

ASSESSING THE ENGLISH LANGUAGE TEACHERS' CONCEPTION AND PERCEIVED CLASSROOM PRACTICE OF PEDAGOGICAL CONTENT KNOWLEDGE IN PUBLIC SECONDARY SCHOOLS IN HARGIESA, SOMALILAND.

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ABSTRACT

The main purpose of this study was to assess teachers' technological pedagogical content knowledge (TPACK) and their perceived classroom practices. TPACK consists of seven subdomains: Content Knowledge (CK), Pedagogical Knowledge (PK), Technological Knowledge (TK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK) and Technological Pedagogical Content Knowledge (TPACK). English language teachers and heads of schools were selected using available sampling method. Relevant data were collected from 57 teachers and 8 head principals through a 46-item closed questionnaire with five point Likert scale and 10 items of semi-structured interview respectively. The data were analyzed, interpreted and discussed using descriptive and inferential statistics. Results indicated that English language teachers' conception regarding their content knowledge, pedagogical knowledge and pedagogical content knowledge is above average. However, the conception and perceived practice of technological knowledge (TK), technological pedagogical knowledge and technological pedagogical content knowledge (TPACK) of English language teachers was found to be low. Based on the results and the discussion made, implications for the English language teachers and education experts at different levels were outlined and further studies were suggested.

Keywords: TPACK, Conception, Perceived Practice.

INTRODUCTION

In terms of education history, Somaliland's education system is rooted in its pre-colonial traditional system, where education was based on Islamic teachings and knowledge (MOE, 2018). During the colonial period, the British introduced a modern education system in Somaliland, which focused on Western-style education and secular knowledge. After Somaliland gained independence in 1960, the state inherited the educational system established by British colonizers (SNESP I, 2016). Thus in 2018 & 2022 the government launched the Somaliland National Education Sector Planning (SNESP III) with the objective of improving the delivery of quality education in six key areas: (a) curriculum, textbooks and assessment, (b) teacher development, (c) school improvement, (d) management and administration, (e) coordination and monitoring and evaluation, and (f) improving quality through information and communication technology (MoE, 2022). In addition to this, one of the major components in the General Education Quality Improvement Program is Teacher Development Program (TDP) including the English language Quality Improvement Program (ELQIP). This component focuses on continued improvement of quality teaching and learning through targeted interventions to bring about lasting systemic change. It aims at improving the quality of instruction and therefore student learning by enhancing the capacity of teachers in primary and secondary education. Studies suggest that the availability and quality of well-trained teachers, through pre-service teacher training, in-service professional development and the informal training obtained through on-the-job experience, is central to improving the quality of education at both primary and secondary levels in many countries (Harris & Sass 2006). These researchers underscored that Content-focused teacher professional development is thought to contribute to improvements in the quality of education.

In relation to this, among the many requirements that an English teacher must possess, technological pedagogical and content knowledge (TPACK) plays an important role in developing teacher effectiveness. Pedagogical knowledge (practices, processes, strategies, procedures and methods of teaching and learning) to improve student learning (Koehler & Mishra, 2008) is quickly becoming popular among researchers and practitioners alike. In secondary education, pedagogical content knowledge of English teachers involves being aware of the different teaching approaches, methods and techniques and having a thorough understanding of the different aspects of language including its phonetic, morphologic,

syntactic, semantic and pragmatic dimensions. Finally, by considering factors for the affecting the conceptions and perceived classroom practice of English language teachers’ technological pedagogical content knowledge in the secondary schools of Hargeisa Somaliland.

STATEMENT OF THE PROBLEM

Teachers need to develop themselves in pedagogy, technology, and their content areas in order to be successful in their career (Sahin, 2011). By using information and communication technologies, teachers can follow developments in their areas, transfer the contemporary approaches and applications regarding teaching methods into their instruction, and keep themselves up-to-date. To meet the educational expectations of secondary education, teachers’ knowledge has become very important for successful integration of technology in education (Jeong & Kim, cited in Köse, 2016). To meet the expectations and needs of the students, teachers of English must be knowledgeable, and be armed with necessary overall competencies which will help them teach effectively. Despite the fact students in secondary schools have learnt English for many years, the researcher observed that a large number of learners go through and/or complete secondary education without achieving adequate levels of English second language proficiency; and such limited or lack of proficiency affects the students’ academic success at higher institutions and their important future career prospects. The researcher noted that the teachers lack the proper use of basic language skills in English and did not use appropriate technologies to support their teachings in the classroom.

SPECIFIC OBJECTIVES OF THE STUDY

1. To explore how well does teachers conceive their technological, pedagogical and content knowledge in teaching English language at the secondary schools.
2. To investigate the perceived use of TPACK in their English language classes.
3. To provide a strategy for developing and facilitating the technological pedagogical content knowledge of English teachers in secondary schools.

REVIEW OF RELATED LITERATURE

The concept Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPACK) was introduced to the educational research field as a conceptual framework for understanding the teacher knowledge that is required for technology integration (Mishra & Koehler, 2006; Thompson & Mishra, 2007; in Wang, 2016). Despite the fact that TPACK evolved from Shulman's (1986) theory of pedagogical content knowledge (PCK), it is basically concerned with interplay between technology, pedagogy, and content knowledge that teachers require for successfully integrating technology. TPACK can be perceived as a teacher's intuitive understanding for teaching subject-specific content with appropriate pedagogical methods and selected technologies. TPACK serves as a useful conceptual framework for thinking, analyzing, and evaluating what teachers must know to integrate technology into teaching, but ultimately it must be understood as a framework for ways in which teachers might best develop this integrated knowledge (Baran et al., 2011). As depicted below, TPACK focuses on situating technology knowledge within content and pedagogical knowledge.

RESEACH METHODOLOGY

Research Design

The overall purpose of the study was to assess the conception and perceived practice of English language teachers' technological pedagogical content knowledge in public secondary schools of Mekelle city. Therefore the researcher used descriptive survey approach to conduct this research. Kothari (2004) stated that the major purpose of descriptive survey is description of the state of affairs as it exists at present. Furthermore, Kothari explained that the main characteristic of descriptive survey is to enable a researcher to come up with what has happened or what is happening. Furthermore, for the purpose of analyzing data, the researcher applied a sequential explanatory strategy in which it is part of mixed design. According to Creswell (2012) this strategy is characterized by the collection and analysis of quantitative data in a first phase of research followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative data. Thus, sequential explanatory strategy is easy to implement because the steps fall into clear, separate stages. In addition, this design feature helps the researcher

easy to describe and report the collected data.

Therefore, the researcher employed descriptive survey with sequential explanatory strategy, in which English language teachers and heads of department in the public secondary schools were asked different types of questions and their responses was examined to find out their views toward TPACK and their conception in relation with the teaching and learning of English language in the classroom. This design included Available sampling technique to collect the desired data from the participants.

Population

The general population for the study comprises of department heads and teachers from Hargiesia city public secondary schools ranging from form one to form four (1-4) Hargiesia city was selected purposely by the researcher for the following reasons. First, it the capital city of Hargiesia and this helped the researcher to find more secondary schools inside the city compared to towns in another parts of Hargiesia. Secondly, the researcher was able to find more experienced and greater number of English language teachers than other towns in Hargiesia. According to the Ministry of Education and science there are 12 public secondary schools spread across eight (8) districts in Hargeisa, namely, 31may, Ahmed Dhagax, 26- juune, M. Mooge, Macalin Harun, Gacan libax, Ibrahim koodbur and Mohamoud hybe.). According to the city education office and the schools report there are a total of 48 English language teachers who are currently teaching form one to form four 12 public secondary schools.

Sampling Techniques

As it is already mentioned above, this study used department heads and teachers from ten public secondary schools found in Hargiesia city as source of data. Following the outbreak of the Covid-19 virus, all school institutions were closed. As a result, the researcher found it difficult to gather the necessary data inside the schools. However, by checking all the secondary schools, asking the principals and other teachers for help and meeting the English teachers personally outside the schools, the researcher was able to collect the required from 57 English language teachers and eight heads of department in ten different secondary schools (that is, 6 teachers from M.A.A, 6 from juune, 5 from M.Mooge, 4 from Dayib gurey, 5 from Farah. Omaar, 5 from Gaandi , 5 from Gacanlibax and 5 from Waran- cade, 4 from Quule-ada, 5 biyo-dhacay, 3 from digaale and 3 from sheikh-nuur

Instrument of the Study

This study where used four sets of tools to collect data. These include in questionnaires and interview guides.

Data analysis

After all the data are collected, cross-checking of all instruments was done to determine inaccurate, incomplete or unreasonable data and then improve the quality through correction of detecting errors and omissions. Data coding were done as per objectives of the study and then entered into a computer for analysis. The data analysis procedure where involve both quantitative and qualitative procedures (mixed research). According to Gay (1992), Descriptive survey is commonly represented by the use of frequency tables, graphs, pie-charts mean, calculation of percentages and tabulating them appropriately. Quantitative data where analyzed using Descriptive statistics such as frequency tables, means and percentages, charts, bar graphs and the researcher use software of statistical package for social science (SPSS) and EXEL sheet. And inferential statistics such as the chi- square. Qualitative data were organized, coded and categorized the information from the respondents. The qualitative data where presented thematically in line with the subjunctives of the study. However, this method is chosen because the data are categorized into themes in relation to the opinions.

RESULTS AND ANALYSIS

Background Information

Table 1.1 Teachers Baground Information

Sex	Number	Percent	Qualification	
			First Degree	Second Degree
Male	40	70.2	27 (67.5%)	13 (76.5%)
Female	17	29.8	13 (32.5 %)	4 (23.5%)
Total	57	100	40 (100%)	17 (100%)

As it is indicated in table 1 above, out of the total 57 (100%) respondents, the majority 40 (70.2%) were male and 17 (29.8%) are female teachers. Regarding the educational qualification of respondents, 40 teachers had first degree; of which 27 are males and 13 female English language teachers. Moreover, from a total of 17 teachers with second degree, only 4 teachers were females and the rest 13 teachers are males.

4.3.1 Content Knowledge (CK)

Table 2: English language teachers’ conception of content knowledge

CK	N	Minimum	Maximum	Mean	Std. Deviation
CK ₁	57	2.00	5.00	4.4386	.59814
CK ₂	57	2.00	5.00	4.2632	.66886
CK ₃	57	2.00	5.00	4.0702	.88357
CK ₄	57	3.00	5.00	4.2982	.56584
CK ₅	57	2.00	5.00	3.7544	.93122
CK ₆	57	4.00	5.00	4.4561	.50250
CK ₇	57	2.00	5.00	3.7193	.92107
CK ₈	57	2.00	5.00	3.8947	.88002
Grand Mean				4.1118	

As shown in table 2, the mean score for items in the Content knowledge Sub-domain ranges from 3.71(CK₇) to 4.45 (CK₆). This indicates that the teachers’ conception of their content knowledge in English language is above average (that is, above the expected mean; 3.00). The highest mean score (i.e. M=4.45, SD=.50) is concerned with teachers understanding of writing compound and complete sentences; on the other hand, in comparison with other scores, the mean score for item CK₇ which is related with teachers’ wide knowledge of English language

vocabulary is on the average ($M=3.71$, $SD=.92$). In general, the above average grand mean score ($M=4.11$), in contrast with the expected ($\mu=3.00$) showed that teachers are acquainted with relevant concepts and principles; and can read, speak, write and listen clearly and effectively in English language according to the required standard for the cycle they teach in secondary school.

4.3.3 Technological Knowledge (TK)

Table 4. Descriptive statistics regarding technological knowledge (TK)

(TK)	N	Minimum	Maximum	Mean	Std. Deviation
TK ₁	57	1.00	5.00	3.2456	1.15389
TK ₂	57	1.00	5.00	3.2105	1.17621
TK ₃	57	1.00	5.00	3.0175	1.26054
TK ₄	57	1.00	5.00	2.3158	.82717
TK ₅	57	1.00	5.00	3.1053	.95775
TK ₆	57	1.00	5.00	2.9474	1.05933
TK ₇	57	1.00	5.00	2.8772	1.19628
TK ₈	57	1.00	5.00	3.1237	1.05343
Grand Mean				2.9803	

The third sub-domain included eight items that were shown in Table 4, which has determined the conception of teachers' technological knowledge (TK) from the respondents' perspectives. The mean score shows that English teachers have an average level of understanding toward technological knowledge. As the table above shows, teachers' response to items TK₄, TK₆ and TK₇ is lower ($M=2.31$, $SD=.82$; $M=2.94$, $SD=1.05$; & $M=2.87$, $SD=1.19$ respectively) than the expected mean (3). As it is indicated in the above table, most teachers respond that they don't know how to use the internet as communication media, as their teaching source and cannot solve the basic technical problems of computers and its accessories by their own. On the other

hand, English language teachers have an average understanding about popular hardware and soft wares, basic components of a computer, installing programs appropriate to their subject matter and ways to update their skills with new technologies.

Pedagogical Content Knowledge (PCK)

Table 5.
PCK score of English language teachers

PCK	N	Minimum	Maximum	Mean	Std. Deviation
PCK ₁	57	2.00	5.00	4.0175	.76745
PCK ₂	57	3.00	5.00	4.2105	.55860
PCK ₃	57	2.00	5.00	3.4912	1.07109
PCK ₄	57	2.00	5.00	4.2456	.68870
PCK ₅	57	2.00	5.00	4.1404	.66651
PCK ₆	57	2.00	5.00	4.0175	.61212
PCK ₇	57	2.00	5.00	3.8947	.97622
Grand Mean				4.0025	

As can be understood from Table 5, the respondents agree to items regarding their understanding of blending content and pedagogy for developing better teaching practices. Based on their response, most teachers (M=4.24, SD=.68) agree that they had a good knowledge on how to explain some common conceptions students face while learning English subject. In comparison to other items, the mean score of PCK₃ and PCK₇ shows marginally below (M=3.49 & M=3.89 respectively) the total average of PCK (M=4.00). This means English language teachers have an average knowledge and/or conception about the appropriate use of sources and materials for students during an instruction, and applying their knowledge of secondary school English language effectively in the classroom. Yet all the mean score for items PCK₁ to PCK₇ are above the expected mean ($\mu=3.00$).

Technological Content Knowledge (TCK)

Table 6. English language teachers' understanding of technological content knowledge

(TCK)	N	Minimum	Maximum	Mean	Std. Deviation
TCK ₁	57	1.00	5.00	2.7895	1.06464
TCK ₂	57	1.00	5.00	2.7193	1.03085
TCK ₃	57	1.00	5.00	2.8070	1.15633
TCK ₄	57	1.00	5.00	3.3333	.89310
TCK ₅	57	2.00	4.00	3.2982	.80100
TCK ₆	57	2.00	5.00	3.5088	.90874
TCK ₇	57	1.00	5.00	2.6667	1.12335
Grand Mean				M= 3.0175	

Regarding the integration of technology and content in English language, the result indicated in Table 6 showed that teachers have an average level of total mean score ($M=3.01$); and it is above the expected mean score ($\mu=3.00$). Compared to others, however, item number six (TCK₆) revealed a highest mean score ($M=3.50$, $SD=.90$). This means grade 9 & 10 teachers show a good level of competence in developing their knowledge in English language using new technologies. On the other hand, the lowest mean scores are concerning with items TCK₁, TCK₂, TCK₃ and TCK₇ ($M=2.78$, $SD=1.06$; $M=2.71$, $SD=1.03$; $M=2.80$, $SD=1.15$ & $M=2.66$, $SD=1.12$ respectively). This implies that teachers have a low conception of technologies which can be used in their content area, applying new technologies related to English content, and reaching online resources easily related with subject matter.

Technological Pedagogical Knowledge (TPK)

Table 7. TPK score of English language teachers

(TPK)	N	Minimum	Maximum	Mean	Std. Deviation
TPK ₁	57	1.00	5.00	3.4035	.97942
TPK ₂	57	1.00	5.00	3.2982	1.03449
TPK ₃	57	2.00	5.00	2.7368	.87681
TPK ₄	57	1.00	5.00	2.6667	1.15470
TPK ₅	57	1.00	4.00	3.5965	.96102
TPK ₆	57	1.00	4.00	2.7895	1.04773
TPK ₇	57	2.00	5.00	2.7544	.89204
Grand Mean				3.0350	

The data obtained from Table 7 above shows that the grand mean score for sub-domain TPK ($M=3.0350$ is above the expected mean (3). But, mean scores for TPK₃, TPK₄, TPK₆ and TPK₇ ($M=2.73$, $SD=.87$; $M=2.66$, $SD=1.15$; $M=2.78$, $SD=1.04$ & $M=2.75$, $SD=.89$ respectively) are below the total grand mean as well as the expected mean. Thus, we can infer from the result that teachers disagreed regarding their knowledge of satisfying their students' individualized needs by using information technologies. The teachers also showed a low understanding about adapting technologies to different teaching activities, and integrating technology to teaching and learning. Furthermore, most teachers disagreed and respond that they cannot design learning materials by using technology that supports students' English language learning.

Technological, Pedagogical and Content Knowledge (TPACK)

Table 8. English language teachers' response toward their Technological, Pedagogical and Content Knowledge.

(TPACK)	N	Minimum	Maximum	Mean	Std. Deviation
TPACK ₁	57	2.00	4.00	2.5263	.65752
TPACK ₂	57	1.00	4.00	2.2456	.66227
TPACK ₃	57	1.00	5.00	2.8070	1.05963
TPACK ₄	57	1.00	4.00	3.0351	1.05161
TPACK ₅	57	1.00	4.00	3.3860	1.06493
TPACK ₆	57	1.00	4.00	2.2807	.64792
TPACK ₇	57	1.00	4.00	2.7895	1.09767
TPACK ₈	57	1.00	5.00	2.9649	1.14899
TPACK ₉	57	2.00	5.00	3.9123	.66227
Grand Mean				2.8830	

In Table 8, English teachers were asked nine items regarding their conception of technological pedagogical content knowledge. And the finding shows that teachers understanding of the complex interplay between the three basic components of knowledge (CK, PK, TK) by teaching content using appropriate pedagogical methods and technologies is lower ($M=2.8830$) than the expected mean ($\mu=3.00$). Only items TPACK₄, TPACK₅ and TPACK₉ indicated above average mean score ($M=3.03$, $SD=1.05$; $M=3.38$, $SD=1.06$ & $M=3.91$, $SD=.66$ respectively). This shows that teachers' have an average knowledge concerning the types of technologies that positively affect the teaching and learning of English language; and about supporting their professional development by using technological tools and resources. On the contrary, items TPACK₁ ($M=2.52$, $SD=.65$), TPACK₂ ($M=2.24$, $SD=.66$), TPACK₃ ($M=2.80$, $SD=1.05$), TPACK₆ ($M=2.28$, $SD=.64$), and TPACK₇ ($M=2.78$, $SD=1.09$) revealed a mean score lower than the expected and total average mean. Therefore, one can imply that English language

teachers have a low knowledge of facilitating students’ learning to specific content through pedagogy and technology.

DISCUSSION

The purpose of this study was to assess public secondary school English language teachers’ conceptions and their perceived practices regarding the technological pedagogical and content knowledge. The results obtained through close-ended questionnaire and interview from heads of English department are discussed together in order to show their understanding as well as perceived practices in the classroom. The results of the questionnaire and interview revealed that teachers’ conception of content knowledge in English language is above average. In addition, the findings of this study regarding subject matter knowledge of English language teachers were in parallel to previous of similar studies conducted by Berhanu (2012), Mahdum (2015), and Bingimlas (2018).

SUMMARY OF FINDINGS

As stated, this study aimed at assessing the conceptions and perceived practices of secondary school English language teachers’ regarding their technological, pedagogical and content knowledge and it was conducted on conveniently selected public secondary schools of Mekelle city. Accordingly, both quantitative and qualitative data were gathered through questionnaire from 57 high school English language teachers who teach in 10 different schools; and interview from eight heads of department. Independent analysis was also made on the subdomains of TPACK, namely, CK, PK, TK, PCK, TCK, TPK, and TPACK.

Hence, based on the gathered and analyzed data the following major findings are revealed:

- English language teachers’ agreed that they have a good understanding in relation to their content knowledge. This means, they are well acquainted with relevant concepts and principles of their subject matter, and acquired a wide understanding of English vocabulary as well as grammar.
- Most of the English language teachers’ agreed that their understanding in relation to pedagogical knowledge (planning a lesson considering students’ need, relating a daily lesson with the previous and following contents, organizing affective climate in the classroom) is high.

- The mean score of English teachers' conception in integrating pedagogy and content shows remarkably above average. That is, they view themselves competent at their perceived practice concerning applying appropriate sources and materials for students during instruction, clarifying basic misconceptions, selecting effective teaching approaches to address students' learning needs in English, and managing the classroom environment.
- Although the average mean score of teachers' technological knowledge shows below the expected mean, English language teachers have an average level of conception about common computer applications, hard and soft wares, external and internal components of a computer. But, the findings also showed that teachers can't solve technical problems of a computer; and lacks the knowledge to use the internet as communication media and/or source of teaching.
- The perceived practice of English language teachers with regards to applying new technologies, using multimedia to express their ideas about English related topics and reaching online sources easily revealed a below average result. However, they maintained a good conception in knowing which English topics are technologies supported or technology constraint.
- Adapting technologies to different teaching activities, the ability to meet students' individualized needs by using information technologies, and adapting technology to
- Teaching and learning were a major problem for English language teachers.
- The teachers perceive that they lack the necessary conception in integrating technology, pedagogy, and content for the purpose of effective language instruction in the public secondary schools of Hargiesia city.

CONCLUSION

The application of technology in English language teaching is important and there is a great demand on English language teachers not just to have knowledge in content and pedagogy but also technology; and how to use it effectively to enhance practices. However, in this age of information and technology, the secondary school English language teachers gave less effort, attention or commitment in integrating technology, pedagogy, and content to improve their students' language learning performance. For most of teachers, technology integration is only about utilization of technological or digital devices such as: tablets and wearable devices; laptops and smartphones for browsing the internet; rather than organizing, planning, and

implementing different technologies that support the contents and instructional pedagogy of English language teaching.

RECOMMENDATIONS

Based on the findings of the study and the conclusions drawn above, the following recommendations are made.

- The findings are important to prepare English language teachers to have knowledge in other than traditional method of teaching. This includes using technology for content presentation as well as using technology for different methods of teaching the English language. This means, teacher education programs (at colleges and universities) should offer future teachers with courses teaching technology in contexts that focus on the relationship among technology, content and pedagogy, mainly TPACK.
- Language teachers should strongly advise their students to use technology in developing their language skills.
- The technology plan must be introduced and closely aligned with the curriculum standards. Teachers should have enough knowledge on what educational approach is the most effective one when integrating technologies in the classroom.
- It is important for curriculum experts to design concrete technology curriculum, rather than continuously collecting data about technology, to train English language teachers in TPACK framework.
- Constructive training should be provided and close follow up be made for teachers to learn how to use and teach it effectively.
- Woreda and region education bureaus should give a strong priority in providing basic technologies (Internet service, access to computers and multimedia devices) in secondary schools.
- The last recommendation that may be made from this study is lack of research regarding teachers' conception of TPACK and English language teaching and learning. Thus, it is highly important and urgent that researchers and teachers study TPACK and its implication in the English language classroom.

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