DESIGNING TPACK LESSON PLANS FOR PRIMARY ENGLISH CLASSROOMS

Theresia Yunia Setyawan
Program Studi PGSD, FKIP, Universitas Sanata Dharma
Email : shippo_rubah@yahoo.com

ABSTRACT

The integration of technology into teaching has become more and more common in this globalized educational setting. As there are abundance of technologies available worldwide, primary English teachers need to be careful in designing their technology-integrated lessons and, hence, be selective in choosing the type of technologies to be used in their classes. The Technological Pedagogical Content Knowledge (TPACK) model can serve as an advantageous framework for language teachers wishing to incorporate technology into their language lessons. As the process of designing while, at the same time, integrating technology into a language lesson is quite far from simple, this literature study attempts to provide a description of the step-by-step procedure on how primary English teachers can design a technology-integrated lesson plan using the TPACK framework as the model.

ABSTRAK

Pengintegrasian teknologi dalam pembelajaran telah menjadi hal yang sangat umum dalam konteks pendidikan global sekarang ini. Dengan banyaknya jenis teknologi yang tersedia secara luas, guru bahasa Inggris di sekolah dasar harus berhati-hati dalam mendesain pembelajaran bahasa yang mengintegrasikan teknologi dan karenanya juga harus selektif dalam memilih jenis-jenis teknologi yang akan digunakan di dalam kelas. Model *Technological Pedagogical Content Knowledge* (TPACK) merupakan kerangka yang sangat berguna bagi para guru bahasa Inggris di sekolah dasar dalam mengintegrasikan teknologi dalam pembelajaran. Karena proses penyusunan rencana pembelajaran yang sekaligus merupakan proses pengintegrasian teknologi dalam pembelajaran bukan merupakan hal yang sederhana, artikel studi pustaka ini mencoba untuk mendeskripsikan langkah-langkah yang dapat dilakukan oleh para guru bahasa Inggris di sekolah dasar yang berkeinginan mendesain rencana pembelajaran yang mengintegrasikan teknologi dan yang menggunakan kerangka TPACK sebagai model.

INTRODUCTION

In a globalized world where technology has become an integral part of everyday life, more and more people have incorporated the use of technology both in their personal and

professional lives (Pinkley, 2010). While technology has casted a deep impact on society and its every aspect of living, educational institutions are now taking even greater responsibility to prepare students to be productive technologically illiterate members of the society in the future. Murphy, DePasquale, and McNamara (2003) witness that more and more schools have made attempts to incorporate technology into their curriculum with the intention to familiarize their teachers as well as students with the technology as a learning tool.

There is little doubt that technology can serve as a rich learning tool for students, especially children, because of its thrilling qualities. How things can happen simply at the tip of your finger or at the touch of a button or a screen can unquestionably fascinate those young minds eager to learn. Technology can also give children a sense of control, something that is very powerful, especially when you are still a small person in a big world. While this is the case, primary teachers are now positioned to improve their teaching by purposefully leveraging the potential of technology for the benefit of every child in their classrooms.

In line with that, the role of primaryteachers is also changing due to the advancement of technology that continually opens up new possibilities and methods of learning (Johannesen & Eide, 2000). Nowadays, as further put by Roblyer and Doering (2010),teachers at all levels need to consider different knowledge domains they bring to the classroom that will impact the teaching strategies as well as learning activities taking place in class when integrating technology into their classroom.

Shulman (1987) proposes that, traditionally, every teacher needs to equip themselves with adequate content and pedagogical knowledge so that they can better facilitate the teaching and learning processes taking place in class. He further suggests that teachers should not only master the content of the subject area being taught (i.e. the content knowledge) butalso have sufficient knowledge of classroom strategies, application of learning theories, differentiation techniques as well as grading practices(i.e. the pedagogical knowledge). Along

with the development of technology in the field of education, Mishra and Koehler (2006) expandShulman's scheme by adding technological knowledge when it comes to integrating technology into the classroom. Their scheme, known as technological pedagogical content knowledge or TPACK, proposes that the three domains of knowledge, i.e. content, pedagogy, and technology, should work as peers to one another and that teachers should be coheirs of the three types of knowledge domain.

Learning is an indisputably complex process and the integration of technology into the classroom will most likely make it even more complex. While it brings numerous benefits, it also requires teachers to have firm understanding on how to incorporate the three types of knowledge domains in order to facilitate the learning process of their students. In the area of primary English language teaching, this means that teachers not only have to possess knowledge about the language in question but also on how to facilitate students' learning through the application of the known language learning theories with the aid of technology in hands. While complexities will always be part of classroom lives, the TPACK scheme and how it is adopted to match the classroom needs will enable teachers as well as students to get the most of the teaching and learning activities taking place in class. A careful arrangement of content, pedagogy, and technology will hopefully help primary English teachers to manage their technologically literate classroom and in so doing support their 21st century students to critically think as well as to connect, communicate, and collaborate with each other.

TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE (TPACK)

As mentioned previously, the idea of TPACK is not completely new. It bases heavily on Shulman's (1987) idea of pedagogy and content knowledge – the two types of knowledge domains that teachers have to synchronize in their teaching so that teaching as well as learning taking place in class become meaningful processes both for the teachers and the students. By this means, teachers are required not only to know the content of the subjects

being taught but also to have good consideration on how they will deliver the content to their students.

With the vast development of technology in almost any area, the calls for teachers to increasingly integrate the use of technology into classroom practices are inevitable. In the 21st century learning environments, the knowledge of technology becomes as essential as those of content and pedagogy. Twenty-first century teachers are required to possess not only the knowledge of subject matter and what is good for learning but also the knowledge of technology that will complement their classroom practices and, hence, the learning processes of their 21st century students. This is the point where the element of technological knowledge is added and conceptualized by Mishra and Koehler (2006). In this new scheme, Shulman's proposal of pedagogy and content knowledge – PCK – is expanded to include technological knowledge and becomes known as technological pedagogical content knowledge or TPCK. In its later development, TPCK becomes TPACK. As Thompson and Mishra (in Roeblyer & Doering, 2010:50) argue that the insertion of the "A" letter will better represent the interdependence of the three domains of knowledge (T, P, C) and that the TPACK framework will better explain the "Total PACKage" of teacher knowledge.

Apart from the context where TPACK is put into use, there are seven components comprising this new TPACK framework (Figure 1).Schmidt et.al. (2009) and Baran, Chuang, and Thompson (2011) briefly explain these components as follows:

1. Technological knowledge (TK): Technological knowledge is the knowledge about various technologies ranging from the simplest, such as pencil and paper, to more sophisticated ones, such as digital technologies like digital videos, interactive whiteboards as well as the Internet.

2. Content knowledge (CK): Content knowledge refers to the knowledge of the content area or the subject matter having to be taught or learned. This knowledge encompasses all the facts, ideas, concepts, and theories related to the specific content area.
3. Pedagogical knowledge (PK): Pedagogical knowledge refers to the knowledge of various methods and strategies of teaching and learning as well as of its processes taking place in the classroom. This knowledge includes, among others, the knowledge of classroom management, assessment strategies, and lesson plan development.
4. Pedagogical content knowledge (PCK): Pedagogical content knowledge is the knowledge of teaching strategies to effectively deliver or help students learn the specific subject matter in hand. This knowledge varies across content areas and relies heavily on the thorough understanding of the subject matter being taught or learned. Simply put, pedagogical content knowledge is the knowledge of how to teach and help students learn a specific content in multiple ways equally effective for them.
5. Technological content knowledge (TCK): Technological content knowledge can be defined as the knowledge of how various technologies can be manipulated to help students practice and learn concepts in a specific content area in new meaningful ways.
6. Technological pedagogical knowledge (TPK): Technological pedagogical knowledge refers to the understanding of how various technologies can be integrated into teaching as well as of how those technologies can change the way teachers teach for the better.
7. Technological pedagogical content knowledge (TPACK): Technological pedagogical content knowledge encompasses the knowledge teachers should have in order to be able to integrate technology into their teaching in any content area. By having this knowledge, teachers should possess a thorough understanding of the intricate relationship between the three basic domains of knowledge (TK, CK, and PK) and, hence, be able to teach contents using appropriate methods and technologies.

The complex interplay between the seven components explained formerly is depicted in the figure that follows.

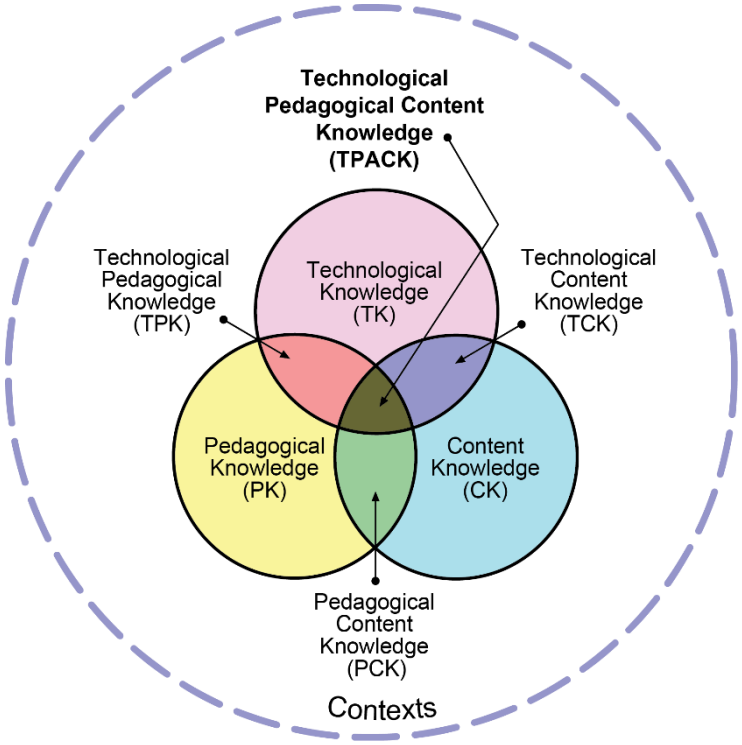

Figure 1. The Technological Pedagogical Content Knowledge Framework (graphic from http://tpack.org)

As the graphic clearly shows, TPACK is the intersection of three domains knowledge naming Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Content Knowledge (TCK) with each of which is derived from the intersection of three basic knowledge components (technology, pedagogy, and content). The figure also implies that the kind of technology employed in class depends heavily on the content of the subject matter and how it is supposed to deliver to students. In consequence, teachers attempting to adopt TPACK concept in their classroom practice should then be aware that the technology they use can change their pedagogical content knowledge as well as the nature of the classroom. As Churchill et al. (2011) argue that, since TPACK is much more than simply adopting technology in classroom practices, teachers should be able to establish effective pedagogy that uses technology and demonstrate how the technology can change the

nature of the content by redressing problems and reconstructing knowledge. In short, teachers implementing the TPACK framework should have good understanding on pedagogical techniques that use technologies in constructive ways to teach content (Mishra and Koehler, 2006). This means that they should know what makes certain concepts difficult or easy to learn and how technology can help resolving problems that students deal with.

To make things even more complicated, however, Doering et.al. (2009) note that teachers should also realize that the learning context has a great significant influence on their own perceptions of the three fundamental knowledge domains. Based on the limited study they conducted on eight teachers from a large Midwestern city, they further argue that factors such as student population, grade level, or technology access, can affect the decisions teachers make concerning the pedagogical and technological areas of their teaching.Taking its context into consideration, then, it is safe to say that the TPACK framework should be able to dynamically represent the knowledge that teachers *use* in the specific context in addition to the overall knowledge that teachers *have* in order to be able to adopt the framework effectively.

TPACK IN PRIMARY ENGLISH TEACHING

The scheme of TPACK in English language teaching (ELT) has a similar design to that of the original TPACK concept. The implementation of this model in class also requires teachers to have knowledge of the content and pedagogy of the English language along with the technological knowledge enhancing the classroom teaching and learning activities. Figure 2 shows the representation of the TPACK scheme in any ELT class.

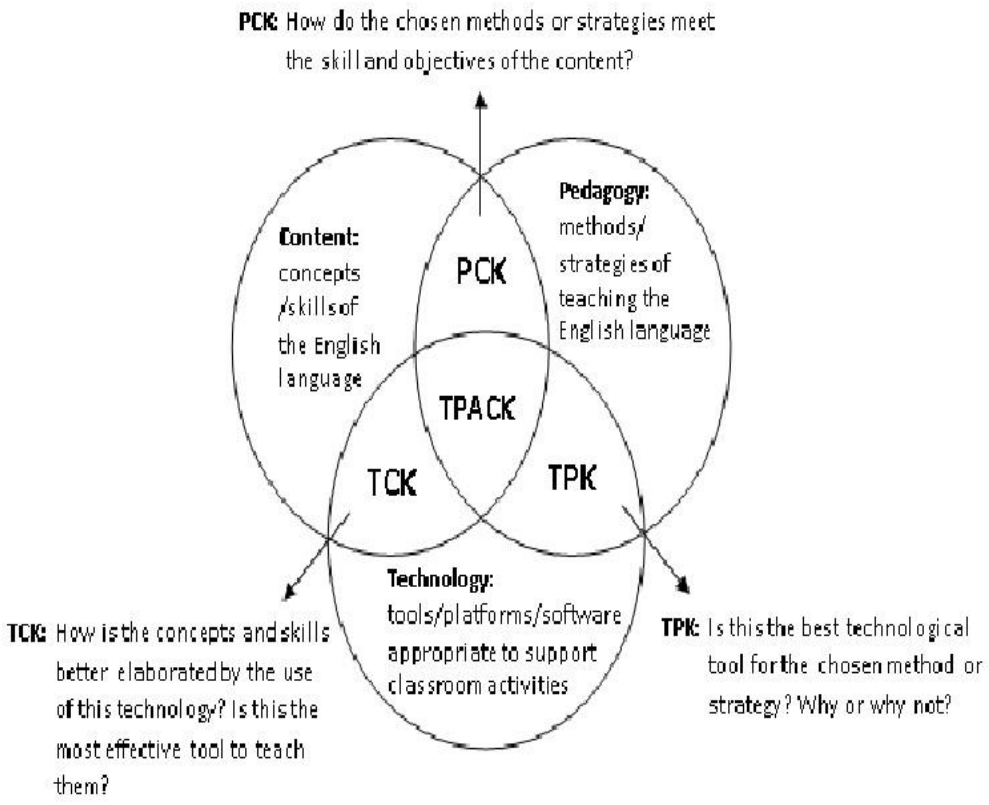

Figure 2. The TPACK Framework in ELT (Adapted from Cary Academy: Summer Technology Institute (2013))

As illustrated by the figure above, English teachers attempting to adopt the TPACK design in their classroom practices need to not only master the concepts, i.e. the rules of grammar and discourses, and be proficient in the four skills of the language they intend to teach but also be able to decide on what appropriate method or strategy they will use to teach the concepts and skills and, thereby, help their students meet the objectives of the language learning. They assuredly need to have good considerations on whether certain methods or strategies of language teaching will support, or otherwise hinder, the learning processes of the students (PCK). Having made a decision on what method and strategy will enhance the learning experiences of their students, English teachers are still required to make another decision on what technological tool will best encourage the understanding of the concepts and practices of the skills (TCK) as well as complement the chosen teaching and learning method or strategy (TPK).

The adoption of TPACK in primary English classroom, however, is not such a simple matter. There is little doubt that primary students still need to learn the concepts and skills of the language even though teachers still need to adjust their amount and difficulty levels. While children need to learn about comprehension, sounds, and literacy, teachers should also be able to make learning fun and enjoyable for them(Queensland Study Authority, 2013). They should be able to decide which method or strategy will be suitable for their young students and how they are going to use the method or strategy in real classroom practices. Last but not least, teachers should decide what kind of technology they will use to facilitate children learning, be it by individual work or by pair or group works. Things such as audiobooks, songs downloaded from iTunes, videos watched or downloaded from YouTube as well as activities like listening to podcasts together in class, talking with friends via Skype, or even playing educational games on PC, laptop or phones are some examples of how teachers can bring technology into classroom practices. If adapted wisely, these activities can both contextualize the learning experience of the children by helping them learn English in its everyday contexts and make learning enjoyable and fun for them.

DEVELOPING TPACK LESSON PLAN FOR PRIMARY ENGLISH CLASSROOMS

Harris and Hofer (2009) suggested that the process of planning a lesson can be described in five basic instructional decisions. These decisions mainly concern with (1) determining the goals of the learning, (2) choosing the most appropriate methods as well as strategies that can be used to enhance students' learning experience, (3) selecting and sequencing what kind of activities that students will engage in during the learning, (4) determining how students can be assessed based on the learning goals and their achievement, and (5) selecting what kind of tools and resources will be used to help students achieve the learning goals.When all the decisions have been orderly taken and finalized, teachers planning

any lesson should already have a clear picture about how to teach certain contents of any subject area as well as about how their lesson may go.

The process of developing a lesson adoptingthe TPACK model is likely to follow the steps described above. Teachers should begin with determining the goals of the lesson, then decide how they will deliver the subject matter to achieve the goals, what kind of learning activities that the students will engage in, how the students' performance will be evaluated, and finally make a choice on what kind of resources and tools, including technology, willgive students better learning experience and, hence, help them better understand the content being delivered. In short and in agreement with what Abbitt (2011) puts, teachers planning to integrate technology into their lessons should have profound understanding of how to use technology in ways that are contextually authentic and pedagogically appropriate. This understandingshould then be articulated in the planning artifacts such as a lesson plan. By this means, it should be clear that a TPACK lesson plan should contain the elements of the TPACK framework (i.e. CK, PK, TK, PCK, TCK, TPK, and TPACK) which are echoedin its components, such as the goals of the lesson, learning activities, assessment strategies, etc.

In the context of elementary education, any teacher planning to design their TPACK lesson should be capable of planning their lesson by following the steps of the instructional decisions described above while being aware of the seven components of the TPACK framework to be portrayed in the lesson. The primary English teachers are without exception. Not only do they have to be able to decide upon the goals and content of the English lesson, but they also have to be able to consider the affordances and constraints of a wide array of available technological resources and tools and, in so doing, choose the most appropriate technology that will heighten the language learning experience of the young students. Thus, in order to be able to make such complex decisions on the instructional process as well as on the

type of technology used in the class, primary English teachers should fully apprehend how to work with the TPACK framework and its components in designing their English lesson.

What follows is a sample procedure on how primary English teachers in an Indonesian educational context can design their English lesson and integrate technology into the lessonwith the help of the TPACK framework. The procedure takes the Indonesian national curriculum (KTSP) as its context and bases heavily on Harris and Hofer's (2009) five basic instructional decisions previously cited above.

A SAMPLE PROCEDURE OF DEVELOPING A TPACK LESSON PLAN FOR PRIMARY ENGLISH LEARNERS

Take, for example, a primary English teacher wishing to teach ordinal and cardinal numbers to his fourth graders. The very first thing that the teacher needs to do in preparing the lesson is determining what the goals of the learning are. Based on the national curriculum, the teacher then set the goals for the learning which are for the students to be able to differentiate ordinal from cardinal numbers and to be able to use both kinds of numbers properly. To make it specific, the teacher limits his teaching only from number one until one hundred for each kind of numbers.

Being able to determine the goals of the learningcan then be considered as one obvious indication that the teacher actually demonstrates understanding of the CK (content knowledge) element of the TPACK lesson he is planning to design. This is so, for without understanding of what English topics or materials he has to teach, he will have difficulties in setting specific goals to be achieved by his students at the end of the English lesson.

The next step that the teacher can do in designing his technology-integrated English lesson is by making any pedagogical decisions necessary and relevant to the learning itself. The eight corresponding continua (see Harris & Hofer, 2009) will help set the specific parameters of the students' learning experience being planned. Based on this continua, then,

the teacher can consider things such as the type of interactions that his students will engage in, the depth of understanding that he expects from certain types of learning experience, the amount of time needed to achieve the depth of understanding he has set earlier, as well as the type of learner configurations required for the learning experience to take place effectively.

Having those pedagogical considerations in mind, the English teacher then makes the following decisions. The fourth graders in his class will learn about cardinal and ordinal numbers by, first, exploring their surrounding and finding things related to both kinds of numbers. The students can look for things like calendars, banknotes, house numbers in addresses, etc. Next, he will have the students tell the differences between the writing forms of the numbers in their contexts of appearance. By doing this, he expects the students will develop understanding on how each kind of numbers is supposed to be used and when. Further, in order to promote the students' understanding on the uses of the two kinds of numbers, the teacher plans to get the students to work in pairs for about thirty minutes in class before doing their individual tasks for about fifteen minutes.

Once the teacher has made pedagogical decisions concerning the lesson, he can start working on choosing the kinds of activities that will comprise the students' learning experience during the lesson. The Sample Activity Types Taxonomy develop by Harris and Hofer (2009) can serve as a very useful guideline during this phase asit lists forty-two activities commonly used in social studies area, including language learning, together with their possible compatible technologies that may be used to support each activity.

By and large, any teacher wishing to adopt the TPACK model into their lesson can choose among the three sets of activity types (i.e. knowledge building, convergent knowledge expression, and divergent knowledge expression) which are grouped into seven tables. Those tables are the table of knowledge building learning activity types (Table 1), the table of convergent knowledge expression activity types (Table 2), the table of written divergent

knowledge expression activity types (Table 3), the table of visual divergent knowledge expression activity types (Table 4), the table of conceptual divergent knowledge expression activity types (Table 5), the table of product-oriented divergent knowledge expression activity types (Table 6), and the table of participatory divergent knowledge expression activity types (Table 7). For the complete archive and explanation on the activities listed in each of the table, see Harris and Hofer's sample activity type taxonomy (2009).

With the assistance of the taxonomy, then, the teacher can select and combine several activities to be included in his English lesson. However, he should realize that the more activities he combines the more varied and engaging the learning that the students will experience. Depending on the depth of understanding he wishes his students to accomplish at the end of the lesson, he can combine several activity types to create a learning experience suitable for his students. In the case of learning about cardinal and ordinal numbers, he can choose activities like researching the writing forms of the numbers from things around them, playing games about cardinal and ordinal numbers as well as completing sentences in pairs, discussing about the difference of the forms in group, and doing quizzes or writing individual sentences containing the two forms of the numbers. By combining these four types of activities, it is expected that the fourth graders learning cardinal and ordinal numbers in English can havewhat Harris and Hofer (2009) label as a class-time efficient, yet longer duration of learning activity.

After choosing and combining several types of activities aimed at facilitating students' learning, the next step that the teacher can do is selecting appropriate assessment strategies to measure his students' progress in achieving the targeted learning goals. These assessment strategies can be done individually, in pairs or even in groups. They can also range from the simplest paper and pencil tests or assignments to oral performances in front of the class. In the case of this discussed English lesson, the teacher can use the result of the assigned individual

writing activity as one way of assessing his students' progress and understanding. Besides, he can also do a kind of quizrequiring the students to fill in the blanks with either cardinal or ordinal numbers, for instance.

The final step of designing the lesson is looking for tools and resources that will enhance students' learning experience and, hence, attain the learning goals. As the teacher wishes to adopt the TPACK framework in his lesson planning, this is the phase when he has to pick up some technologies that will help better his students' understanding of the content, i.e. English cardinal and ordinal numbers. There are plenty of resources about the two kinds of numbers available on the web. The teacher can choose the most appropriate ones and incorporate them during the lesson while still considering the students' level of competence. Online games such as cardinal and ordinal numbers word matching or drag and drop (see Figure 3 and Figure 4) will be great media for the students to learn about the numbers in pairs or individually for they give immediate feedback to them when they make incorrect moves while at the same time also give them opportunities to go over the questions or the game in order to be able to give accurate responds. The followings are the sample pictures of the game interface.

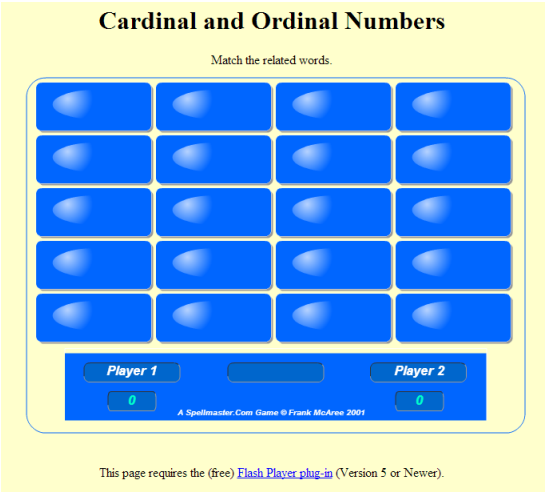

Figure3. Cardinal and Ordinal Numbers Word Matching Game (available at www.manythings.org/wbg/numbers-mw.html)

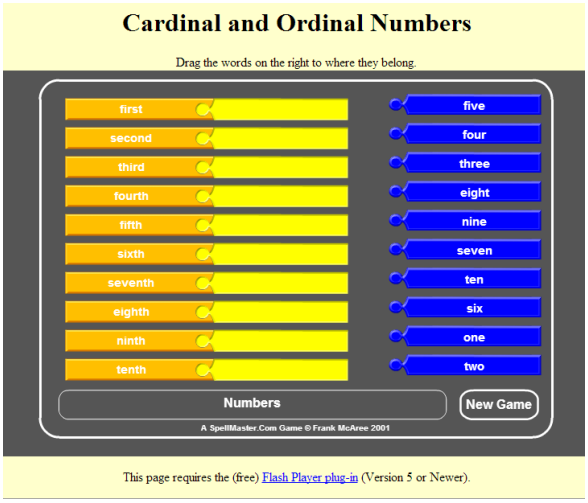

Figure4. Cardinal and Ordinal Numbers Drag and Drop Game (available at www.manythings.org/wbg/numbers-jw.html)

Other than games, the teacher will also use online quizzes to assess his students' understanding on the uses of cardinal and ordinal numbers. Just like the games, such quizzes will give immediate feedback to the students and therefore, let the students go over their learning again to be able to provide acceptable responds. The following is the sample interface of an online quiz about cardinal and ordinal number provided by UsingEnglish.com.

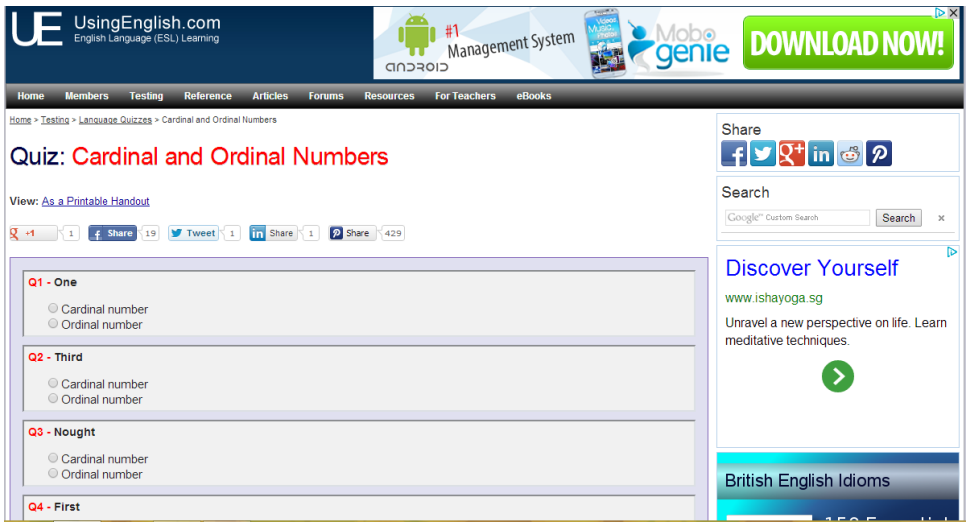

Figure 5. Cardinal and Ordinal Numbers Quiz (accessible at www.usingenglish.com/quizzes/240.html)

It is worth stating that, while technologies serve as great tools in boosting students' learning experience, traditional resources such as worksheets or flash cards are not supposed

to be completely neglected. Teachers can still simultaneously use these kinds of resources with the already chosen technologies. Further, though labelled as traditional, these resources are now available worldwide through the web which makes it easier for teachers to search and choose the most appropriate types of these resources for their students. One great webpage hosting these kinds of resources is www.eslhq.com. This site hosts hundreds of worksheets available for free download for English teachers wishing to teach and help their students learn certain topics of English in class. One good sample of worksheets provided by this site is the following BINGO worksheet about cardinal and ordinal numbers. Just like the cardinal and ordinal numbers word matching game, this BINGO game will make the students learn the forms of the numbers while at the same time practice saying the numbers accurately by having fun mingling with their peers.

Figure 6. Cardinal and Ordinal Numbers BINGO Game Sheet (available for direct printing at www.eslhq.com/worksheets/preview_worksheet.php?worksheet_id=131265)

A SAMPLE TPACK LESSON PLAN FOR PRIMARY ENGLISH CLASSES

Having completed all the five instructional decisions above, the teacher can start writing his lesson plan comprising all the elements he has gathered during the instructional planning

phases. The following is the sample lesson plan created based on Harris and Hofer's (2009) procedure followed by its TPACK element description.

LESSON PLAN

Unit Title : Cardinal and Ordinal Numbers
Subject : English
Grade Level : 4th grade
Semester : 1
Time Allocation : One class meeting (70 minutes)

Competence Standards:
3. Understanding very simple written English in classroom contexts.
4. Spelling and rewriting very simple written English in classroom contexts.

Basic Competences:
3.2 Understanding very simple sentences and written messages.
4.2 Rewriting very simple written English correctly and appropriately.

Indicators:
1. Pointing the difference between cardinal and ordinal numbers.
2. Mentioning cardinal and ordinal numbers from one to one hundred.
3. Using cardinal and ordinal numbers in simple sentences.

Learning Objectives:
1. Students are able to mention the difference between cardinal and ordinal numbers after discussing with their peers.
2. Students are able to mention at least ten cardinal and ordinal numbers ranging from one to one hundred independently.
3. Students are able to produce at least five sentences containing five different cardinal or ordinal numbers independently.

Learning Material:
Cardinal and Ordinal Numbers

Learning Strategies:
Group discussion, pair work, individual assignment.

Learning Activities:
(Note: Prior to the lesson, the teacher may have asked the students to do small research about numbers around them. They may do it while at home or at school.)
1. The teacher asks the students to sit in groups and discuss about what they have found during their research about numbers.
2. The teacher asks representatives of the groups to tell the class about what the groupsthink about their findings during their research about numbers.
3. The teacher guides the students to compare the forms of the numbers they found and find the difference between them.
4. The teacher introduces the terms cardinal and ordinal numbers and explains as well as gives examples on how to write and use them in simple sentences.

5. Students are assigned in pairs and take turns to play cardinal and ordinal numbers drag and drop game and word matching game (Note: depends on the availability of the personal computers as well as the Internet connection, the teacher can assign different pairs to different PCs and play the games as teams). The teacher will walk around to observe and assist any team having difficulty with the games.
6. Students tell the class and the teacher about their result on playing the games, whether there is any difficulty concerning the questions or items of the games or not and the teacher will give feedback and comments about them.
7. The teacher distributes a BINGO worksheet to the students and guide them to play the BINGO game classically.
8. The teacher reviews what the students have learned through the BINGO game and helps them wrap-up their learning experience by asking them to take turns to individually do an online quiz about cardinal and ordinal numbers.
9. While doing so, the teacher assigns the students who have not yet got the turn to do the online quiz to write down five simple sentences containing both cardinal and ordinal numbers and submit them to the teacher as soon as they finish.

Resources and Tools:

1. Cardinal and Ordinal Numbers Word Matching Game (available at www.manythings.org/wbg/numbers-mw.html)
2. Cardinal and Ordinal Numbers Drag and Drop Game (available at www.manythings.org/wbg/numbers-jw.html)
3. Cardinal and Ordinal Numbers BINGO Game Sheet (available for direct printing at www.eslhq.com/worksheets/preview_worksheet.php?worksheet_id=131265)
4. Cardinal and Ordinal Numbers Quiz (assessable at www.usingenglish.com/quizzes/240.html)

Assessment:

The teacher can use the online quiz as well as the five-sentences writing assignment as the tools for assessing students' progress and understanding about cardinal and ordinal numbers.

From the sample lesson plan above, it is clear that the *Content Knowledge* (CK) that the teacher needs to convey is cardinal and ordinal numbers in English, while the *Pedagogy Knowledge* (PK) of the teacher reflects on his decision to assign the students to learn in groups, pairs as well as individually. Further, the *Technology Knowledge* (TK) of the teacher is put to the test when he has to use the Internet to search and download the worksheet used for the BINGO game as well as to make the quiz and online games accessible for the students to play.

The *Pedagogical Content Knowledge* (PCK) element of the lesson is articulated when the teacher assigns the students to work collaboratively, be it in pairs or in groups. Collaborative work is believed to be able to promote interaction between students with

different abilities and skills and help every student to accomplish the tasks in hand within a short time. As a result, every student experiences success and enjoys the hand-on learning.

The *Technological Content Knowledge* (TCK) of the teacher reflects on how he uses games and quizzes that are really built for students learning about the cardinal and ordinal numbers. The online games and quizzes provide direct results for the students and, therefore, offer them immediate feedback that is supposed to encourage them to evaluate their learning and go over the learning materials as well as the games and quizzes so that they can better their achievement scores and deepen their understanding of cardinal and ordinal numbers.

The teacher demonstrates his *Technological Pedagogical Knowledge* (TPK) by using the cardinal and ordinal numbers game and having the students play the games with their pair independently. This way, the content covered in the games will be mastered without unnecessary explanation from the teacher. By working together collaboratively with their peers, each student will have an opportunity to be successful without the interference of individual ability and skills.

In all, the *Technological Pedagogical Content Knowledge* (TPACK) that the teacher possesses is shown when he uses online games and quizzes as his aids and when he has students work together in groups and pairs. This way, the materials essential to learn about cardinal and ordinal numbers will be mastered in no time. Moreover, every student will be able to enjoy hand-on cardinaland ordinal numbers activities and will experience success in achieving the goals of the learning.

LOOKING INTO THE FUTURE

Integrating technology into an English lesson in Indonesian educational context is quite a complex thing. On one hand, the use of technology in the classrooms still requires more trainings on the teachers' part while, on the other hand, English itself is not easy to teach due to its position as a foreign language in the country. Despite the lack of exposure from the

students' native environment, however, English teachers still have to teach English while at the same time have to facilitate students to learn and experience using the language as authentically as possible.

Out of the many guidelines ever mentioned, the TPACK framework can serve as a very handy guideline for any English teacher wishing to integrate technology into their teaching and learning activities. By adopting the framework into their lessons, teachers will have clear guidance on what he should do with the content, pedagogy, and technology of the language learning. This means that teachers are required not only to master the topics they have to teach and the pedagogical knowledge of how to teach the topics but also to be able to choose certain technologies that will enhance students' learning and, therefore, provide them with deeper understanding and meaningful language learning experience.

With the release of the new 2013 Curriculum, however, the teaching of English in the primary levels faces a quitedifficult situation.As the subject is labelled as extracurricular and therefore only given limited portion in the new curriculum, teachers of primary English have only limited portion of face-to-face sessions with their students as well. Yet, they still haveto teach meaningful English to the young students and be creative in finding ways to provide their students with authentic learning experience that will help them enhance their own learning and understanding of the language. By adopting the TPACK framework in integrating technology into language learning, it is expected that both the teachers and the students can benefit most from the language learning and teaching experience taking place in class.

While this article focuses on designing a TPACK lesson plan for primary English classes, the adoption of TPACK in other subjects taught in elementary levels is more than just possible. With the fast advancement in the field of technology as well as in its integration into education, elementary teachers can teach any subject (such as science, math, social studies,

arts, or even physical education) with the aid of technology related to the subjects. The TPACK framework, then, will not only aid teachers in delivering content in new interesting ways but also help students engage in more authentic and meaningful learning experiences to acquire better understanding of the content of the subject area.

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