

**ANALYSIS ON COMPUTER ASSISTED LANGUAGE
LEARNING (CALL) CLASS IN DEVELOPING
STUDENTS' TECHNOLOGICAL PEDAGOGICAL
CONTENT KNOWLEDGE**

THESIS

**Submitted in partial fulfillment of the requirement for the degree of
Sarjana Pendidikan (S.Pd) in Teaching English**



By

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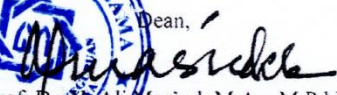
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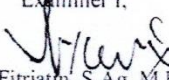
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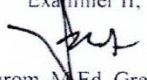
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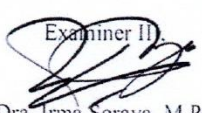
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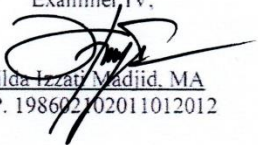
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ABSTRACT

Bakri, Musliadi (2017). *Analysis on CALL Class in Developing Students Technological Pedagogical Content Knowledge*. A Thesis. English Teacher Education Department, Faculty of Education and Teacher Training, UIN Sunan Ampel Surabaya. Advisor: Dr. Phil Khoirun Niam and H. Mokhamad Syaifudin, M.Ed, Ph.D.

Key words: *Technological Pedagogical Content Knowledge, Computer Assisted Language Learning (CALL), CALL Course, English Teacher Education Department (ETED)*.

Developing students' technological pedagogical content knowledge (TPACK) is a strategy done by a lecturer to develop students' competence in understanding seven aspects in technological pedagogical content knowledge (TPACK) which must be mastered by students of CALL class as an ability in teaching practice. The purposes of this study are to describe the learning process in CALL class in developing students' Technological Pedagogical Content Knowledge (TPACK) and students' mastery of their Technological Pedagogical Content Knowledge (TPACK). this study used qualitative as approach and the research design in descriptive case analysis. The data was collected by doing observation to the class of CALL class and questionnaire gained from 4th semester students of 2016 academic year who have taken CALL class as the respondents. Based on the result finding, the researcher found that the process in CALL class in developing students' Technological Pedagogical Content Knowledge applied communicative and cooperative approach by using Schoology. The study also discovers the students' mastery of their Technological Pedagogical Content Knowledge (TPACK) which is in excellent level.

ABSTRAK

Pratama, Musliadi Bakri. (2018). *Analysis on Computer Assisted Language Learning (CALL) Class in Developing Students' Technological Pedagogical Content Knowledge*. Skripsi. Pendidikan Bahasa Inggris, UIN Sunan Ampel Surabaya. Pembimbing: Dr. Phil Khoirun Niam. dan H. Mokhamad Syaifudin, M.Ed, Ph.D.

Kata kunci: *Technological Pedagogical Content Knowledge, Computer Assisted Language Learning (CALL), CALL Course, English Teacher Education Department (ETED)*.

Mengembangkan pengetahuan pedagogica konten teknologi siswa (TPACK) adalah strategi yang dilakukan oleh dosen untuk mengembangkan kompetensi siswa dalam memahami tujuh aspek dalam pengetahuan konten pedagogi teknologi (TPACK) yang harus dikuasai oleh setiap mahasiswa dari kelas CALL sebagai kemampuan dalam praktik mengajar. Tujuan dari penelitian ini adalah untuk mendeskripsikan proses pembelajaran di kelas CALL dalam mengembangkan Pengetahuan Konten Pedagogis Teknologi (TPACK) siswa dan penguasaan siswa dari Pengetahuan Teknologi Pedagogical Content (TPACK) mereka. penelitian ini menggunakan pendekatan kualitatif dan desain penelitian dalam analisis kasus deskriptif. Data dikumpulkan dengan melakukan observasi ke kelas CALL dan kuesioner yang diperoleh dari siswa semester 4 tahun akademik 2016 yang telah mengambil kelas CALL sebagai responden. Berdasarkan hasil temuan, peneliti menemukan bahwa proses dalam kelas CALL dalam mengembangkan Pengetahuan Konten Pedagogi Teknologi (TPACK) siswa menerapkan pendekatan komunikatif dan kooperatif dengan menggunakan Schoology. Studi ini juga menemukan penguasaan mahasiswa kelas CALL terhadap Teknologi Pengetahuan Pedagogis Konten (TPACK) yang berada dalam tingkat yang sangat baik..

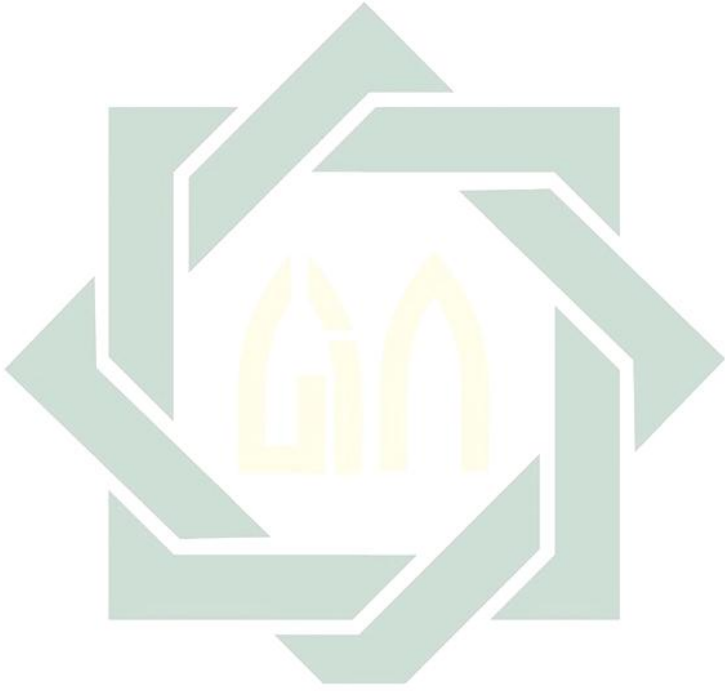
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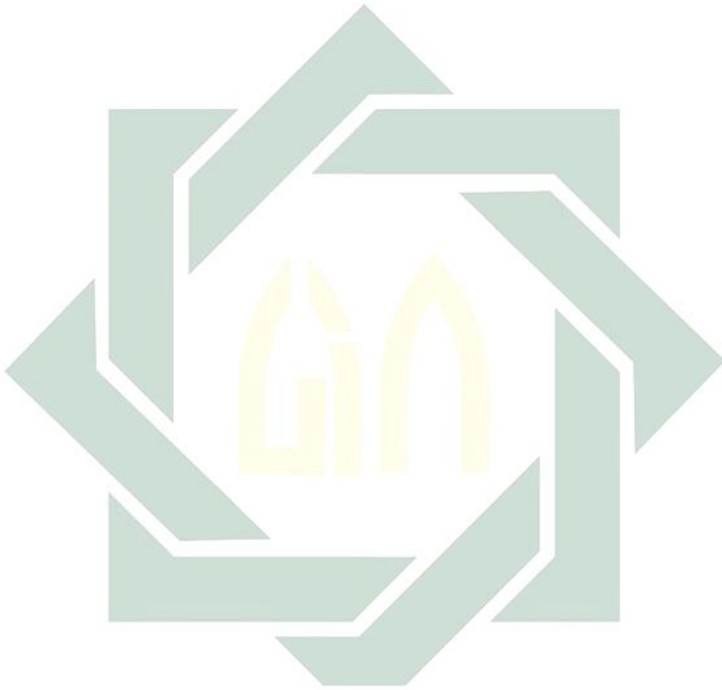
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CHAPTER I INTRODUCTION

This chapter provides the background of the research. It describes the reason why the researcher conducting the analysis on CALL class in developing students' technological pedagogical content knowledge (TPACK). Afterward, the problems are designed in the research question along with the objective of the study and the students' mastery toward technological pedagogical content knowledge (TPACK). It is continued with the significances of the study to inform how the result of the research will be beneficial. The limitation about what is included in this research is provided in scope and limits of the study. Finally, the last part of this chapter is the definition of key terms.

A. Background of the Study

The use of technology and digital media in education really give positive impact for teaching-learning process. Through technology, it is helpful for the teacher as the teaching specialist to have capability in teaching practice, organizing students in good teaching and learning environment in interacting each other and to give strong impact on learning outcome¹. It is including teaching method inside of the classroom and in the outside of the classroom which is supported by a good classroom work instruction of subject learning and media used in the learning process.² The use of technology for education is good to support the teacher in transferring knowledge that they want to teach for the students.

According to Scheerens, there are five factors which will also be effective in operating on the classroom level in his model of educational effectiveness: classroom management and time-on-task where a teacher should have an ability in

¹ Talis, *Teaching Practice and Pedagogical Innovation* (OECD, 2012), 27.

² Meidasari, Venny Eka. Thesis: "*Teaching English through New Digital Media*". (Jakarta: University of Indraprasta PGRI and a postgraduate student in State University of Jakarta, 2012), 16.

management the class and to organize his students well. Structure, a teacher is supposed to be good in structuring the classroom. Classroom climate, a teacher must be able to make a good classroom climate so that the students feel enjoy during the teaching-learning process. Individualized and adaptive instruction, a teacher should be close to his students to know deeply about his students. So that, the teacher can give varieties teaching method with good instructions and feedback to make sure the students' understanding related to the lesson that the teacher has taught.³

Additionally, it has similarities with Creemers and Kyriakides stated that high quality of teaching-learning practice consists of four aspects such as; classroom climate, direct interaction, support for self-determination, and cognitive activation and challenge.⁴

- a. Classroom climate: students learning is generally supported by a positive and respectful atmosphere which is free of disruption and focus on student performance.
- b. Direct interaction suggests the use of close monitoring, adequate pacing and classroom management, structure, clarity of presentation, and informative and encouraging feedback. These components will help in creating an orderly environment and maximize the effective learning time. A lesson which is prepared well and supported by a good media will also give a positive impact on the student performance.
- b. Support for self-determination is an approach based on reform pedagogy and humanistic psychology. It is like what Oelkers, Decy, and Ryan stated that there are additional facets of quality requirement for the student motivation and non-cognitive outcomes such as classroom climate and teacher-student relations which support autonomy, competence, and social relatedness. Cognitive

³ Talis, *Practice and Pedagogical Innovation ...* 29

⁴ Creemers – Kyriakides, “*Teaching and Learning International Survey*” (Centre of Educational Research and Innovation, 2012), 29.

activation and challenge: cognitive activity rather than “activity per-se” – and conceptual understanding, should use deep instructional, challenging content. In the case of mathematics. For example, this means making a connection between mathematical facts, procedure, ideas, and representations. To achieve it, argumentation and non-routine problem solving should be promoted.

Considering these abilities that a teacher should have, teaching is not about teaching, but a good teaching should understand the elements of a good teaching itself. So, I will be the teacher’s responsibility to serve a good teaching-learning environment which is needed by all the students. To cover all these needs, a teacher will need supplementary media to support in teaching effectively and choosing appropriate media by using technology and digital media can be the solution for this as tool and facilitation which are very potential for the field of language learning.⁵ It is affected by the condition that nowadays people or students cannot be separated from technology. Furthermore, there will be many advantages by using digital media and technology for teaching practice by the availability of multiple media such as text, video, and music which will be more interactive teaching-learning and can give more positive impacts for students’ learning attitudes and achievements than using an only textbook.⁶

Using digital technology as digital media is very interesting for the students. It is caused by the development of technology which recently increases rapidly and has affected the educational world and has been part of media which is used by many teachers to support their teaching and learning practice. Teaching and learning practice which usually uses traditional strategies now can be supported by using software provided in technology. There are many kinds of software that teachers can

⁵ Baskaran, “ESL Teachers’ Perception of CALL Integration in ELT” *International Journal on Studies in English Language and Literature*. Vol. 3, Issue 5, 2015, 12

⁶ Scott Windeatt, “Low-Achieving Language Learners in Self-Directed Multimedia Environments: Transforming Understanding” (UK: Newcastle University, 2014), 5.

use to support their teaching practice such as hot potatoes, macro media flash, Alice, blog, psychology, PowerPoint etc.

Current digital technology which has helped the learning process more effective and efficient which is correlated with the students' and the knowledge itself must be supported by the teacher' technology competence.⁷ In this case, Information and knowledge is a new form of wealth and a driving force for development and the learning institution also really determines the successfulness of transferring the information and knowledge. There are five key phases where technology supports for education such as connect, collaborate, critical, creative and communicate.⁸

Regarding that situation, the biggest challenge that teacher faces recently is how to operate technology and media and when to incorporate new and emerge digital technologies for teaching and learning a various subject. How and when to use or apply digital technology for teaching is not easy and many teachers are not capable of using digital technology or even to produce digital media to support their teaching practice.

All the teacher's lack of technology can be solved by teacher's technology, pedagogy, and content knowledge (TPCK) competence. Technological pedagogical content knowledge (TPACK) is described as teacher's knowledge requirement in designing, implementing, and developing curriculum and instruction with technology.⁹ In this case, a teacher needs to know the content they want to teach and collaborate it with technology. This view shifted to the importance of knowing how to teach where the teacher should be prepared well in implementing new teaching and learning (or pedagogical)

⁷ Supripto, "*Penggunaan Teknologi Informasi dan Komunikasi dalam Dunia Pendidikan*". (Citizen Journalism dan Keterbukaan Informasi Publik untuk Semua, 2013), 25

⁸ Son - Jeong Bae, Thesis, "*Computer-Assisted Language Learning: Learners, Teachers and Tools*". (Malaysia: University of Sabah Malaysia, 2013, 98.

⁹ Margaret, Thesis: "*Teaching Knowledge for Teaching with Technology*" (Oregon: Oregon State University, 2005), 1.

practice along with an even more depth understanding of the content that teacher wants to teach.¹⁰

Fortunately, in UIN Sunan Ampel Surabaya, especially at English Teacher Education Department, there is a course has been conducted to enrich their students in mastering technology in education era. This course is called as Computer Assisted Language Learning (CALL) class which focus on integrating technology in language teaching and learning. This course tries to develop students' technological pedagogical content knowledge (TPACK) in producing material for English language teaching through technology in online and offline.

Considering the issues above, the researcher tries to explore the students of English Teacher Education Department as a candidate of English teachers in developing their technological pedagogical content knowledge (TPACK) through Computer Assisted Language Learning (CALL) class to build their pedagogical knowledge for better teaching practice.

B. Research Questions

Concerning the background, this research has some problem statements which are separated by some questions below:

1. How is the learning process of CALL class?
2. How is students' mastery of technological pedagogical content knowledge (TPACK)?

C. Objective of the Study

From the formulation of those research questions, this study will aim to:

1. To know the learning process of CALL class in developing students' technological pedagogical content knowledge at the 4th semester of English Teacher Education Department of UIN Sunan Ampel Surabaya

¹⁰ Ronau – Robert N, *Educational Technology, Teacher Knowledge, and Classroom Impact* (Washington DC, 2010), 19.

2. To know students' mastery of technological pedagogical content knowledge (TPACK).

D. Significance of the Study

Through the result of this research, the researcher expects to give a contribution to the students, teachers/lecturers, readers.

1. For the students, it will give awareness to them the importance of technology for education and enrich their teaching competence by using more creative media which is provided by technology.
2. For the teachers, it will be a solution to use the variety of technology as a media in other classes in teaching practice and can be adopted by other teachers to use technology to support their teaching activity for better education
3. For the readers, it will be references to enlarge their knowledge about technology for better education.

E. Scope and Limitation

Based on the problems above, we really know that being a teacher/candidate of a teacher is not as easy as we think. There are many aspects that we must concern on mastering pedagogy skill, mastering of the media used which is varieties media we can use especially by using technology. So, the students of CALL class must have competence in mastering technology and digital media provided by computer/technology to support their pedagogy competence to make their students feel interested and enthusiastic during teaching and learning process. But, there will be many challenges for the candidate of teachers in using several of technology as media because there will be many kinds of technology and digital media which have different ways to use it and for what skill suitable for.

To make the research attains its aim, the researcher needs to limit this study only on the learning process in Computer Assisted Language Learning (CALL) class in developing students' technological pedagogical content

knowledge based on strategies used by the lecturer in CALL class and how the students' mastery of TPACK in CALL class.

F. Definition of Key Terms

1. Technological Pedagogical Content Knowledge

Technological Pedagogical Content Knowledge is like (Koehler and Mishra, 2009) stated, Technological Pedagogical Content Knowledge is a knowledge to use several of technology in teaching, represent and to facilitate knowledge creation of content which is specific subject. TPACK is a basis of teaching by using technology to help teachers in teaching practice effectively. The content knowledge of teacher will be applied in technology form. So that, the teaching and learning practice will be effective through technology.

2. Computer Assisted Language Learning (CALL)

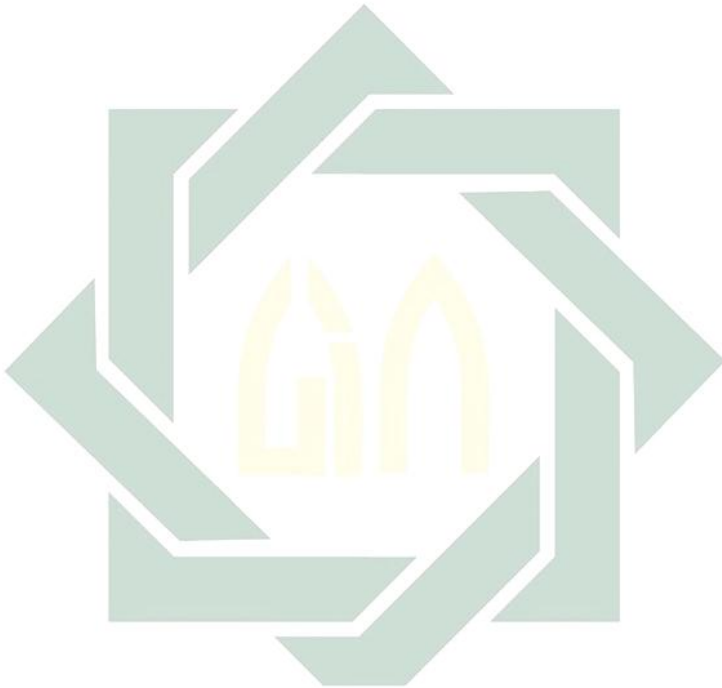
Computer Assisted Language Learning (CALL) is an approach to language teaching and learning in which computer technology is used as an aid to the presentation, reinforcement, and assessment of material to be learned and include a substantial interactive element.¹¹

3. CALL Course

CALL Class is a primary course for students of English Teacher Education Department of UIN Sunan Ampel Surabaya which is focused on students' training in mastering technology. This course is a method for measuring students' ability. It means that the students who will teach someday are expected to have competence in teaching by delivering some good media. This class provides some software or tool to be able to be used by the students in teaching practice. This class trains the students

¹¹ Psych - Ed "Definition of Computer Assisted Language Learning", (<https://msu.edu/~akcaoglu/rdp.history.html>, accessed on July 12, 2017)

in the technological pedagogical content knowledge that focus on using several technologies in teaching practice.¹²



¹² Kean Wah Lee – Shi Ing – Choon Keong Tan, “*Developing Malaysian ESL Teachers’ Technological Pedagogical Content Knowledge with Digital Materials*” (Sabah: University of Sabah Malaysia, 2003), 4.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter gives a brief explanation of the theories that support this study. There are two sub-sections in this chapter, the theoretical framework and the previous studies regarding with the types of written corrective feedback applied by the teacher on student's research proposal.

A. Review of Related Literature

In this chapter, the researcher will review the theoretical studies of Pedagogy, CALL, CALL Course and Technological Pedagogical Content Knowledge (TPACK).

1. Pedagogy

Pedagogy is an ability of teacher in teaching learning process.¹³ Teacher as learning specialist is expected to always increase their ability in teaching method to new knowledge relevant for their core professional practice as a good teacher.¹⁴ A good teacher will affect students' achievement. So, it will be concerned with developing teacher's quality. In this case, literature highlight that expert teacher has characteristic such as; pedagogical content knowledge, better problem-solving strategies, better adaptation for diverse learners, better decision making, better perception of classroom events, greater sensitivity to context, and great respect for the learners.¹⁵ A good teacher is also expected to have these components consist of professional competence involve more than just knowledge. Skill, attitudes, and

¹³ Son - Jeong Bae, *Computer-Assisted Language Learning ... 100*

¹⁴ Sonia Guerriero, "Teacher's pedagogy knowledge and the teaching profession". *Background Report and Project Objectives*. 2012, 4

¹⁵ Sonia, "Teacher's pedagogy knowledge ... 3

motivational variable also affect teacher's mastery in teaching and learning.¹⁶ Blomeke and Delaney suggested a model that identifies cognitive ability and affective-motivational characteristic as two components of teacher's professional competence.¹⁷ (see table 2.1).

Table 2.1
Teacher's Professional Competence

Cognitive Abilities	Affective-motivational characteristics
<ul style="list-style-type: none"> • Professional knowledge • General pedagogical knowledge • Content knowledge • Pedagogical content knowledge 	<ul style="list-style-type: none"> • Motivation • Self-regulation • Professional beliefs about teaching and learning and the subject content

Source: Adapted from Blomeke and Delaney (2012)

The key to good and professional teacher knowledge also stated by (Shulman, 1987) who categorized into 7 categories, among which were the concepts of:

- a. General pedagogical knowledge: (principles and teacher's strategies of classroom management and in organizing that are cross-curricular.
- b. Pedagogical content knowledge (the knowledge which integrates the content knowledge of a specific subject and the pedagogical knowledge for teaching the subject.¹⁸

Strengthening the teacher's pedagogy only is not enough to guarantee a good teaching-learning atmosphere. A good teacher is also expected to know the students' psychology too. It is

¹⁸ Koehler – Mishra, "What is Technological Pedagogical Content Knowledge?". (Contemporary Issues in Technology and Teacher Education, 2009), 64.

caused by students' differences characteristics learning styles. So, it will be a must for a teacher to cover all the students' need by the combination of teacher's pedagogy competence with students' psychological aspects.¹⁹ So, the successfulness of teaching-learning practices, in this case is; teacher's pedagogy competencies should have correlation with students' psychological components.

The table below contains of the elements of the different models of pedagogy which has correlation with students' psychological components.

Table 2.2
Teacher's Pedagogy into Students' Psychological Components

Pedagogical Components	Psychological Components
<ul style="list-style-type: none"> • Knowledge of classroom management: maximising the quantity of instructional time, handling classroom events, teaching at a steady pace, maintaining clear direction in lessons. • Knowledge of teaching method: having a command of various teaching methods, knowing when and how to apply each method. • Knowledge of classroom 	<ul style="list-style-type: none"> • Knowledge of learning process: supporting and fostering individual learning progress by having knowledge of various cognitive and motivational learning process (e.g. learning strategies, impact of prior knowledge, effects and quality characteristics of praise, etc.); • Knowledge of individual students' characteristics: having knowledge of the sources of

¹⁹ Sonia, "Teacher's Pedagogy Knowledge ... 5

<p>assessment: knowledge of different forms and purposes of formative and summative assessments, knowledge of how different frames of reference (e.g., social, individual, criterion-based) impact students' motivation;</p> <ul style="list-style-type: none"> • Structure: structuring of learning objectives and the lesson process, lesson planning and evaluation • Adaptively: dealing with heterogeneous learning groups in the classroom 	<p>students cognitive, motivational, and emotional heterogeneity.</p>
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Source: Based on Voss, Kunter and Baumert (2001) and Konig et al. (2011)

From the table above, we can know that a teacher should master some aspects to be a good teacher. It is not only about teaching but also how to know students' types in learning because in one class there will be some difference characteristic of the students or commonly called as mixability class and it must be handled by different ways in teaching process to cover all the students' need.

Regarding of the different characters of the students. It is a must for the teacher to have the ability to cover all of that. For this modern era, the use of technology could be useful for the teacher in supporting their teaching ability. Park Manor stated that the use of technology is to enable and accelerate the other core component of the new pedagogies. The use of technology will support the new learning partnerships and becomes the foundation of a deep learning task. Shortly, it will make a whole new kind of teaching and be learning possible and get students' interest during the learning process.

2. Computer Assisted Language Learning (CALL)

Computer Assisted Language Learning (CALL) is an approach to language teaching, and learning in which computer technology is used as an aid to the presentation, reinforcement and assessment of material to be learned and usually include a substantial interactive element.²⁰ It is like what Sonia Guerriero stated that CALL is a subject tied tightly to other areas of study within applied linguistics such as autonomy and other branches of knowledge such as computer science.²¹ CALL in teaching and learning practice emphasizes on students-centered materials that allow the students to learn on their own. CALL is essentially a tool to support teacher in teaching practice in the classroom or as a remedial tool to help the students to get easy in more interactive teaching media provided by a teacher using software tool who require additional support for better teaching and learning

²⁰ Mathiew J – Koehler – Punya Mishra – William Cain, “*What is Technological Pedagogical Content Knowledge?*” (<https://www.bu.edu/journalofeducation/files/2014/02/BUJoE.193.3.Koehleretal.pdf>), accessed on October 15, 2017), 7.

²¹ Ken Beatty, *Teaching and Researching Computer-Assisted-Language Learning*, Second Edition (Edinburg: Pearson Education, 2012), 7.

process.²² A technology tool can be as effective as the person wielding it in identifying the tool effectively to deliver a lesson.²³

There are many advantages we can identify by using this CALL in teaching-learning practice like what Ken Beatty stated in his book such as below:

- a. Learning efficiency: learners can pick up language knowledge or skill by their own faster and or with less effort.
- b. Learning effectiveness: learners feel easier to learn language knowledge, make deeper understanding and or learn more about what they want to earn or need.
- c. Access: it supplies students to get materials or experience interactions that would be difficult or impossible to get.
- d. Convenience: it will be practice media to where and when the students want to learn effectively without thinking of a range of times and places they are.
- e. Motivation: the learning process will be more enjoyable and practice by students' feeling engagement.
- f. Institutional efficiency: students need less teacher time as teaching specialist or fewer less expensive resources.

The definition above has similarity with Scott and Beadle who stated that CALL is used by many students for their learning foreign language competence.²⁴ Scott

²² Kuang Wu-Lee, "English Teachers' Barriers to the Use of Computer-Assisted Language Learning". *The Internet TESL*, Vol. VI, December 2000, 8

²³ Kean Wah Lee – Shi Ing – Choon Keong Tan, "Developing Malaysian ESL Teachers' Technological Pedagogical Content Knowledge with Digital Materials" (Sabah: University of Sabah Malaysia, 2003), 103

²⁴ David Scott - Shane Beadle, "Improving the Effectiveness of Language Learning: CLIL and Computer Assisted Language Learning" (ICF International, June 25, 2014), 19

and Beadle explain that technology which is used in CALL such as; computer, smartphone, tablet, MP3 player and console are the members.²⁵ In addition, Scott and Beadle widely mentioned that in CALL which people commonly applied such as:

- a. Authentic foreign language material, such as video clips, flash animation, web-quest, podcast, webcast, news etc.
- b. Online environment. It gives a chance for the learners to access communication through email, text-based computer-mediated communication (synchronous and asynchronous), social media, or voice/video conferencing.
- c. Language learning tools (online apps or software), it is including pronunciation, phonetics, vocabulary, dictionary, grammar and clause analysis which provided a text to speech function or speech recognition and guided exercise.
- d. An online proprietary virtual learning environment that offers teacher-student to and peers to peer communication.
- e. Game based learning is also provided to get learners' interest during the learning process.

The advantages of CALL provided in teaching learning practice make the teacher feel helpfully.

3. CALL Course

CALL Class is a primary course for students of English Teacher Education Department of UIN Sunan Ampel Surabaya which is focused on students' training in mastering technology. This course is a method for measuring students' ability. It means that the students who will teach someday are expected to have competence in

²⁵ Intan Jauharotush Sholihah, Thesis "*Students difficulty in designing digital media*". (Surabaya: State Islamic University Sunan Ampel Surabaya, 2016), 6.

teaching by delivering some good media. This class provides some software or tool to be able to be used by the students in teaching practice. This class trains the students in technological pedagogical content knowledge (TPACK) that focus on using various of technology in teaching practice.²⁶ The method or media used by the lecturer in this course use Schoology. Schoology is an online learning which manages the classroom and social networking to improve learning through better communication, collaboration and to increase access to curriculum and supplemental content.²⁷ By this Schoology, students not only learn in the class or face to face learning but also through online learning and besides that, Schoology is a free teaching tool that helps teachers to manage classroom information.

4. Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPACK) like Koehler and Mishra stated that Technological Pedagogical Content Knowledge (TPACK) is a knowledge to use various of technology in teaching, represent and to facilitate knowledge creation of content which is specific subject. TPACK is a basis of teaching by using technology to help teachers in teaching practice effectively. The knowledge is synthesized in Technological Pedagogical Content Knowledge concept for integrating information communication technology (ICT) /educational technology into classroom teaching and

²⁶ Kean Wah Lee – Shi Ing – Choon Keong Tan, “*Developing Malaysian ESL Teachers’ Technological Pedagogical Content Knowledge with Digital Materials*” (Sabah: University of Sabah Malaysia, 2003), 4.

²⁷ S. Biswas, “Schoology-Supported Classroom Management: A Curriculum Review”. *Northwest Journal of Teacher Education*. Vol. 11, No 2, Fall 2013

learning.²⁸ There are seven core constituents of Technological Pedagogical Content Knowledge that must be mastered by a teacher to have an ability on TPACK those are; content knowledge (CK), pedagogical knowledge (PK), technological knowledge (TK). These three basic forms interact to knowledge give rises to pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK) and the Technological Pedagogical Content Knowledge (TPCK).²⁹ A clearer explanation of these constructs in the Technological Pedagogical Content Knowledge (TPCK) framework from Mishra and Koehler (2006) will be explained below.

1. Content knowledge (CK)

Content knowledge (CK) is posited as knowledge about the actual subject matter which will be learned or taught. It is included on knowledge of central facts, concepts, theories and procedure within a given field and the understanding of basic or low technology such as: pencil and paper into digital technology such as: internet, video, interactive whiteboard and some program of software.

2. Pedagogical knowledge (PK)

Pedagogical knowledge (PK) teacher' competence in teaching and learning practice. It is included in the knowledge of techniques or methods to be used in teaching practice in the classroom. The nature for the target audience; and strategies for evaluating student understanding.

3. Technological knowledge (TK)

Technological knowledge (TK) is students or teachers' mastery of the use of technology. It is

²⁸ Chai, "A review of Technological Pedagogical Content Knowledge". *Educational Technology & Society*. Vol. 2 No. 16, 2013, 32.

²⁹ Jeong – Bae Son. *Computer-Assisted Language Learning: Learners, Teachers and Tools* (Cambridge Scholars Publishing, 2014), 102.

including in operating systems and computer hardware and the ability on how to use standard sets of software tools.

4. Pedagogical content knowledge (PCK)

Pedagogical content knowledge (PCK) is described as a blending of content and pedagogy into an understanding of how particular aspects of the subject matter are organized, adapted, and represented for instruction.

5. Technological content knowledge (TCK)

Technological content knowledge (TCK) is defined as “knowledge about the way technology and content are reciprocally related and how technology represent for new specific content of any lesson including English. So that, the teacher can learn how to understand the concept in specific content.

6. Technological pedagogical knowledge (TPK)

Technological pedagogical knowledge (TPK) is termed as “knowledge of the existence, components, and capabilities of various technologies as they are used in teaching and learning settings, and conversely, knowing how teaching might change as the result of using particular technologies.

7. Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPCK) is posited as an overarching concept of good teaching with technology. TPCK requires an “understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students’ prior knowledge and theories of epistemology and knowledge of how technologies can

be used to build on existing knowledge and to develop new epistemologies or strengthen media which use common media for teaching practice.

Koehler and Mishra stated that the introduction technology causes a representation of new concepts and require developing sensitivity to the dynamic, transactional relationship between technology, content, pedagogy, and locality warranting a congruous teaching and learning domain.³⁰ Furthermore, using software tools for teaching-learning practice is not something easy. Often new users of computers find some difficulties in applying software tools in teaching practice and learning computer program or software tools might be a little bit frustrating and so difficult. So that, the effectiveness of using technology tool is also determined by the teacher's competence in using technology tool which is perspicacity according to the following four facets-knowledge, self-efficacy, pedagogical beliefs and subject and school culture.³¹

1. Knowledge encompasses the dimensions involved in delivering a classroom lesson ranging from content, pedagogy, classroom management, differencing content to locality, curriculum implementation, context-based educational goals and beliefs, and strategies to incorporate to supplement teaching and learning.
2. Self-efficacy focuses on the confidence level of the teacher towards their ability in utilizing knowledge to facilitate succinct learning.
3. Pedagogical beliefs examine the influence of implications and consequences of learning in shaping the values of a teacher.

³⁰ Jeong – Bae Son, *Computer-Assisted Language Learning ...* 103

³¹ Jeong – Bae Son, *Computer-Assisted Language Learning ...* 103.

4. Subject and school culture involve teacher either adjusting or abandoning plausible teaching and learning approaches depending on constraint within school and learner's culture.

B. Previous Studies

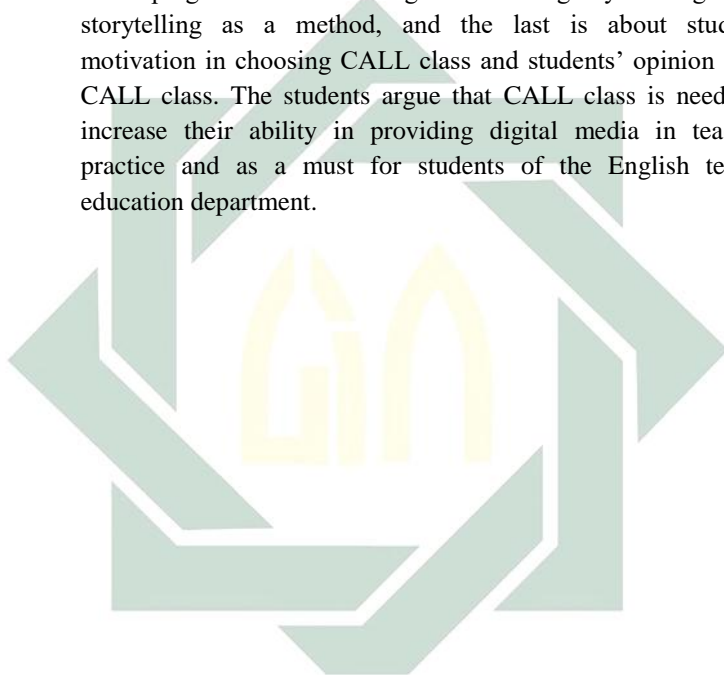
In this section, there have been several previous studies which have similarities related to the researcher's topic "Developing Students' Technological Pedagogical Content Knowledge" and the researcher will explain what the differences between this study and the previous study.

The first study was by Intan Jauharotush Sholih (2016) entitled "*Students Difficulties in Designing Digital Media on CALL class for Teaching English at UIN Sunan Ampel Surabaya*". Her research analyzed the students' difficulties in designing digital media for general and the factors affect students in getting difficulties in designing digital media and how the students solve the problem for the difficulties in designing digital media.

The second study was by Kean Wah Lee, Shi Ing Ng and Choon Keong Tan at University Malaysia Sabah, Malaysia (2004) entitled "*Developing Malaysian ESL teachers' Technological, Pedagogical Content Knowledge with Digital Material*". This study focused on the use of digital material which is using digital story telling as a method to increase teachers' technological pedagogical knowledge. the respondent in this study were trained in creating digital story telling for teaching English as second language.

The third study was written by Muhammad Agus Fayakun (2014) entitled "*Students' Motivation in Choosing CALL Subject at English Education Department State Islamic University Sunan Ampel Surabaya*". This study analyzed the students' motivation in CALL subject and students' opinion about CALL as media for teaching English.

All of the studies above are related to this researcher's study but has some differences. The first previous study talked about students' difficulties in designing digital media and the factor of students in getting difficulties in designing digital media and followed by the solution to face students' difficulties in designing digital media. The second research focused on developing teachers' technological knowledge by making digital storytelling as a method, and the last is about students' motivation in choosing CALL class and students' opinion about CALL class. The students argue that CALL class is needed to increase their ability in providing digital media in teaching practice and as a must for students of the English teacher education department.



CHAPTER III RESEARCH METHOD

This chapter concerned on the procedure to conduct the research regarding with the learning process of CALL class in developing students' technological pedagogical content knowledge (TPACK) and how to know the students' mastery of technological pedagogical content knowledge (TPACK) in CALL class. It covered research approach and design, researcher presence, research location, data and source of data, research instruments, data analysis technique.

A. Approach and Research Design

The major purpose of this study was to know of the learning process of CALL class in developing students' technological pedagogical content knowledge (TPACK) and how students' mastery of technological pedagogical content knowledge (TPACK). Related to these two objectives, qualitative study as the approach was decided by the researcher which was used to get gain the deep understanding of specific group or event. This research can be categorized as a survey research and called as descriptive research to describe and get information about the current condition of the certain object.³² Therefore, it used instruments such as observation and questionnaire to gather information from the group of individuals.

B. Research Presence

The researcher in this research was as the data collector only. It was done by attending the classroom and attempt to observe and collect the data through observation blue print and questionnaires.

³² Donald Ary, Lucy C. Jacobs, and Chris Sorensen, *Introduction to Research in Education* (Belmont, CA: Wadsworth, 2009), 28.

C. Research Location and Subject

The research location is in English Teacher Education Department (ETED) of Education Faculty and Teacher Training at Sunan Ampel State Islamic University which is located on Street A. Yani 117 East Java Surabaya and focus on the students of 4th semester who take CALL (Computer Assisted Language Learning) course and where they must also practice the use of various technology or software tools to increase their technological pedagogical content knowledge (TPACK) for real teaching

D. Data and Source of Data

The information of the data obtained from the observation and questionnaire based on the students' reaction. The researcher used these two techniques to collect the valid data for this research. There were observation and questionnaire form in qualitative analysis.

There was a questionnaire for the participants who take CALL Class in 4th semester and to make straight result when collected the data the researcher asked the course outline from the lecturer to observe. These two techniques were taken to concern the research questions of how the learning process of CALL Class in developing students' technological content knowledge (TPACK) and how students' mastery on technological pedagogical content knowledge (TPACK).

E. Data Collection Techniques

The data collection technique in this research used observation and questionnaire. The first step that the researcher used was observation which answered the first research problem. Afterward, questionnaire was used to answer the second research problems

For short, the process of the data collection technique for this research was as below:

Table 3.1
Data Collection Technique and Instrument

Research Question	Data Collection Technique	
	Observation	Questionnaire
RQ 1	Observation of the learning process of CALL class in developing students' technological pedagogical content knowledge (TPACK)	-
RQ 2	-	Questionnaire

1. Observation

Observation was used to describe the whole learning process in CALL Class in developing students' technological pedagogical content knowledge (TPACK). By this observation, the researcher got a deep understanding and view of the whole learning process in the CALL Class such as; situation, condition, and the activities in the classroom.

2. Questionnaire

A questionnaire was used as the second data collection. It was purposed to gain information about students' opinion or perception related to their understanding and mastery in CALL class of technological pedagogical content knowledge (TPACK). The type of questionnaire here used rating scale questionnaire where the researcher used Likert Scale to get information from the participants. Likert scale is a psychometric perception scale primarily used in the questionnaire to obtain participants. The respondents were asked to indicate their level of agreement by giving a statement by way of an ordinal scale.³³

F. Research Instruments

To collect the data, the researcher used some instruments. Moreover, some documents used to support the research that it

³³ Dane Bertram, "Likert Scales"

was analyzed by the researcher such as observation and questionnaire.

1. Observation sheet

Observation sheet was for discovering and obtaining the whole learning process of CALL Class, including strategy used, situation and activities. In this research, the observation was in form of a narrative summary that attempted to get the main things happen during the course which follows the course and the guideline of the learning process in CALL Class.

2. Questionnaire

In this instrument, the researcher needed the students as the one subject to answer the questions and gave the informant identity. This research used openly in which the student' respondents only needed to answer the best express what their opinion.

These two instruments were used to answer the two research problems as mentioned.

G. Data Analysis Techniques

The researcher analyzed the collected data in descriptive qualitative approach. The data obtained through observation and questionnaire. Afterward, the researcher presented the collected data in the form of description. The technique for analyzing data was presented as below:

1. The researcher analyzed the data collection by observation technique and matching it with the theories provided in chapter 2. The researcher described the teaching process in CALL class in developing students' technological pedagogical content knowledge (TPACK) which was including about the methodology, stages, and activities. In this case, the researcher also compared it with some theories that match with the teaching-learning process in CALL class in developing students' technological pedagogical content knowledge (TPACK). So, it answered the first research problem in this research.

2. Distributing questionnaire sheet was also needed to answer the second research question for students in CALL class in developing their technological pedagogical content knowledge which focused on analyzing students' mastery of TPACK. After getting the data from this questionnaire, the researcher analyzed the data related to the research question used Likert Scale. In Likert Scale, each item response is scored with a value of 1 assigned to strongly disagree, all the way to 5 for strongly agree. For each construct the participant's responses are averaged.

The average for each indicator of aspect was got by following formula:

$$RI = fi \cdot xi$$

Information:

RI = average on each indicator

fi = total of respondent

xi = Score of Likert Scale

while looking for average of aspect used:

$$RTA = \frac{\sum_{i=1}^j RI}{N}$$

Information:

RTA = Average on each aspect

$\sum RI$ = number of average indicator from i to j

N = Total of respondent

To change into percentage use:

$$PRS = \frac{RTA}{Max.Score} \times 100$$

Information:

PRS = Percentage of respond

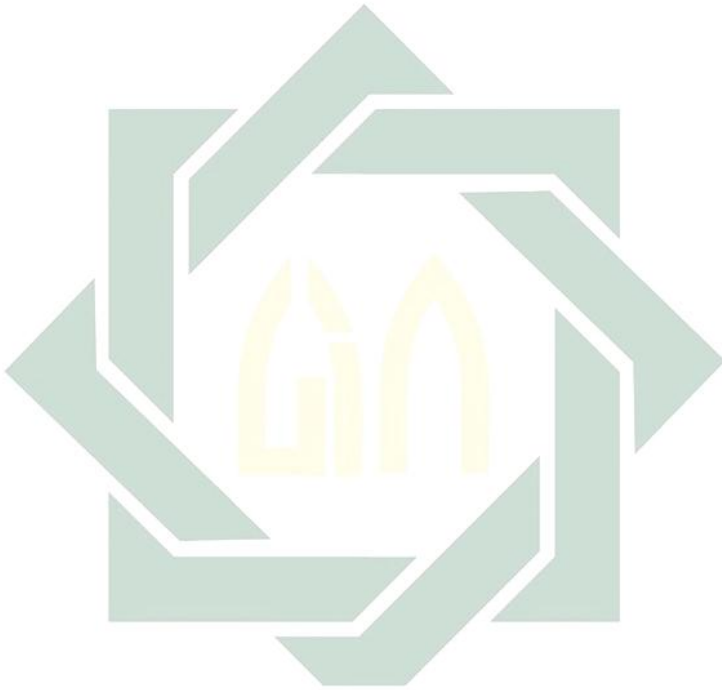
Score maximum = The highest Likert Scale score is multiple with number of indicator/question test.

The result by using Likert Scale was explained as follows:

If: 0 – 20% = Low/Very Weak

21 – 40% = Weak

41 – 60% = Average
61 – 80% = Good
81 – 100% = Excellent.



CHAPTER IV RESEARCH FINDINGS AND DISCUSSION

In this chapter, the researcher presents the research findings and its discussion of the learning process of CALL class in developing students' technological pedagogical content knowledge (TPACK) and students' mastery of technological pedagogical content knowledge (TPACK). It was proposed to answer the research problems. Research findings were provided from the data collected to answer the research questions. Afterward, the researcher presented the analysis of research findings in the research discussion.

A. Research Findings

The research was conducted from March 1, 2018 – May 12, 2018 by using two instruments for analyzing the data to answer the research questions of the study. The research questions were stated about how the learning process of CALL class runs and how students' mastery of technological pedagogical content knowledge (TPACK). The researcher has gained the data from the facts occurred in the CALL class.

There were four classes of CALL class in English Teacher Education Department which consist of 110 students from total students of the four classes. According to Gay and Diehl, the respondents in a descriptive research should be taken at least 10% from the total respondents. That is why the researcher of the research only took 10 students randomly as respondents of the research because the researcher had gained an adequate data and had covered what the researcher needed from these 10 students and. The result of the findings is classified based on the research question of the study.

1. The Observation of Learning Process of CALL Class

Based on the detailed facts happened in CALL Class, the researcher has collected the data regarding with the first research question about the learning process of CALL Class in developing students' and students' mastery of technological pedagogical content knowledge (TPACK). The researcher

found that the method of the learning process in CALL Class not only by face to face learning but also by using ‘‘Schoolology’’ (online learning).

Schoolology, like stated in chapter 2, is an online learning which manages the classroom and social networking to improve learning through better communication, collaboration and to increase access to curriculum and supplemental content.³⁴

The researcher described a detail information of how the learning process of CALL Class in developing students technological pedagogical content knowledge (TPACK) by categorizing the seven aspects of technological pedagogical content knowledge (TPACK) as below:

1. Technological Knowledge

Technological knowledge (TK) in this course is covered in almost every session since the 3rd to the 14th session in CALL class. In session 3, the activity that develop students’ technological knowledge is about making animation by using Animaker that can be accessed on www.animaker.com. This Animaker is used to create do video presentation, create a recount text and others. Students can search on YouTube to know the tutorial in making animation by using Animaker. And the final activity in this session is by giving assignment for the students to create animation that use animations. The students are free to choose to create a recount video, description video, or a procedure video. In this case, there have been application provided which can be used by the students namely ‘‘Animaker’’. After finishing the animation by using Animaker, students should share it on YouTube and share the link or URL and

³⁴ S. Biswas, ‘‘Schoolology-Supported Classroom Management: A Curriculum Review’’. *Northwest Journal of Teacher Education*. Vol. 11, No 2, Fall 2013

send it to Shoology provided in CALL class. In session 4, students learn about “search engines” such as Google, Yahoo!, YouTube and Bing to search any kinds on internet. In session 5, students learn about the ways to search across the internet such as Google, Yahoo! And Bing like in session 4. There are two kinds of websites can be accessed by the students such as Google Tips and tricks and Google Search Operators to search information over the internet. The assignment of this activity is making 5 groups that have been provided by the lecturer to use search engines, find resources that can be used in teaching or learning English such as: grammar, listening, speaking, reading, writing and vocabulary. Then, use a web-based mind map tools such as POPPLET and COGGLE to create an information map/mind map like example below, make sure that the information is clickable (hyperlinked), so that each information can be directly accessed by just clicking the link in the map. In session 6, students learn about how to make a Blog. There are two kinds of blog in this discussion, the first is blog like usual and the second is micro blogging such as Facebook, Twitter, Plurk and others to post something such as opinion, activities, images etc. After that, students of CALL class should create a blog which will be part of their final assessment. In session 7, students learn about blogging like in the session 6 and the function is like session 6. In session 8, students learn about HotPotatoes and comics. The function of these HotPotatoes and comic are to create any kinds of media to teach material in English. There are six parts of HotPotatoes that can be used by the creator of the media such as: JCloze, JMix, JMatch, JCross, JQuiz and JMasher. The assignment of this

session is making comics using one of the tools above with the group provided in Schoology, and once students finished making a comic, submit the file and name the file with their group names or send the URL of comics to Schoology. In session 9 students learn about Google Drive, the use of Google drive is to save any kinds of file such as: documents, notes and other. So that, the owner will not feel worry about the file which can be lost. In session 10, students learn about SYPE or Google hangout. It is used to do any kinds of activity such as: conversation through SKYPE or Google hangout. In session 11, students learn about Podcast or podcasting. The use of podcast is to access some authentic listening materials wherever and whenever they want if there is internet connection. Students learn about the idea of podcast is broadcasting of media that can be in the form of audio, video, or even document files. The broadcasting was done through the internet and what more is that subscription is enabled, and those media is downloadable and that makes audience can access the media easily by using either PC, MAC or Portable devices, such as IPOD or Android Devices. In session 14 also develop students' technological knowledge (TK) that focus which use some ways such as: Electronic Mailing List (E-mail List) which is used to do discussion. Students send or receive the email by only set up the group in an email list provider, invite people to join e-mail list, and student start doing discussion online by sending emails, there are two providers that students in CALL class can choose such as Yahoo Groups and Google Groups in learning. Online Forum (Message Board) which is used to have a similar discussion of online either directly over the web or via email with

Yahoo Groups and Google Groups. There are 4 examples of online forum that can be used by students in CALL class such as; One Stop English Discussion, ELT Community, EFL Classroom and VOXoPOP (A voice based discussion board). Social Media. There are many social media students can use in this session to increase their TK's ability like in sharing of content like Instagram and YouTube, micro Blogging, social networking like Facebook, professional networking like LinkedIn, and feature like mobile device directly. So, students learn how to use those media social for English teaching-learning and it is categorized that technological knowledge (TK) has been covered by almost every session in CALL class.

2. Content Knowledge

Content knowledge in this course has been covered in some sessions such as: session 7 that learn about four skills (writing, speaking, listening and reading). In this activity students learn to know about the four skills (reading, speaking, listening, writing) in English. The focus of the content of writing is about in what aspect some people usually write for. In content knowledge of speaking, students learn about how to speak fluent orally. In listening, there two types to be understood by the students of CALL class such as: listening for young listener or children and listening for adult.

3. Pedagogical Knowledge (PK)

Pedagogical Knowledge in this course is covered in some session of CALL class such: session 4 which focus in making timeline to support in teaching practice. Session 9 and 10 that focus in developing students' pedagogical knowledge (PK) by the ways in teaching writing and speaking.

Session 11 which focus in teaching listening which is divided into two types of listening for young listeners and listening for adult listener. Session 12 about how to make lesson plan which is completed by some examples that can be accessed by students of CALL class in Schoology. Session 13 that focus in class management which use some available tools on the internet to support teaching and learning process. It is expected by the teacher to store students' learning progress information, communicate with students and parents, distribute quizzes, making wikis, sharing files, building class web, scheduling etc. There are 6 aspects that the teacher teaches the students in this session such as: gradebook, engrade, learboost, thinkwave, lesson planning, lesson pro, lesson plan maker, scheduling, doodle, scheduleonce and bookfresh. By these activities, the students of CALL class are expected to have a good pedagogical knowledge in theoretical aspects and in the real teaching practice.

4. Pedagogical Content Knowledge (PCK)

Pedagogical Content Knowledge (PCK) in this course is covered by some sessions such as in session 10 in teaching speaking by video conference. It develops students' skill in the ways of teaching speaking as one of content in English. There are three methods in teaching speaking such as how to do oral production in the second language classroom, overcoming classroom problem and useful techniques in teaching speaking. The next activity is "teaching speaking with technology" that focus of "web-based practice" by accessing a web namely English central. The students learn about web-based speaking practice by directly open the link. The link directly brings us to a web namely "English Central". In this English Central, there are

many activities that can be done by the students account such as joining courses that students can select from various available ones. Then select a video. After that, students can start watching the video, learn the words, practice pronouncing the sentences, and record their own voices online. Then, they can compare their voice with the natives who speak in the video. But, firstly students should log in with students' facebook. This activity is very interesting for the students. Besides that, there are also alternative technologies that can be used by the students such as: voicethread, voxopop, bubblejoy, eyejot, audioboo, chirbit, evoca, vacaroo, fotobabble, mailvu, intervue, lingt, present.me, screenr, SingSnap, voices, wetoku, scribbler, and skype in the classroom. So, students can choose one of them for teaching speaking with technology Through these activities, students of CALL class learn about how to speak good English orally such as in pronunciation and accent. The problem of speaking English which is covered by the problem that occur in speaking English and some techniques in teaching English like the use of video conference so that the students of CALL class can compare their ability in speaking English with the native speaker. By this case, there is combination between students' pedagogical knowledge with content knowledge that develop the teaching practice of contents to be better.

5. Technological Content Knowledge (TCK)

Technological Content Knowledge (TCK) in this course is covered by some sessions in CALL class such as in session 8 about technology and the teaching of reading: comics authoring and collaborative writing using online in session 9. These two ways cover the students' understanding

of technological content knowledge to create a new representative for specific content in English. In this case, the media which is used is HotPotatoes. In the app of HotPotatoes consists 5 medias to create a new media for teaching specific content in English such as: JCloze, JMix, JMatch , JCross and JQuiz. JCloze, JMix, JMatch, JCross and JQuiz can be used in teaching the four skills in English such as: reading, writing, speaking and listening and other contents of English too like vocabulary that can use JCross as the tool.

6. Technological Pedagogical Knowledge (TPK)

Technological pedagogical knowledge (TPK) in this course is covered in some sessions too such as: session 6 about blog for teaching. This blog is used to change the ways we teach that not worry about the time and distance such as by using Facebook, Twitter, Path, Google+ etc. In the other session also cover the technological pedagogical knowledge (TPK) like in session 14 where in this session uses electronic mailing list (E-Mail List) that can be used for discussion such as sending and receiving email, invite people to join email list, online forum (Message Board) such as ELT Community, one stop English discussion, EFL and VOXoPOP (A voice based discussion board), Social media such as WA, Facebook, Instagram and Open Online Course.

7. Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPACK) in this course has already been covered by the activities in some sessions during this semester. By the learning activity in CALL class the researcher found that all aspects of Technological Pedagogical Content Knowledge (TPACK) has been taught. So that, the three basic components (content, pedagogy and technology) are covered well in this semester. So

that, the 7 aspects of TPACK become one unity and it is well-achieved by students of CALL class.

2. Students' Mastery of Technological Pedagogical Content

Knowledge

The aim of this part is used to answer the second research question which is about students' mastery of Technological Pedagogical Content Knowledge (TPACK) by using questionnaire.

The researcher then divided the result of the questionnaire based on the aspects of TPACK which has 7 aspects which is mentioned below:

1. Technological Knowledge

The result of students' level of Technological Knowledge (TK) which consist of 10 respondents as source of data from the questionnaire showed that 77,3% said that they can learned well and master this aspect of technological knowledge (TK). From this 77,3% can be categorized that their level in understanding technological knowledge (TK) is "Good".

2. Pedagogical Knowledge

Students' pedagogical knowledge (PK) based on the data shows that all the 10 respondents get a percentage of 81,7%. It means that students' level related to pedagogical knowledge (PK) is "Excellent".

3. Content Knowledge

From the 10 students' ability related to content knowledge (CK) mastery in CALL class showed that 79,5% students of CALL class have mastered the ability of content knowledge (CK). So, it could be classified that students' level related to content knowledge (CK) is "Good".

4. Pedagogical Content Knowledge

Students' Pedagogical Content Knowledge (PCK) mastery in CALL class can be classified in "Excellent" level. The data shows that the percentage of the 10 students shows 83%. So that, students' mastery of Pedagogical Content Knowledge (PCK) is "Excellent".

5. Technological Content Knowledge

Students' mastery of technological content knowledge (TCK) in CALL class is in the 87%. It showed that students are in the level of "Excellent" in mastering technological content knowledge (TCK).

6. Technological Pedagogical Knowledge

Based on the data taken from 10 students of CALL class shows that 10 students got percentages of 77,5%. It means that students' level of Technological Pedagogical Knowledge (TPK) is in the level of "Good".

7. Technological Pedagogical Content Knowledge.

Based on the data taken from 10 students of CALL class shows that students' percentages in mastering technological pedagogical content knowledge is 83,5%. So, it can be classified that students' mastery of technological pedagogical content knowledge (TPACK) is in the level of "Excellent".

B. Discussion

In case of having similar understanding between the readers and the researcher related to research findings, this section reviews those findings by presenting on some theories associated to each following problem. Then, the discussion is classified based on the research of the study

1. The Observation of Learning Process of CALL Class

As stated in the background, Schoology is an online learning which manage classroom and social networking to improve learning through better communication, collaboration and to increase access to curriculum and supplemental content. In CALL Class, the learning process used varieties ways in developing students' TPACK. There are 14 sessions in one semester and each session has difference discussions related to the seven aspects of TPACK to develop.

In this study, the researcher categorized some aspects which is taught in each session in developing students' TPACK based on the learning process which is discussed below:

1. Technological Knowledge (TK)

Based on the research finding, the students' ways in developing their technological knowledge (TK) by many ways such as: use Animaker. The use of Animaker in developing students' technological knowledge is very effective. This Animaker can be used by students to do video presentation, create recount text and others in the real teaching in the future. To know the ways to use Animaker, students can access it on www.animaker.com on search engine which is explained in session 4 of (CALL and its development history). Students of CALL class can access it on Google, Yahoo!, Bing and other search engines. Students of CALL class. After mastering those all, students of CALL class are expected to know about "online resources for EFL" in the session 5. These three sessions correlate each other which really develop students' technological knowledge (TK) competence which is proved by the media of animation created by the students on Schoology. The content of each animation is based on the material that the students want to create. So that, it is very effective to support students to apply technology into education. But, operating technology such as Animaker is not as

easy as we think, that is why students of CALL class learn it by watching tutorial on YouTube. By these all activities, students of CALL class try to develop their technological knowledge (TK) effectively. Many functions of mastering technology that students of CALL class get such as: increase the awareness of virtual instructional media and assist them to design, an ability to recruit component instructional technology specialist and designer.³⁵

2. Content Knowledge (CK)

The learning activity based on findings in developing students' content knowledge are in session 7 (Teaching Integrated Language Skills: A Webquest Activity) and in session 9 (Teaching Writing Using Online Collaborative Tool). In these sessions, students try to know about the 4 skills in English (speaking, writing, listening and reading) by using WebQuest, integrated skill in the ESL/EFL classroom integrated skill for teaching a foreign language. Here, the researcher found that the students of CALL class should know about what is writing and what people usually write for. In this case, writing is an example to know about content of English which focus on two main discussion such as: belief about teaching writing and how to effectively teach English writing and how to teach reading, speaking and listening. They should learn the necessary condition for that that to learn effectively and reach the desired outcome by understanding those four soft skills.

3. Pedagogical Knowledge (PK)

The learning activity in developing students' pedagogical knowledge (PK) is by many was such as: making timeline, the ways to teach writing and speaking, listening and how to make a lesson plan.

³⁵ Ali Sharaf Al Mushawi, "Redefining Technology Role in Education". *Instructional and Learning Technologist Department, Al-Khodh, Oman. Vol. 2 No. 2, 2011, 1334*

Pedagogical knowledge (PK) is an ability which must be had by every single teacher to be able to teach well. The use of timeline for teaching really help the teacher in teaching practice such as in transferring the material that will be taught. So that, the teaching-learning activity can run well.³⁶ After that, students of CALL class also encouraged to know about teaching four English soft skills (reading, speaking, writing and listening), how to make a lesson plan and how to manage class well. In classroom management, there are some aspects which should be exist such as: seating plans, what in the best interests of the pupils is, tidy classrooms, attractive. eg 6 displays per year, key point: what the students are doing. All these components should be covered because preparation is far more important than marking, but regular marking is easy to do and will help the teaching and the control of that.³⁷ By this case, teaching English is not easy, the teacher or the preservice teacher like students of CALL class should have a good pedagogical knowledge (PK). The use of having a good pedagogical knowledge is to give the teaching method well including making lesson plan, class management, knowing the characters of the students, assessing and other elements.³⁸

4. Pedagogical Content Knowledge (PCK)

The researcher found that the activity in developing students' pedagogical knowledge (PCK) in this course by the activity of how to teach speaking by using video conference. There are three methods in

³⁶ Martin Roberts, *History for Secondary Level Teacher's Guide for Book 1*. Oxford: Oxford University Press 1987.

³⁷ "The Role of The Teacher and Classroom Management" (www.scientificlanguage.com/esp/classroom-management.pdf, accessed on August 2, 2018)

³⁸ Jeremy Harmer, *The Practice of English Language Teaching*: Longman Third Edition and Updated, 114.

teaching speaking such as how to do oral production in the second language classroom, overcoming classroom problem and useful techniques in teaching speaking. The technique of teaching speaking can be done by a video conference. The use of video conference here is to know whether the speaking ability is good or not, and the other function of using video conference is to speak directly to the native speaker which is done by the students of CALL class. There are two function that can be achieved through this activity such as: first reception, the ability to comprehend the message that is spoken, second expression, the ability to convey the personal meaning, to express themselves.³⁹

5. Technological Content Knowledge (TCK)

The researcher found the developing of students' Technological Content Knowledge (TCK) in this course is done by such as the use of technology in facilitating the specific content of English by using specific technology. The technology which is used in this case is HotPotatoes. This HotPotatoes tool is used to facilitate the contents of English such as the four skills (speaking, reading, listening, writing) and other contents. By developing students technological content knowledge (TCK), students of CALL class can create a media by using technology like HotPotatoes in teaching reading, speaking, writing and listening. This HotPotatoes helps students of CALL class to create digital media for specific content to teach such as: reading that can use JCloze, JMix for teaching structure in English and vocabulary by using JCross. As we know that the use of technology for teaching can be as design to support teaching-learning

³⁹ Izmir, Doctoral Dissertation "*The Effective Techniques in Teaching Speaking*". Dokuz: Dokuz Eylul University, 2006.

by creating certain media to support certain content of English.⁴⁰

6. Technological Pedagogical Knowledge (TPK)

The learning activity based on 14 sessions in CALL class in developing students' technological pedagogical knowledge (TPK) that the researcher found are by using Blog which is divided into two kinds. First is a Blog and Mini Blog such as: Facebook, Twitter, Path, Google+ and the use of electronic mailing list (E-Mail List) that can be used for discussion such as sending and receiving email, invite people to join email list, online forum (Message Board) such as ELT Community, one stop English discussion, EFL and VOXoPOP (A voice based discussion board). By these activities, the ability of students' technological pedagogical knowledge (TPK) can be better. There some functions that can be received by these activities such as: facilitating and inspiring students learning and creativity, designing and developing digital age learning experience and assessment, modelling digital age work and learning, promoting and modelling digital citizenship and responsibility.⁴¹ So that, a technology can be used in teaching-learning practice and the use of technology can change the teacher' ways or methodology in teaching-learning activity.

7. Technological Pedagogical Content Knowledge (TPACK)

It is the last discussion of the aspects of Technological Pedagogical Content Knowledge (TPCK). By observing each session of the learning process of CALL class, the discussion for all the

⁴⁰ Kurniawan Sabar, "The Use of Web (E-Learning) In Learning Process in Briton International English School of Makassar". Vol. 1 No. 2, October 2011

⁴¹ Barbara Martin, "Successfulness Implementation of TPACK in Teacher Preparation Programs". *International Journal on Integrating Technology in Education (LITE)*. Vol. 4 No. 1, March 2015. 17

aspects or contents in Technological Pedagogical Content Knowledge (TPACK) has been learned during this semester. But, the researcher found that the teaching activity in CALL class did not focus to one aspect of TPACK in one session. For example, one session can consist of one and more different focus in the seven aspects of the Technological Pedagogical Content Knowledge (TPACK) itself which is done randomly. So that, some students of CALL class little bit get difficulty to understand one or more material in one session because the students of CALL class can be categorized as students who have different intelligence and the factors of this can be from the language level, background knowledge (language knowledge, world knowledge), learning style (visual, auditory, kinesthetic, tactile), dominant intelligence, motivation, interest, gender, previous learning experience and personality (confident, shy, introvert, extravert) etc.⁴² But, all the learning process in CALL class can be mastered by students.

2. Students' Mastery of Technological Pedagogical Content

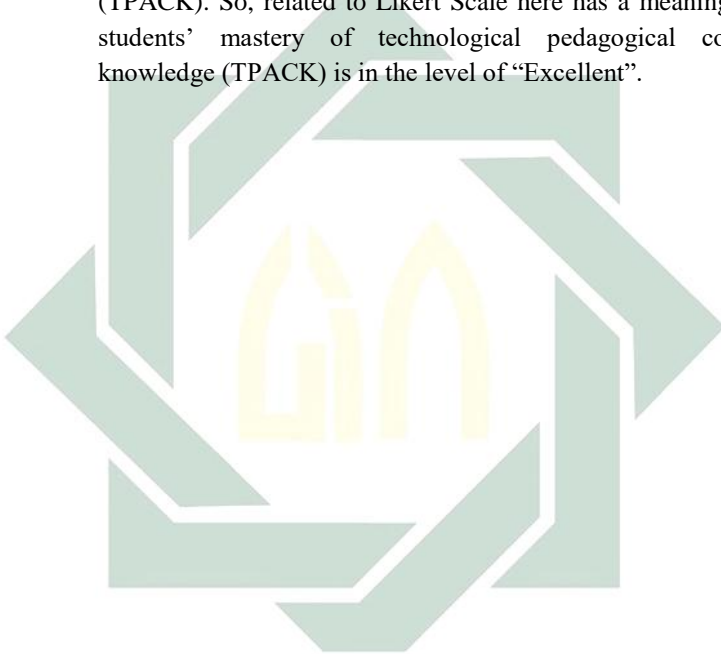
Knowledge

For the second research question, the researcher found that students' mastery of technological pedagogical content knowledge (TPACK) according to students' perception in filling the questionnaire related to the seven aspects of technological pedagogical content knowledge (TPACK) that must be mastered by the students in CALL class. The result of the seven aspects showed different result from the students in mastering those seven aspects.

From the data taken from the questionnaire. Students' mastery of technological pedagogical content knowledge (TPACK) which is divided into 7 aspects shows a positive result. It can be seen by the percentages taken from the

⁴² Salli Copur. "Coping with the Problem of Mixed Ability Class". *The internet TESL Journal*, 2005. 8

questionnaire using Likert Scale. It showed that 10 respondents who are taken randomly get score of 77, % for technological knowledge (TK), 79,5% for content knowledge (CK), 81,7% for pedagogical knowledge (PK), 83% for pedagogical content knowledge (PCK), 87% for technological content knowledge (TCK), 77,5% for technological pedagogical knowledge (TPK) and 83,5% for technological pedagogical content knowledge (TPACK). So, related to Likert Scale here has a meaning that students' mastery of technological pedagogical content knowledge (TPACK) is in the level of "Excellent".



CHAPTER V CONCLUSION AND SUGGESTION

In this chapter, the conclusion of this research regarding with the analysis of the learning process of CALL class and students' mastery of technological pedagogical content knowledge (TPACK) and the suggestion of the researcher are presented as follows:

A. Conclusion

Based on the research findings which were presented in the previous chapter, there are several points that can be concluded as the following description:

1. In case of the learning process of CALL class as a class where the students of English teacher education department of Islamic state university of UIN Sunan Ampel Surabaya can develop their technological pedagogical content knowledge (TPACK) that consist of seven aspects (technological knowledge, content knowledge, pedagogical knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge, and technological pedagogical content knowledge). The researcher concluded that CALL class used face to face learning in class of CALL class and use Schoology as a media or learning method to do online learning activity. The course outline which is provided by the lecturer of CALL class consist of 14 sessions and uploaded in Schoology. Each session has his own focus in developing students technological pedagogical content knowledge (TPACK) related to the seven aspects of technological pedagogical content knowledge (TPACK). In one session can consist of one or more discussion that develop students' technological pedagogical content knowledge (TPACK) which is related to the seven aspects of the. The result of the successfulness of the learning process in developing students' technological pedagogical content knowledge (TPACK) can be used in the

real teaching practice by the students of CALL class in the future.

2. Students' mastery of Technological Pedagogical Content Knowledge (TPACK) showed a positive result for the students. It is showed by the result of the percentage that students of CALL class that commonly get high score

B. Suggestion

Based on the result of the research, the researcher would like to give the following suggestions:

1. For students

Based on the finding above, the learning process of CALL Class in developing students' technological pedagogical content knowledge (TPACK) can be categorized as good. It is showed by the seven aspects of TPACK (technological knowledge, pedagogical knowledge, content knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge and technological pedagogical content knowledge) which is covered well by the teaching-learning activity in CALL class although students of CALL class get difficulty in any aspect and students' mastery of technological pedagogical content knowledge (TPACK) is categorized in the level of "excellent". By conducting this study, students are expected to try more in developing their technological pedagogical content knowledge (TPACK) in every aspect of technological pedagogical content knowledge (TPACK).

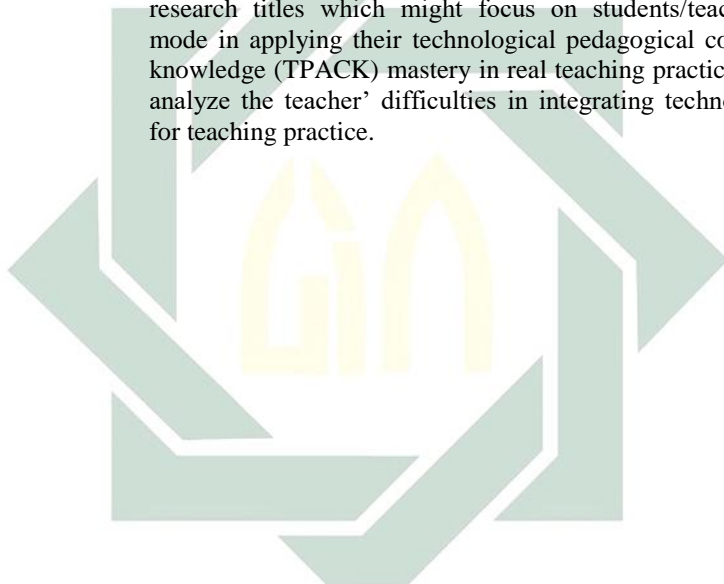
2. For some readers for this research

The development of technology which influences educational world really give a positive impact. An educator now not only expected to have a good pedagogy but also expected to have understood of technology to support the teaching-learning practice. That is why it will

be much better for us as a teacher or educator or even as a candidate for a teacher to have both these competencies.

3. For future researchers

Based on the result of this research, the researcher hopes that the future researchers can have different discussion which is also very interesting to research about. The result of this research is about the whole learning process of CALL class in developing students' TPACK and followed by analyzing students' mastery toward TPACK. So, the future researchers can make related research titles which might focus on students/teachers' mode in applying their technological pedagogical content knowledge (TPACK) mastery in real teaching practice and analyze the teacher' difficulties in integrating technology for teaching practice.



REFERENCES

- , An Overview of Quantitative and Qualitative Data Collection Methods (<https://www.nsf/pubs/2002/nsf02057/> 4) accessed on July 3, 2017.
- Arikunto, Suharismi. *Prosedur Penelitian Suatu Pendekatan Praktek*. Jakarta: PT. Rineka Cipta, 2004.
- Ary, Donald, Lucy C. Jacobs, and Chris Sorensen, *Introduction to Research in Education*. Belmont, CA: Wadsworth, 2009.
- Baskaran, “ESL Teachers’ Perception of CALL Integration in ELT”. *International Journal on Studies in English Language and Literature*. Vol. 3, Issue 5, 2015.
- Biswas, S “Schoology-Supported Classroom Management: A Curriculum Review”. *Northwest Journal of Teacher Education*. Vol. 11, No 2, Fall 2013
- Chai, “A review of Technological Pedagogical Content Knowledge”. *Educational Technology & Society*. Vol. 2 No. 16, 2013.
- Creemers, Kyriakides, “Teaching and Learning International Survey”. *Centre of Educational Research and Innovation*, 2012.
- David Scott, Shane Beadle, “Improving the Effectiveness of Language Learning”. *CLIL and Computer Assisted Language Learning*. ICF International, June 25, 2014.
- Densombe, Martun, *The Good Research Guide: Fourth Edition*, New York: Open University Press 2010.
- Harmer Jeremy, *The Practice of English Language Teaching*: Longman Third Edition and Updated.
- Intan, Thesis: “Students difficulty in designing digital media”. Surabaya: State Islamic University Sunan Ampel Surabaya, 2016.

- Izmir, Doctoral Dissertation *"The Effective Techniques in Teaching Speaking"*. Dokuz: Dokuz Eylul University, 2006.
- Jeong, Bae Son, *Computer-Assisted Language Learning: Learners, Teachers and Tools*, Cambridge: Cambridge Scholars Publishing, 2014.
- Kean Wah Lee – Shi Ing – Choon Keong Tan, Thesis: "Developing Malaysian ESL Teachers' Technological Pedagogical Content Knowledge with Digital Materials". Sabah: University of Sabah Malaysia, 2003.
- Ken Beatty, 2011 *Teaching and Researching Computer-Assisted Language Learning*, Second Edition. Edinburg: Pearson Education.
- Koehler, Mishra, *"What is Technological Pedagogical Content Knowledge?"*. Contemporary Issues in Technology and Teacher Education, 2009.
- Lee, K. (2000). "English Teachers' Barriers to The Use of Computer-Assisted Language Learning". *The Internet TESL Journal*. Vol. VI. No. 12, 2000. 8
- Margaret, Thesis: "Teaching Knowledge for Teaching with Technology". Oregon: Oregon State University, 2005.
- Martin, Barbara 2015, "Successfulness Implementation of TPACK in Teacher Preparation Programs". *International Journal on Integrating Technology in Education (LITE)*. Vol. 4 No. 1, March 2015. 17
- Mathiew J – Koehler – Punya Mishra – William Cain, "What is Technological Pedagogical Content-Knowledge?". (<https://www.bu.edu/journalofeducation/files/2014/02/BUJoE.193.3.Koehleretal.pdf>, accessed on October 15, 2017)

- Meidasari, Venny Eka: "Teaching English through New Digital Media". Jakarta: University of Indraprasta PGRI and a postgraduate student in State University of Jakarta, 2012.
- Michael Fulan – Maria Langworthy, *How New Pedagogies Find Deep Learning* Pearson: 2014.
- Psych - Ed "Definition of Computer Assisted Language Learning", (<https://msu.edu/~akcaoglu/rdp.history.html>, accessed on July 12, 2017).
- Roberts, Martin. *History for Secondary Level Teacher's Guide for Book 1*. Oxford: Oxford University Press 1987.
- Ronau – Robert N, "Educational Technology, Teacher Knowledge, and Classroom Impact". Washington DC, 2010.
- Son - Jeong Bae, Thesis, "Computer-Assisted Language Learning: Learners, Teachers and Tools". Malaysia: University of Sabah Malaysia, 2013.
- Sonia G, "Teacher's Pedagogy Knowledge and The Teaching Profession". Background Report and Project Objectives. 2012.
- Students Difficulty in Designing Digital Media (2016) (State Islamic Islamic University Sunan Ampel Surabaya), 6.
- Supripto, "*Penggunaan Teknologi Informasi dan Komunikasi dalam Dunia Pendidikan*". Citizen Journalism dan Keterbukaan Informasi Publik untuk Semua, 2013.
- Talis, "Teaching Practice and Pedagogical Innovation". OECD, 2012.
- Windeatt Scott, Thesis: "*Low-Achieving Language Learners in Self-Directed Multimedia Environments: Transforming Understanding*". UK: University of Newcastle, 2014.