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CONTENTS

THE ANALYSIS OF TPACK IMPLEMENTATION IN THE RUANG GURU ENGLISH COURSE

Krisna Ismawati[1], Helta Anggia[2]
Universitas Bandar Lampung
Corresponding email: helta@ubl.ac.id

Abstract

The objective of this research was to describe the implementation of TPACK framework in the Ruangguru as English online course. Descriptive qualitative was used to conduct this research. We used observation to gather our data by observing the features and the learning process in the Ruangguru including what contents are inside, what technology or media used, what methods used to deliver the material and how they related one to each other. Based on the entire result, we found that the implementation of TPACK framework in the Ruangguru looks quite appropriate based on the existing principles. Both the observation result and the questionnaire responses showed the existence of the TPACK principles in the Ruangguru even though there are some categories that still did not seem appropriate, such as the single use of lecturing method in each lesson, and the absence of practice skills. However, it was only a small part that did not match one among many TPACK principles implemented in the Ruangguru. Overall, TPACK was implemented in the Ruangguru, but there is still a big room for improvement in the future due to the frequent updates on the system and increasing additional new features.

Keywords*: TPACK; Ruangguru; Online Learning*

INTRODUCTION

The teacher's ability to implement TPACK is mandated by the National Education System Law, which is set out in the Minister of National Education Regulation number 16 of 2007 concerning Academic Qualification Standards and Teacher Competence. One of the elements of teacher professional competence is that teachers can use ICT for the benefit of organizing educational development activities (Muntaha, 2018). This is because that mastery and knowledge of technology will make it easier for teachers to find learning resources and interesting methods so the students will not feel bored in taking lessons in the class. A teacher who is able to develop various learning methods and provide creative and various subject materials will automatically and successfully display an interesting learning atmosphere and make students enjoy while learning in the classroom.

Online learning also provides opportunities for students to study outside the classroom with unlimited learning resources. It means that whenever we are, technology is always related, especially in the field of education. Many universities in the world began to provide technology to support the teaching and learning process. This provides many benefits over traditional activities in the classroom (Fitriana & Anggia (2016). Besides that, online learning also makes the world of learning more varied with visual displays, images and audio so students can directly utilize various media that will have an impact on the way students interact, learn and process the material obtained (Jukes & Dosaj, 2006). Video has proven to be an effective way to motivate and involve students

in the learning process, as well as to explain concepts.

Therefore, at this time, there are many online learning platforms that have sprung up whether it is national or international products, one of which is Ruangguru. Ruangguru is an online tutoring application that offers products with the most complete solutions to Indonesian students. The features used also vary such as video, audio and explanation directly by the tutor. Ruangguru also provides a complete curriculum such as KTSP, K-13 and K-13 revisions. Based on the review of users in YouTube, Google, in the Ruangguru website or the results of interviews and observations from several previous researches, the use of Ruangguru has a positive influence in the learning process. Hence, this study aims to see and report how the TPACK framework is implemented in the Ruangguru as English online learning.

In the field of education, the development of technology is advancing rapidly. According to Koch, A. S. (2009), technology plays a positive role in student learning, offering student involvement in a learning environment. This is intended to improve facilities that are able to make education better. One of the most developed educational technologies is Online Learning.

Many terms are used to define online learning. Carliner (1999) defined online learning as learning material that is presented with a computer. Khan (1997) also defined online learning as an innovative approach to giving instruction to students who are far away and using the web as an intermediary medium. E-learning, internet learning, distributed learning, networked learning, virtual learning, computer assisted learning, web-basedlearning, and distance learning are some of the sites that are often used in the online learning process. All of these terms imply that students are at a certain distance from the teacher or instructor and use some form of technology, generally a computer, to access teaching materials and to interact with tutors or instructors and other students.

If both definitions focus on instruction and delivery methods then Oblinger (2005) only describes online learning as "entirely online-based learning". Some prefer to focus on the direct relationship between distance education practices before the adoption of the web and the specific technology that is now available. In essence, they focus on how technology has changed the delivery of instructions rather than how technology might change the instructions themselves (Rekkedal, et al. 2003; Volery and Lord, 2000). As online learning becomes more widespread, theories of learning around it have also developed. Most authors such as (Carliner, 2004; Conrad, 2002, Ally, 2004) defined online learning not only talking about access to learning experiences, but also to the potential flexibility and interaction of participants.

Online learning is usually associated with a Learning Management System, which is a software application for administration, documentation, report and delivery of educational courses, training programs or learning and development programs (Ellis, Ryann K. 2009). The concept of learning management systems arises directly from e-Learning. Learning Management Systems is focused on

delivering online learning and supports a variety of uses, acts as a platform for online content, including courses, both asynchronous and synchronous based. LMS can offer classroom management for instructor-led training or inverted classes, which are used in higher education, but not in company spaces.

Schmidt, Thompson, Koehler, & Shin (2009) further explain the details of TPACK: Technological knowledge (TK) refers to knowledge of various technologies, ranging from analogue technologies such as pencil and paper to digital technologies such as the internet, video digital, interactive whiteboards and software programs. Pedagogical knowledge (PK) is the in-depth knowledge of the teacher about the processes, practices or methods of teaching and learning that will be used in the classroom. Content knowledge (CK) is the teacher's knowledge of the subject matter to be learned or taught. Technological Content Knowledge (TCK) is an understanding of the ways in which technology and content influence and limits one to each other. Teachers need to master more than the subject matter they teach. Teachers need to understand which specific technologies are best suited to address learning subject matter in their domains and how content determines or may even change technology or vice versa. Pedagogical Content Knowledge (PCK) refers that effective teaching requires more than a separate understanding of content and pedagogy. PCK also recognizes the fact that different content is suitable for different teaching method. Technological Pedagogical Knowledge (TPK) makes it possible to understand what technology can be done for certain pedagogical purposes

or in other words, the teacher can choose the most appropriate tool or technology based on its suitability for a particular approach or method. Technological Pedagogical and Content Knowledge (TPACK) combines the overall knowledge described above, with a focus on how technology can be suitable to pedagogical needs in teaching specific content and context. It can help fix some of the students' problems face.

METHODOLOGY

This research is a qualitative research in which we used a descriptive study aiming at providing description concerning the principles of TPACK in Ruangguru. This research aims to analyze the Ruangguru online English course especially in the Ruangbelajar feature. We described the implementation of TPACK in the Ruangguru online English course, and reported to pre-service and in-service teachers how the use of TPACK principles in the Ruangbelajar. In this research, we used observation and questionnaire to gather the data. By observing the application, we saw all the features inside this application including the content and how the application worked. It aimed to know the situation in that application and to find the data about what technology that was used, what pedagogy that was used, what contents are, and how they related one to each other.

We conducted this research for all users of the Ruangguru in Indonesia, especially users of English course. This research used purposive sampling in choosing the sample. Purposive sampling is a non-probability sampling method where

the researcher determines sampling by determining specific characteristics that are consistent with the purpose of the study (Black, 2010). From the population, we took the sample of the high school students that used English course in the Ruangguru. There are 10 students involved in this research; all of them were female students.

For the observation part, the first step was joining to the Ruangguru online course. We also registered as students in that course. We took a course in two months. It aimed to get more data because we could study regularly whenever we want. Next, we started to observe based on the observation rubric that we have made, it aimed to make sure what we want to see in the Ruangguru application. After that, the questionnaire was given to 10 samples with the aim of supporting the data obtained from the observation. At the end, it was combined with the observation data in making the result of this research. After all the data were gathered, we combined the result in forms of several paragraph. Then, we identified the data and made an inventory of the data and also reported the findings. The inventory of the data was the TPACK principles in the Ruangguru online English course. Next, we classified all data into their category or classification. We categorized them into each item based on the TPACK Principles. After that, we displayed the data collected. Then, we summarized in detail the findings from the data analysis. Similar procedure is also done in analyzing the data from the questionnaire. After analyzing the data from the observation and the questionnaire, the conclusion defined

in order to report the general result of the research.

RESULT AND DISCUSSION
Content Knowledge

In this principle, we concerned about material or content provided in the Ruangbelajar, it showed that of the nine materials that we randomly selected as our observations presented in the Ruangbelajar in Ruangguru, the nine materials are Expression of Congratulating and Complimenting, Descriptive Text, Announcement Text, Expression of Asking and Giving Advice, Invitation Letter, Passive Form, Application Letter, News Item and Discussion Text appropriate to KD. For example, the Passive Form material for class XI is found in KD 3.5 in General English SMA/SMK/MA, and for Discussion Text material for class XII found in KD 3.6 in English Concerning SMA/MA. These results were based on Minister of Education and Culture Regulation Number 24 of 2016. Based on the questionnaire result number 2 and 3, it was found that the materials in the Ruangbelajar were suitable with students' materials and grades in the school.

However, based on the observation, most of the materials presented did not reach the stage of making a work, such as the practice of writing letters and texts. It was also seen in the results of the questionnaire where students felt that tutor rarely asked students to practice writing or make examples from the material that had been discussed. As stated by Shulman (1986) content knowledge will include knowledge of concept or ideas, knowledge of evidence and practice that are well established in developing the content, so the material can be understood by

students. As a result, the material or content presented in the Ruangbelajar was appropriate to the curriculum, but the presentation of the material did not end with writing practice.

Pedagogical Knowledge

In this principle, we concerned about the pedagogical and method that was used in the learning process in the Ruangbelajar. As we observed the learning process in the Ruangguru, we saw the tutor explained the material from the beginning to the end by providing several examples related to the material. It was also supported by questionnaire result, most of students assumed that in the beginning of learning, the tutor provided some examples. Other than that, the observation result showed the most common method used in the learning process was lecturing, it was related to the questionnaire result number 11. However, the focus of this principle was not only the method but also the learning activities and the assessment. As stated by Schmidt, Thompson, Koehler, & Shin (2009), pedagogical knowledge is the in-depth knowledge of the teacher about the processes, practices and methods of teaching and learning that used in the classroom. Meanwhile, from the observations we saw that there was an assessment for each explanation of the material in the form of exercises, as well as the exercises for the whole material. This was also evidenced from the results of the questionnaire number 10 which found that every learning process had always an assessment for students' evaluation. As a result, the common method used in the Ruangbelajar was lecturing, but the tutor always provided several examples while explaining and

providing an assessment in every material.

Technological Knowledge

In this principle, we concerned about the technology that was used in the learning process in the Ruangbelajar. Based on the observation result, it was found that the most common technologies were animated videos and slides. It was also supported by the results of questionnaire number 13 showed the learning media that were often used were the two technologies. Apart from that, whiteboard and marker were also used in certain times. Thus, Ruangbelajar used digital technology in the learning process that was carried out. As stated by Chai, Koh, & Tsai (2013), technological knowledge as knowledge of technological tools with a variety of uses in the learning process, whether it was analogue technologies such as pencil and paper to digital technologies such as the internet, video digital, interactive whiteboards and software programs.

Pedagogical Content Knowledge

In this principle, we concerned about the compatibility between the teaching methods used with the material being taught. Based on the observation result in the learning process, the teaching method was lecturing because the learning occurred not directly face to face with the students as that in the school, but the method was still adapted to the material being taught. For example, in news item material, it can be seen from how the tutor opened the class by giving an apperception related to an example of the material, and then the tutor asked the students about the example presented to lead them ready to learn. After that, the tutor was

explaining the main points of material started from the definition and aspects of news item including language features and generic structure contained in it either oral or written. In addition, at the end of the lesson the tutor asked students to practice with their friends. However, that strategy happened in almost all materials that we observed. Thus, it showed that the teaching method was same for each material, although based on the result of questionnaire number 14 most of students argued that teaching method was varied, but it was contradictory with their responses in question number 11 that stated the method used was lecturing in every material, and most of them agreed.

Next, the assessment given was in the form of questions related to the tutor's explanation material. Even though the questions given used text or examples that were different from the learning process, it did not come out of the material that has been learned. It was strengthen by the result of questionnaire number 15, where students contended that the assessment was suitable with the material. While seeing the suitability of the method used with teaching material was quite appropriate, although the method used was only lecturing. Nevertheless, the tutor could explain in detail each part of the material so the material could be easily understood; it was supported by the results of questionnaire number 16, where more than half of students answered always and usually.

According to Schmidt, Thompson, Koehler, & Shin (2009) effective teaching requires more than a separate understanding of content and pedagogy. Pedagogical content knowledge also recognizes the fact that different content is suitable for different teaching method, so a teacher must be able to understand the selection of the right method for a particular content. Based on this theory, it can be concluded that teaching method was determined by certain material to be taught.

Technological Content Knowledge

In this principle, we concerned about the technology that was used in the learning process in the Ruangbelajar can be integrated in teaching materials. As stated by Schmidt, Thompson, Koehler, & Shin (2009) technological content knowledge is an understanding of the ways in which technology and content influence and limit each other. Teachers need to master more than the subject matter they teach, they must also have a deep understanding of the ways in which subject matter can be changed by the application of certain technologies. Teachers need to understand which specific technologies are best suited to address learning subject matter in their domains and how content determines or may even change technology or vice versa.

Based on the observation result, it was found that the teaching learning media or technology used were quite varied, it was also supported by the result of the questionnaire number 17 that showed some of students argued if the tutor sometimes used a variety of media or technology. In addition, the media used were also integrated with the material being studied. It was seen by the result of questionnaire number 18 that showed most of the students argued if the teaching learning media was suitable with the contents or materials. For instance, animated videos that were used to package some examples related to a

specific content it might be an example of application in daily life about that material. Additionally, there were also slides functioning to package explanations, such as definition of text, generic structure, language features or several rules of tenses as in the passive form material so it looked brief and clearer. As a result, although the media used were not too many variations and almost the same in every material, but the function was in accordance with the material.

Technological Pedagogical Knowledge

In this principle, we concerned about the technology applied could support the teaching learning method used. As stated by Schmidt, Thompson, Koehler, & Shin (2009), technological pedagogical knowledge refers to what technology can be done for certain pedagogical purposes or in other words the teacher can choose the most appropriate tool or technology based on its suitability for a particular approach or method. Technology can also produce new methods and places to teach and facilitate the way certain class activities are implemented.

Based on the observation result, it was found that animated videos and slides were the technologies used, whereas the used of whiteboard and markers were rarely. While the method used by the tutor was lecturing, because the explanation of the material was packaged in the learning video, the strategy used was teacher-centered. Therefore, the use of learning media such as slides served to help explain in detail for each material point such as the definition, language features and generic structure of a text. Likewise,

animated video functioned to display several examples of the material during the learning process. These two media or technologies were very helpful for the tutor in delivering material to students, so students could still understand the material easily even though there was no direct interaction with the tutor. It was supported by the result of questionnaire number 19 that showed most of students argued the use of technology or learning media could help them more understood of the tutor's explanation. As a result, even though the media applied were only two kinds, but those could support the teaching method used which in this case was lecturing method.

Technological Pedagogical and Content Knowledge

The last principle was the combination of two knowledge, pedagogy and technology, which both must be integrated one to each other to present certain material. As stated by Schmidt, Thompson, Koehler, & Shin (2009), TPACK combines the overall knowledge described above, with a focus on how technology can be suitable to pedagogical needs in teaching specific content and context. In other words, TPACK is the basis of good teaching with technology and requires an understanding of concept representations using technology, pedagogical techniques that use technology in a constructive way to teach content.

Seen from the observation result, it was found that, according to three basic principles; content knowledge, pedagogical knowledge, and technological knowledge, there were several categories that could be found in the learning features and the processes presented in the

Ruangbelajar in Ruangguru platform, but other categories were not implemented. Whereas the three sets of combined knowledge; Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK) and Technological Pedagogical Knowledge (TPK) were seen to be integrated among knowledge. It can be seen that the method used was lecturing and the tutor conveyed the material presented in the learning process that was preceded by opening, detailed explanation and closing which was packed by video. In addition, there was also an evaluation of learning in the form of practice questions that were packaged in the form of a website contained in the Ruangbelajar feature. It means that from three main points of knowledge supported one to each other, so the learning delivered was interesting and easier to understand. It was strengthened by the result of questionnaire number 20 where more than half of students' response 'Always' about this one. According to Chai, Koh, & Tsai (2013) TPACK as knowledge uses technology to apply constructivist teaching methods to various types of subject matter content. Based on this theory, it can be concluded that the use of the TPACK framework could help the learning process to be more interesting and effective for students and help the students to be more active in constructing their knowledge.

CONCLUSION

Living in the digital era requires humans to always use technology in their lives. Not only useful for communication, but technology also provides many benefits to the world of education. The use of technology in teaching and learning activities, especially in the field of language teaching can provide benefits to increase students' motivation in visualizing the material and can help the inquiry process (Maeng, et al., 2013).

There are many forms of teaching that changed into technology, one example is the Ruangguru. However, integrating technology meaningfully in learning is not easy, especially for pre-service teachers. In order to choose the right technology, teachers must master the material to be taught (McGrath, J, et al., 2011) so that they can analyze the character of the material. Not only that, but teachers must also consider choosing teaching strategies that are appropriate to the technology used, which is included in the TPACK framework. We tried to analyze how the implementation of TPACK framework in the teaching platform that is currently in high demand of students. It is the Ruangguru platform. Generally, TPACK implemented in the Ruangguru was in accordance with every principle, especially on the points of Technological Content Knowledge. Seen from the packaging of the material with the appropriate technology, it could help students understand the content. However, the Pedagogical Content Knowledge and Technological Pedagogical Knowledge points still can be developed more in the Ruangguru. For example, at the PCK point, the method used is not only lecturing, but can also use collaborative learning for some materials, such as discussion text, where students can still learn in groups even, they do not held a face to face meeting with their instructor. Likewise, with TPK point, the

technology used is not only animated videos or slides while giving explanation but can also provide new features to upload students' practice results so the tutor can ask students to practice at home and the tutor can see the result of their practice. Based on the entire result, we honestly said that the implementation of TPACK framework in the Ruangguru looked quite appropriate based on the existing principles. What we have seen in the form of observation and what they have felt in the form of questionnaire, it showed the existence of the TPACK principles in the Ruangguru, even though there were some categories that still did not seem appropriate, such as the use of only lecturing method in each lesson, and there were no practice skills. However, it was only a small part that was not appropriate from the many TPACK principles implemented in the Ruangguru. Overall, TPACK was implemented in the Ruangguru, but there is still a big room for improvement in the future due to the frequent updates on the system and increasing additional new features.

Suggestion

In this research, we also offer some suggestions to Ruangguru Company, English teachers and other researchers who will concern with the same topic of research. For the Ruangguru Company, we hope that there are additional features that can be used to upload good work in the form of photos making greeting cards etc., videos of speaking practices and also documents of writing practice related to each teaching material. Thus, it can be seen also from the side of student skills, not only evaluation of knowledge. In addition, it can also add feature that can support group

learning while explaining material, such as learning live chat with tutors and other students. Thus, the tutor can ask students to learn in groups that end with practice projects in accordance with the target language being studied.

For pre-service and in-service teachers especially English majority, technology is a part that cannot be separated from our life, especially in learning-teaching world. We need to accustom ourselves to use technology-based teaching process, so our students will be more excited in the class. It also becomes our focus in making lesson plans, where a teacher must not only understand the material but also must integrate the methods of certain materials supported by technology that is the focus of the 21st century.

We also hope that there will be other researchers who are interested in exploring, implementing, and accomplishing further research and the same field like we did. Thus, the weaknesses of our research can be strengthened, and make other teachers realize that TPACK is needed in our current learning-teaching process. Leaving the old one, and trying something new for our improvement in the future.

REFERENCES

[1]   Ally, M. (2004). *Foundations of educational theory for online learning. In Terry (Ed.)*, The theory and practice of online learning (pp. 3−31). (2nd ed). Athabasca, AB:

[2]   Black, K. (2010) *"Business Statistics: Contemporary Decision Making" 6th edition*, John Wiley & Sons

[3]   Carliner, S. (1999). An overview of online learning (1st

ed.). Armherst, MA: Human Resource Development Press

[4] Carliner, S. (2004). *An overview of online learning (2nd ed.).* Armherst, MA: Human Resource Development Press

[5] Chai, C. S., Koh, J. H. L., & Tsai, C.-C. (2010). *Facilitating Preservice Teachers' Development of Technological, Pedagogical, and Content Knowledge (TPACK).* Educational Technology & Society, 13 (4), 63–73.

[6] Chai, C. S., Koh, J. H. L., & Tsai, C. C. (2013). *A Review of Technological Pedagogical Content Knowledge.* Educational Technology & Society, 16(2), 31-51

[7] Conrad, D. (2002*). Deep in the hearts of learners: Insights into the nature of online community.* Journal of Distance Education, 17(1), 1−19

[8] Ellis, Ryann K. (2009), <u>*Field Guide to Learning Management*</u>, ASTD Learning Circuits

[9] Endraswara, S. (2004).*Metodologi Penelitian Sastra: Epistemologi, Model,Teori dan Aplikasi.* Yogyakarta: Pustaka Widyatama.

[10] Fitriana, S., & Anggia, H. (2016, May). STUDENTS'CRITICAL THINKING IN ONLINE DISCUSSION FORUM. In *International Conference on Education and Language (ICEL)* (p. 136).

[11] Jukes, I., & Dosaj, A. (2006). *Understanding digital children (DKs): Teaching & learning in the new digital landscape*.

Retrieved May 16, 2007, from http://web.mac.com/iajukes/iWeb/thecommittedsardine/Handouts_files/ndl.pdf

[12] Khan, B. (1997). *Web-based training. Englewood Cliffs*, NJ: Educational Technology Publications.

[13] Koch, A. S. (2009). *Teacher education and technology integration: How do preservice teachers perceive their readiness to infuse technology in the learning environment?*(Ed.D. Dissertation, ProQuest Dissertations and Theses Database, AAT 3379183).

[14] Maeng, J. L., Muvley, B. K., Smetana, L. K., dan Bell, R. L. 2013. *Preservice Teachers' TPACK: Using Technology to Support Inquiry Instruction.* Journal Science Educational Technoloogy. (Online), (link.springer.com/, diakses 10 Desember 2015).

[15] McGrath, J., Karabas, G., dan Wilis, J. 2011. *From TPACK Concept to TPACK Practice. An Analysis of the Suitability and Usefulness of the Concept as a Guide in the Real World of Teacher Development. International Journal of Technology in Teaching and Learning. (Online).*

[16] Minister of Education and Culture Regulation Indonesia Number 24 of 2016. *Basic Competences of Concerning English and General English for SMA / SMK / MA.*

[17] Muntaha. (2018). *Students' Knowledge Regarding Technological Pedagogical Content Knowledge (TPACLK) in Learning English.* State

[18] Oblinger, D. G., & Oblinger, J. L. (2005). *Educating the net generation.* EDUCAUSE. Retrieved from. http://net.educause.edu/ir/librar y/pdf/pub7101.pdf

[19] Rekkedal, T., Qvist-Eriksen, S., Keegan, D., Súilleabháin, G.Ó., Coughlan, R., Fritsch, H., et al. (2003). *Internet based e- learning, pedagogy and support systems.* Norway: NKI Distance Education.

[20] Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. 2009. *Technologi cal pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers.* Journal of Research on Technology in Education, 42, 123– 149. https://doi.org/10.1080/153 915 23.2009.10782544

[21] Shulman, L. S. (1986). *Those who understand: Knowledge growth in teaching.* Educational Researcher, 15(2), 4–14.

[22] Volery, T., & Lord, D. (2000). *Critical success factors in online education.* International Journal of Educational Management, 14(5), 216−223