

Curriculum and Technology Design: A Course to Explore Technology Applications in EFL Curriculum Design

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Teaching and technology pedagogy should be mastered by a teacher in this digital era. It is an inevitable fact that teachers should realize. To be in line with technology development, teachers are expected to bring any technology-based applications to the classroom. Many education institutions from Kindergarten to Higher Education around the world equip their teachers with technology-based training. In particular, Technology Enhanced Language Learning (TELL) has been mushrooming in English Language Teaching trends. To comply with this demand, Technological Pedagogical and Content Knowledge (TPACK) framework has been developed by Koehler & Mishra (2006) to equip student teachers in English Department. Therefore, Technology and Curriculum Design course is designed to tailor Pre-Service English Teachers how to integrate technology in EFL curriculum design. By having blended learning activities, teaching and learning activities are conducted to explore technology applications to design an EFL curriculum. Any class projects are technology-based assignments such as infographic, poster, mind map, questionnaire, presentation, etc. using CANVA, Google applications, presentation applications, lesson plan application (LessonWRITER), quiz application (Quizlet), and interactive book applications (AnyFlip, Flipping Book, FlipSnack), etc.

Keywords: curriculum, EFL, technology

Pedagogi pengajaran dan teknologi harus dikuasai oleh seorang pengajar di era digital. Pengajar sebaiknya menyadari fakta yang tak terelakkan ini. Agar sejalan dengan perkembangan teknologi, para pengajar diharapkan untuk menerapkan beragam aplikasi berbasis teknologi di kelas. Banyak institusi pendidikan dasar sampai dengan pendidikan tinggi di seluruh dunia mempersiapkan para pengajar dengan berbagai pelatihan berbasis teknologi. Khususnya, teknologi untuk meningkatkan pembelajaran bahasa yang telah menjamur dalam tren pengajaran bahasa Inggris. Untuk menjawab tuntutan ini, kerangka TPACK telah dikembangkan oleh Koehler & Mishra (2006) untuk mempersiapkan calon pengajar di berbagai Program Studi Bahasa Inggris. Oleh karena itu, Mata Kuliah Technology and Curriculum Design dirancang secara khusus bagi calon pengajar bahasa Inggris untuk mengintegrasikan teknologi dalam merancang kurikulum bahasa Inggris sebagai bahasa asing. Dengan menerapkan pembelajaran Blended Learning, kegiatan belajar mengajar dilakukan dengan mengeksplorasi aplikasi teknologi untuk merancang kurikulum bahasa Inggris sebagai bahasa asing. Beragam tugas berbasis teknologi seperti membuat poster, info grafik, mind map, kuis, presentasi, rencana pembelajaran, kuis, aplikasi pembuatan e-book, dan lain-lain menggunakan aplikasi CANVA, Google, Powtoon, Prezi, LessonWRITER, Quizlet, AnyFlip, Flipping Book, FlipSnack, dan lain-lain.

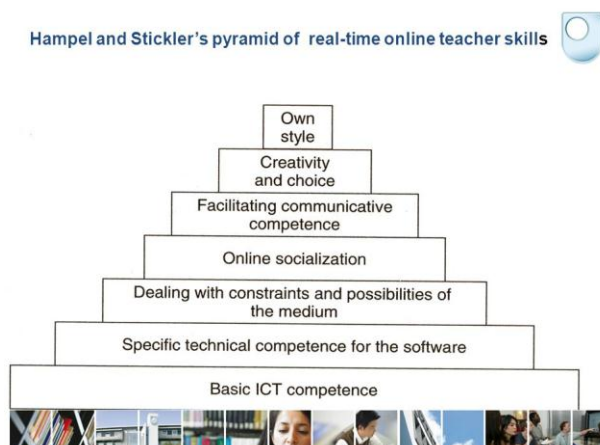
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INTRODUCTION

Teaching English in the digital era is challenging as we deal with the technology development. In dealing with Y and Z generations who are digital natives, teachers are expected to be more technologically savvy as the incorporation of technology in the teaching and learning process is a prerequisite for supporting the digital natives. The classroom needs to provide an environment and atmosphere that will allow students to create and construct their knowledge, share and collaborate with their peers who are not only from their in-class group but also from around the world (Warschauer, 2003, cited in Machmud, 2011). To be in line with this demand, teachers endeavor to bring technology to the classroom and get many benefits from it. Some recent studies highlight the importance of technology as it can enhance learning in the form of modeling, coaching, and scaffolding, thus facilitating learners in actively formulating their own personal learning experience (Jonassen, 1999, cited in Mith, Smith, & Craig, 2013).

In EFL/ESL teaching context, some courses are tailored to meet students' needs as well as market needs, particularly, to equip student teachers with adequate technology literacy. Notably, there is an urgent need to train teachers and future teachers to incorporate new technologies into the language curriculum (Tabari, 2014). Language curriculum design is expected to be planned strategically enhance learning. A curriculum designer should determine the necessary outcomes, work backward to find instructional designs that allow students to achieve those outcomes (Al-Mahrooqi & Troudi, 2014). In addition, the use of technology design based on affordances is to support the overall instructional design and help achieve outcome goals (Colpaert, 2010, 2012; Dörnyei, 2014, cited in Marek, 2014). Yet, teachers' attitudes towards technology use in the language classroom play an essential role in the technology integration in the curriculum and of its success (Albirini, 2006; Al-Senaidi, Lin, & Poirot, 2009, cited in Al-Mahrooqi & Troudi, 2014). This reiterates the role of teacher as the most important ingredient for success when using and integrating technology (Mandell, Sorge, & Russell, 2002, cited in Prihatin, 2012). Therefore, to succeed in integrating technology in the classroom, teachers should embrace seven skills as suggested by Hampel & Stickler (2005) including basic ICT competence, specific technical competence for the software, dealing with constraints and possibilities of the medium, online socialization, facilitating communicative competence, creativity and choice, and own style (Walker & White, 2013). Hampel & Stickler (2005) point out an influential model of skills which needed by those teaching language online as seen in Figure 1.

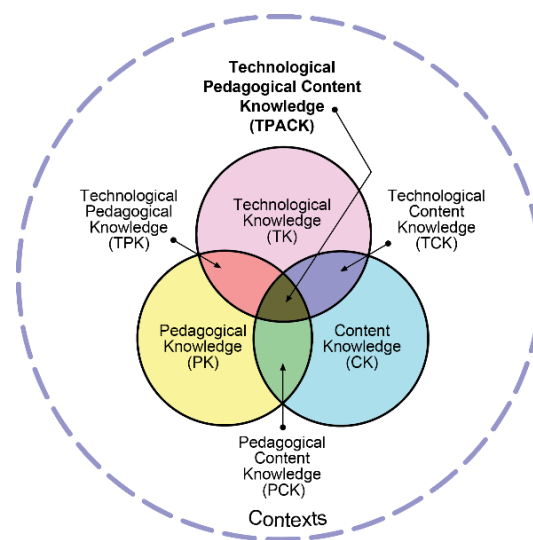
Figure 1: Skills pyramid



In connection with the knowledge of teachers, Technological Pedagogical Content Knowledge (TPACK) framework has been developed to comply with the current needs and equip student teachers. It has been regarded as an important framework to assist teachers understand the connection between technology, pedagogy, and content in relevant educational contexts (Keengwe & Kang, 2013). Koehler & Mishra (2006) developed the TPACK framework by extending Shulman's idea of Pedagogical Content Knowledge. They divided TPACK into seven components. The first component is Content Knowledge (CK) which highlights teachers' knowledge about the subject matter to be learned or taught. This is in line with Shulman (1986), the knowledge includes knowledge of concepts, theories, ideas, organizational frameworks, knowledge of evidence and proof, as well as established practices and approaches toward developing such knowledge. The second is Pedagogical Knowledge (PK) which emphasizes teachers' deep knowledge about the processes and practices or methods of teaching and learning including overall educational purposes, values, and aims. In this extent, teachers are expected to figure out how students learn, general classroom management skills, lesson planning, and student assessment. The third is Technology Knowledge (TK) focuses on knowledge about how to think, and work with technology, tools, and resources. Here, teachers are required to understand information technology extensively, to apply it productively, to recognize the role of information technology in goal achievement, and to adapt to changes in information technology unceasingly. The fourth is Pedagogical Content Knowledge (PCK) which is consistent with and similar to Shulman's idea of knowledge of pedagogy that is applicable to the teaching of specific content. Shulman (1986) assumes PCK is the notion of the alteration of the subject matter for teaching. Particularly, this alteration occurs as the teacher interprets the subject matter differently, adapts, and tailors the instructional materials to alternative conceptions and students' prior knowledge (Shulman, 1986). PCK covers the core business of teaching, learning, curriculum, assessment and reporting, such as the conditions that promote learning and the links among curriculum, assessment, and pedagogy. The fifth component is Technological Content Knowledge (TCK) which is an understanding of the manner in which technology and content influence and constrain one another. Teachers need to master not only the subject matter they teach but also have a comprehensive understanding of the compatibility of particular technologies in

teaching and learning process. The sixth component is Technological Pedagogical Knowledge (TPK) which is an understanding of how particular technologies used in particular ways can change teaching and learning process. The teachers are expected to understand the pedagogical affordances and constraints of a range of technological tools once they are applied to pedagogical designs and strategies. The last component is Technological Pedagogical Content Knowledge (TPACK) which underpins truly meaningful and deeply skilled teaching with technology. Furthermore, Koehler & Mishra (2006) defines Technological Pedagogical Content Knowledge (TPACK) as the basis of effective teaching with technology. It requires an understanding how to use technologies, pedagogical techniques, knowledge of specific concepts, the function of technology, knowledge of students' prior knowledge and theories, and knowledge of how technologies can be used to build on existing knowledge to develop new epistemologies or strengthen old ones.

Figure 2: Technological Pedagogical Content Knowledge (TPACK)



This article further explores how a course named *Curriculum and Technology Design* is designed to equip English Department students concentrating in Teaching English to Speakers of Other Language (TESOL) with technology knowledge and literacy in designing language curriculum. Equipping EFL student teachers with decent preparation or support will anticipate various challenges implementing technology-rich curricula (Velazquez-Torres 2006; Burns and Dimock 2007, cited in Keengwe & Kang, 2013). By implementing various activities, this course accommodates TESOL students' creativity and enhances their thinking skills in EFL curriculum design by integrating various technology-based applications. Besides, this course offers another new insight how to integrate technology into the classroom activities.

WHAT IS CURRICULUM AND TECHNOLOGY DESIGN?

Course Description

Curriculum and Technology Design is a course designed to develop students' ability to understand how technology can be integrated in EFL innovative curriculum designs and to

design a technology-enabled instructional strategy to promote EFL teaching and learning. Particularly, students are equipped to develop EFL curriculum using technology-based applications for being a competent English teacher. At the end of the course, the students are expected to be able to explain and interpret the foundational knowledge, skills, and attitudes needed by professionals in the field of educational technology and instructional design into a project-based context; apply the foundational knowledge, skills, and attitudes in a collaborative project; and do the project in the design and development of instructional materials and training programs in business and industry using technology-based applications.

Topics

The course has six (6) credits and is conducted for fourteen (14) weeks in a semester. The lesson is conducted twice in a week including Face to Face (F3F) meeting and laboratory work. The topics cover the principles of language curriculum design (definition, models, steps, procedures) the theories of technology-enhanced language learning (learning from Computer Assisted Language Learning to Technology Enhanced Language Learning, communication, multimodal literacies, teachers using technology, and Technology Enhanced Language Learning in Listening, Speaking, Reading, Writing, Assessment). The references are taken from related books such as Curriculum Development in Language Teaching (Richards, J, C, 2001), Syllabus Design (Nunan, 1988), Technology Enhanced Language Learning (Walker, A & White, G., 2013), and Network-based Language Teaching: Concepts and Practices (Warschauer, M & Kern, R., 2005). Some journal articles are also reviewed to enrich students' knowledge on the currents trends and practices in language curriculum and technology-enhanced language learning.

Teaching Learning Activities

There are various student-centered teaching learning activities to deepen students' understanding and explore their creativity such as Individual Presentation, Class Discussion, Problem Based Learning, Cooperative Learning, Individual Project, and Conference Participation. The class discussion is conducted to explore book chapters and review journal articles followed by an individual project. A rich discussion and knowledge sharing are accommodated and facilitated by the lecturer. A journal article summary, as a follow-up activity, is then integrated with the implementation of the online application (CANVA). The products of this project are infographics, posters, and mind maps that are submitted through virtual class (learning management system).

Figure 3: Journal article summary using CANVA infographic

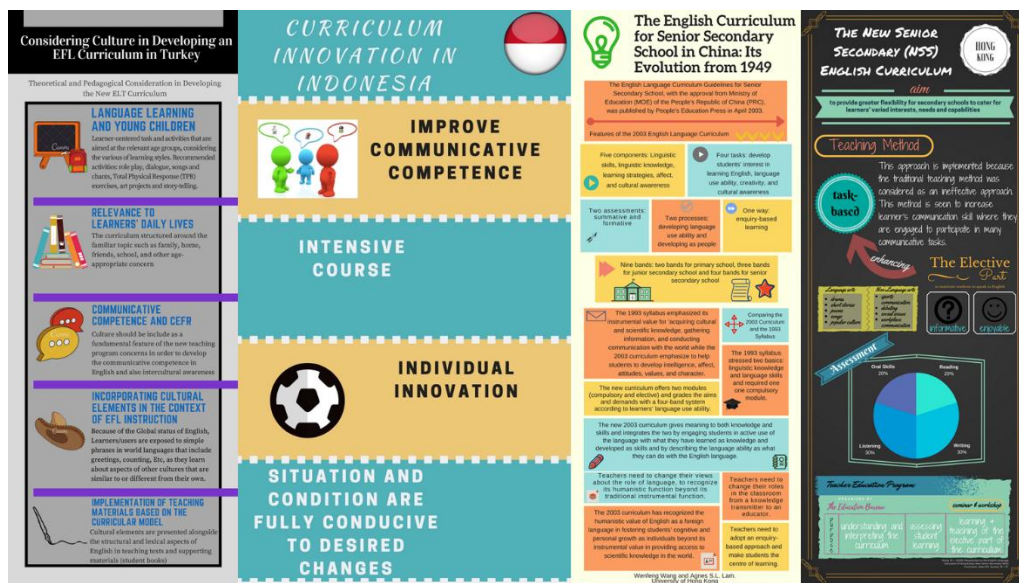
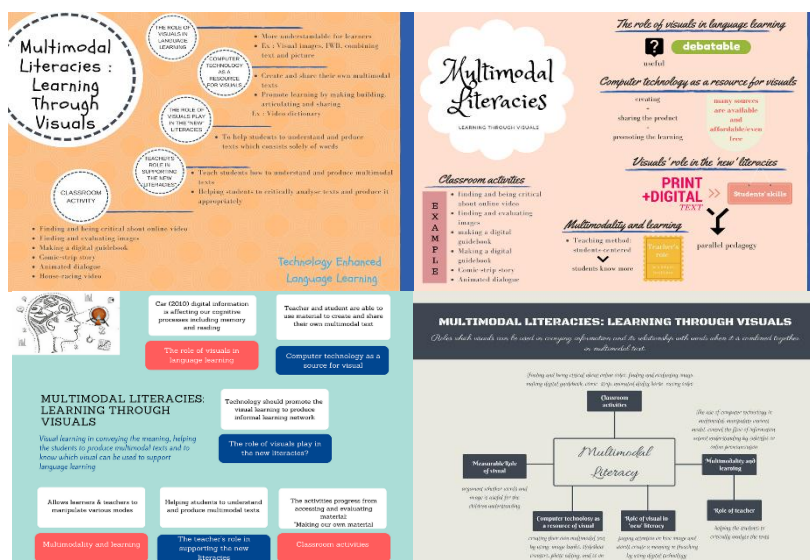


Figure 4: Journal article summary using CANVA poster



Figure 5: Book chapter summary using CANVA mind map



Problem Based Learning and Cooperative Learning are organized to sharpen students' thinking skills by solving a problem or case. In this activity, students are expected to design curriculum collaboratively for an English for Specific Purposes (ESP) Course (English for Tour Guide). The lecturer set two goals: to broaden students' English vocabulary bank and sentence patterns in Tourism and to improve students' oral communicative skills and survival English to function effectively in English-speaking countries when they travel abroad. The students collaboratively do the curriculum design steps such as the environment and needs analysis, principles consideration, content and sequencing, format and material presentation, monitoring and assessment. Then, they deliver their presentation in front of the class. In this stage, an open discussion is conducted to share ideas and thoughts and the students get many benefits from this session. The students used Survey Monkey to conduct needs analysis and Quizlet to make a quiz.

Figure 6: Needs analysis using survey monkey



Besides, this course provides a chance to sharpen students' critical thinking through a critical review of the journal article as their mid-test project. Students are encouraged to find a journal article on EFL curriculum design and technology-enhanced language learning. Then, they are required to review critically the chosen article. The lecturer provides a standardized template and assessment rubric to guide students in doing the critical review of the journal article.

Moreover, a conference participation is suggested to broaden students' knowledge in the area of English Language Teaching, Computer Assisted Language Learning or Technology Enhanced Language Learning. The students get much more benefits from this opportunity as they meet ELT practitioners and experts to keep updated with new trends and best practices.

As a final project, students endeavor to design a curriculum for ESP Course supported by various online applications within seven weeks. As the first step, students are required to make a proposal of ESP Curriculum Design. The lecturer facilitates a regular individual conference to provide feedbacks and insights regarding student's work. To assist students in exploring technology-based applications, various links are shared. To do needs analysis,

some online application references can be used www.surveymonkey.com, www.googleforms.com, www.typeform.com, www.zohosurvey.com, www.surveygizmo.com, and <https://surveyplanet.com/>. To prepare a material presentation, students use some presentation applications such as Microsoft PowerPoint, www.canva.com, and www.prezi.com. The students can explore <http://www.lessonwriter.com/> to prepare material for classroom activities. Various activities learning material and activities can be facilitated by the following applications such as <http://edu.glogster.com/>, <https://learningapps.org/>, <https://popplet.com/>, <http://www.breakingnewsenglish.com/>, <https://lyricstraining.com/>, <http://www.movieclips.com/>, <http://script-o-rama.com/>, and <http://www.tagxedo.com/>. Students can create an interactive book or module by using the following applications such as <https://pressbooks.com/>, www.pubhtml5.com, www.fliphtml5.com, www.anyflip.com, www.flipsnack.com, and www.yumpu.com. Some application such as <https://www.quibblo.com/>, <http://quizstar.4teachers.org/>, <https://kahoot.it/>, <https://quizlet.com/>, and <https://www.classmarker.com/> can be good resources to deal with any assessment tasks such as quizzes and scoring. Finally, to organize and manage the class, students can explore <https://padlet.com/>, <https://www.edmodo.com/>, <https://classroom.google.com/>, <https://www.schoolology.com/>, and <https://moodle.org/>. In this project, students' creativity and thinking skills are explored and enhanced. The final product of this project is an individual presentation of ESP curriculum design and a curriculum package submitted at the end of the semester.

CONCLUSIONS

To be in line with the technology development and to deal with digital native students, a technologically savvy teacher is required. Therefore, some courses should be designed to equip EFL student teachers with adequate technology literacy. In this case, the TPACK framework plays a pivotal role as the basis of effective teaching to design courses for EFL student teachers, particularly in EFL Curriculum Design courses. By integrating various creative and innovative activities through technology-based applications, students' creativity and thinking skills are enhanced.

This article explores an idea of course design for EFL student teachers. However, this course is in progress, therefore, the final product and evaluation results are not available yet. A further research should be considered to investigate potential problems and challenges from the course implementation.

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