objective, English Education undergraduate students and some lecturers the academic year 2021/2022 at Institut Pendidikan dan Bahasa Invada were chosen as participants. The questionnaire was utilized by the researcher as the quantitative (Laviosa, 2014) data and interview as qualitatative (Souza et al., 2021).

First, a questionnaire was used in this study to collect data. In this instance, a set of questionnaires was distributed by the researcher to be completed by 85 students, comprising 20 in the second semester, 20 in the fourth semester, and 25 in the sixth semester, to gather their perceptions of their current TPACK. The questionnaire, concerning a survey of technology use, teaching, and technology-related learning experiences among pre-service English language teachers, was adapted from a pre-existing one by Ciptaningrum (2017) to align with the contexts of English as a Foreign Language in Indonesia and pre-service English teachers. It consisted of twenty-nine questions divided into five domains: Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), Technological Pedagogical Content Knowledge (TPCK), and Technology-related Learning Experiences (TLE). Of the 85 students from the second to sixth semester, 75 participated in completing the questionnaire.

Secondly, two sets of semi-structured interviews were conducted to complement the initial data collection. The first interview involved questioning some English Education students, comprising six questions aimed at understanding how they acquired TPACK in their learning. The second interview was directed towards obtaining insights from selected lecturers, containing five questions concerning their roles in assisting English Education students in acquiring TPACK during learning. These interviews were conducted after the questionnaire distribution. A total of 25 students selected through random sampling and 3 lecturers chosen via snowball sampling participated in the interview sessions.

The Likert Scale format was employed in the questionnaire as the primary data collection method. Each domain (five domains in total) was categorized based on its total and mean scores (SD=1, D=2, N=3, A=4, SA=5). Descriptive question results from the
questionnaire were reported in percentage form to supplement the data. Finally, the data was interpreted both generally and specifically to address the initial research question.

The interviews, the researcher initiated the analysis by transcribing the interviews. Codification of transcriptions was conducted to identify data relevant to answering the research questions, particularly the second and third research questions. The researcher then thematically organized the data from participants (English Education students and some lecturers) to provide a clear explanation, establish meaning, and minimize redundancy and overlap in the data.

3. RESULT AND DISCUSSION

The result of English education students’ TPACK at Institut Pendidikan dan Bahasa Invada

The questionnaire items were categorized into five domains: Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), Technological Pedagogical Content Knowledge (TPCK), and Technology-related Learning Experiences (TLE). A 5-point Likert scale consisting of 29 items (ranging from Strongly Disagree to Strongly) was used to gather information about TPACK from English Education students. The subsequent section will showcase the results of the questionnaire analysis.

Students’ Technological Knowledge (TK)

The first domain, Technological Knowledge (TK), centered on students’ understanding of new or digital technology, including the internet, smartphones, computers, laptops, and software programs. Three items were responded to by the students. The outcome revealed that the cumulative score of responses across the 3 items in the Technological Knowledge (TK) domain was 2163, with a mean score of 721.

Students’ Technological Content Knowledge (TCK)

The second domain, Technological Content Knowledge (TCK), centered on the correlation between students’ proficiency in technology utilization and their understanding of non-teaching subjects studied at the university. Responses were provided by students to 10 items. The outcome indicated that the cumulative score of responses across the 10 items in the TCK domain was 7854, with a mean score of 785.4.

Students’ Technological Pedagogical Knowledge (TPK)

The third domain, Technological Pedagogical Knowledge (TPK), emphasized the connection between students’ proficiency in technology application and their expertise in teaching subjects studied at the university. Students provided responses to 6 items. The results revealed that the cumulative score of responses across the 6 items in the TPK domain was 4465, with a mean score of 744.17.

Students’ Technological Pedagogical Content Knowledge (TPCK)
The fourth domain, Technological Pedagogical Content Knowledge (TPCK), centered on the connection between students' proficiency in technology utilization and their understanding of English language topics (including both teaching and non-teaching subjects) studied at the university. Students provided responses to 6 items.

**Students’ Technology-related Learning Experiences (TLE)**

The final domain, Technology-related Learning Experiences (TLE), centered on the application of technology within the classroom setting. Students provided responses to 4 items. The results indicated that the cumulative score of responses across the 4 items in the Technology-related Learning Experiences (TLE) domain was 2723, with a mean score of 680.75.

**Five Domains of Technological Pedagogical and Content Knowledge (TPACK)**

As previously described, the five domains of TPACK were assessed using a Likert scale in this study, with the mean score being presented in Table 1.

<table>
<thead>
<tr>
<th>Domains</th>
<th>Mean Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK</td>
<td>721</td>
<td>Good</td>
</tr>
<tr>
<td>TCK</td>
<td>785.4</td>
<td>Good</td>
</tr>
<tr>
<td>TPK</td>
<td>744.17</td>
<td>Good</td>
</tr>
<tr>
<td>TPCK</td>
<td>679.17</td>
<td>Good</td>
</tr>
<tr>
<td>TLE</td>
<td>680.75</td>
<td>Good</td>
</tr>
<tr>
<td>The Whole Domain</td>
<td>722.1</td>
<td>Good</td>
</tr>
</tbody>
</table>

The initial data were derived from the students’ questionnaire to address the first research question. According to the questionnaire results utilizing the Likert scale, the TCK domain had the highest mean score (785.4), followed by the TPK domain (744.17), TK domain (721), TLE domain (680.75), and TPCK domain (679.17), all falling within the good category. Consequently, the mean score for all domains was 722.1, also falling within the good category. Overall, English Education students at Lampung University demonstrated a positive perception of TPACK, indicating their confidence in integrating technology within English learning content and pedagogical subjects. Specifically, the findings highlighted those students perceived Technological Content Knowledge (TCK) most favorably among the domains. As (Koehler et al., 2014), TCK denotes the relationship between technology and content. Additionally, referencing Richards (1998) as cited in (Inderawati & Vianty, 2021) English language content knowledge encompasses comprehension of linguistic components (phonetics, phonology, morphology, semantics, syntax, socio-linguistics, and pragmatics), second language acquisition, cross-cultural awareness, and language proficiency skills (listening, speaking, reading, and writing). This suggests that nearly all English Education students at that university were capable
of connecting their technology utilization knowledge with the non-teaching topics (content knowledge) they studied.

Furthermore, the higher TCK scores compared to TPK were attributed to the majority of students being in the initial years of their learning (second and fourth semesters).

4. CONCLUSION

First, the TPACK perception of English Education students at Institut Pendidikan dan Bahasa Invada in the academic year 2021/2022 is generally categorized as good. It is implied that students believe they can integrate technology either in content or pedagogical subjects in English learning. The mean score of all measured domains (Technological Knowledge/TK, Technological Content Knowledge/TCK, Technological Pedagogical Knowledge/TPK, Technological Pedagogical Content Knowledge/TPCK, and Technology-related Learning Experiences/TLE) is 722.1. The TCK domain has the highest mean score (785.4), while the TPCK domain has the lowest (679.17).

Second, TPACK acquisition by English Education students occurs in two ways. The first is through observing lecturers during classroom instruction, and the second is through self-learning using the internet as a medium.

Third, it was revealed that there are five roles of lecturers in assisting English Education students in acquiring TPACK during learning. These roles include providing facilities and infrastructures related to ICT, modeling the integration of ICT in the classroom, assessing the necessity of ICT in learning materials, facilitating interactions between students and technology, and motivating students.

5. REFERENCES


teacher education (pp. 437–488). Routledge.