



Development of an English Language Instructional Model Based on the 21st Century Learning Skills to Enhance ELLs' Learning Achievement

Bhornsawan Inpin*

School of Liberal Arts, Mae Fah Luang University, Chiang Rai, 57100 Thailand

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Abstract

With the rapid changes in the world, many educators attempt to find effective ways to support learners' academic and professional achievement. 21st Century learning skills support and respond to the changes such as to encourage learners' creativity, critical thinking, communication and collaboration. With this in mind, being teachers in the 21st Century learning is not easy and it is necessary to understand the clear picture of 21st Century learning skills. The understanding of ideas for 21st Century skills are recognized as standard of education process because it will affect education practice, for instance, setting classroom management, goals and learners' desirable skills of learners. Teachers who can implement the concept of 21st Century skills conduct the instruction effectively. Accordingly, the instructional model is produced in order to support the teachers in understanding and implementing. The objectives of the study were 1) to develop an English language instructional model based on the 21st Century learning skills to enhance learning achievement and 2) to examine the quality of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement. The research instruments used in the study were semi-structured interview forms and the 21st Century learning skills checklist. The findings of the study revealed that, for the development of the English language instructional model based on the 21st Century learning skills: there were ten components as follows; setting up objectives, analyzing the environment, analyzing the learners' role, analyzing the teacher's role, analyzing and designing content, identifying instructional strategies, developing and selecting instructional materials, designing instructional procedures, evaluating the learning outcome and providing feedback. Regarding the examination of the quality of the English language instructional model based on the 21st Century learning skills, it was found that the consistency of the components of the instructional model was 0.96 which represented that the English language instructional model was consistent with all components. When it was considered in terms of the appropriateness of the components' description, it reached 0.98 which shows that it was appropriate to employ in teaching and learning.

Introduction

The world is changing rapidly and education at all levels plays the most significant factor towards people achieving their goals. That is because education is an activity that can help people to pursue their happiness and prosperity both in their individual life and society. The aim of education is to sustain individual and societal improvement (Turkkahraman, 2012).

With the importance of education, educators and researchers, are continuously seeking methods to help learners gain their academic achievement and pursue their professional goals. Prominently, Thailand's Ministry of Education is an important organization aware of the significance of education and develops the national curriculum to meet the world's changes and challenges.

Additionally, Thailand is challenged to implement Thailand 4.0 era which education is not an education. Sinlarat (2016, as cited in Puncreobutr, 2016) revealed that learning management is a new learning system, allowing learners to grow with knowledge and skills for their whole life, not just to know how to read and write. Furthermore, Baxter (2017) supported that the key to Thailand 4.0's success lies in improving human resources by drastically reforming and improving the education system while creating new, dynamic education system designed to produce specific workers for specific roles; encouraging creativity, innovation, critical thinking, entrepreneurship, sustainability and inclusiveness, ramping up digitalization and automation and putting into place the necessary infrastructure demanded by these advancements.

This makes 21st Century learning skills develop and be widespread in many related fields of education. It is with mastery succeed in college, work and life which should be the outcome of 21st Century education (Partnership for 21st Century Skills, 2008). In order to gain the 21st Century learning skills, it is important to consider the prominent role of teachers in the classroom. To implement the 21st century learning skills teachers are required to become facilitators to encourage their learners to learn and practice. In addition, teachers prepare learners to be equipped with new competencies, think in multiple ways, solve novel problems, learn how to learn, unlearn and even re-learn new concepts, communicate using different modalities and work collaboratively (Tan, Liu, & Low, 2017). However, without the proficiency of teachers to conduct teaching and learning based on the 21st Century learning skills, teaching and learning will not be successful. That is to

say, the teachers face some difficulties to design their teaching and learning, employ varieties of activities for developing learning skills, or even perceive misconception of 21st Century learning skill. With this in mind, it is definitely important to facilitate the teachers applying English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement.

Importance of 21st Century learning skills

Prominently, the role of education is geared to 21st Century learning skills. Learning skills have evolved and are focused on the skills learners need for work, citizenship and self-actualization (Bellanca et al., 2010). In addition, computers now perform most routine, rule-guided tasks and information as well as communications technologies enable extensive interaction among people from many cultures in the global marketplace (Marzano & Heflebower, 2012). Consequently, not only the role of the computer but also the education system should be improved. According to Good (2008), 21st Century learning skills highlighted in informal learning environments, guided by the internet that provides infinite resources and information and without the guidance provided by teachers in formal learning environments. These skills will assist lifelong learners in negotiating the complexities and the many challenges they will encounter in a knowledge society. Covili (2012) noted factors for 21st Century learning skills that are of importance namely communication and collaboration, whereas learners are comfortable with how to share their ideas with one another as well as external partners. In addition, creativity and innovation are relevant factors for allowing new ideas where learners are able to explore their own creativity. Creativity is a tremendous challenge facing many classrooms because of the technology-related activities to facilitate creativity and promote innovation with learners. Critical thinking and problem solving also require new technologies to enhance learners' critical thinking and problem solving skills.

In addition, Hallissy (n.d.) promoted the 21st Century learning environments are predominantly learner-centred, and teachers are attentive to learners' knowledge, skills, attitudes and beliefs. Learners are encouraged to ask questions as well as engage in social discourse and search for their own answers. In such settings the teacher's role changes to that of co-constructor of knowledge, rather than transmitter of content.

English language teaching in the 21st Century learning

With the rapid advancement of technology, it is essential for all teachers, educators and researchers to develop their educational settings in order to respond to the learners' needs and academic achievement. Moreover, it is to accept that learning today is much different from what it was ten or even five years ago (Mercado, 2017). The learners learn from everything that surrounds them and they have many online resources to gain knowledge. This creates a revolution of teaching and learning which is not only in the classroom, but also outside the classroom.

It is important to consider that technology is one of the most important factors to enhance the learners' learning achievement because technology can support the learners' learning. It can facilitate the learners to expand their knowledge everywhere and at any time. In addition, it can help strengthening the teachers' instruction. They can employ technology in their classes no matter the lessons, activities and supplementary documents, and tests.

Technology can enhance teaching and learning especially for 21st Century learning skills which are a prominent concept for education nowadays. Evidently, that is a challenge to transform in ways that will enable learners to acquire the creative thinking, flexible problem solving, collaboration and innovative skills needed to be successful in work and life (Pacific Policy Research Center, 2010). For English language teaching in the 21st Century this is a challenge for both teachers and learners. According to Pearson (n.d.), teachers must build the competence and flexibility needed for success in the 21st Century. While the learners are expected to be creative thinkers and problem solvers who have the skills necessary to function effectively in society and in the workplace (Beers, 2011).

Concepts of 21st Century learning

The Partnership for 21st Century Learning (2016) developed the framework for 21st Century learning to define and illustrate the skills, knowledge, expertise and support systems that learners need to succeed in work, life and citizenship. The three main components are: learning and innovation skills, information media and technology skills, and life and career skills as shown in Figure 1 below.

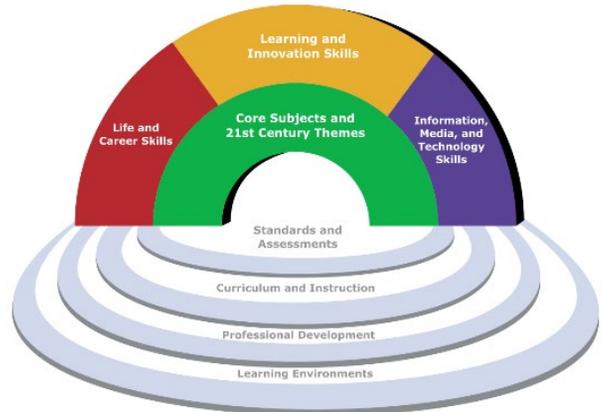


Figure 1 Framework for 21st Century learning

The first component is learning and innovation Skills. These skills separate learners who are prepared for increasingly complex life and work environments in today's world and those who are not. They include: creativity and innovation, critical thinking and problem solving, communication and collaboration. Information, media and technology skills is the second component. Today, learners live among technology and media-driven environment, marked by access to an abundance of information, rapid changes in technology tools and the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers must be able to exhibit a range of functional and critical thinking skills, including information literacy, media literacy and ICT (information, communication and technology) literacy. Lastly, it is life and career skills. Today's learners need to develop thinking skills, content knowledge and social and emotional competencies to navigate complex life and work environments. P21's essential life and career skills include the following: flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability and leadership and responsibility.

Objectives

The two main objectives of the study consisted of:

1. To develop an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement.
2. To examine the quality of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement.

Conceptual framework of an English language instructional model based on the 21st Century learning skills

In order to develop the English language instructional model, four main components: 1) the theoretical concepts of English language teaching and learning in the 21st Century learning; 2) the synthesis of instructional models; 3) the synthesis of basic information obtained from the state and problem of teaching and learning and 4) information from a field trip of authentic circumstances of teaching and learning based on the 21st Century learning were synthesized. Then, the English language instructional model was developed. There were 10 components of the instructional model. The model was examined for the quality by 9 experts who specialize in English language teaching, curriculum and instruction and information technology. The framework is presented in Figure 2 below:

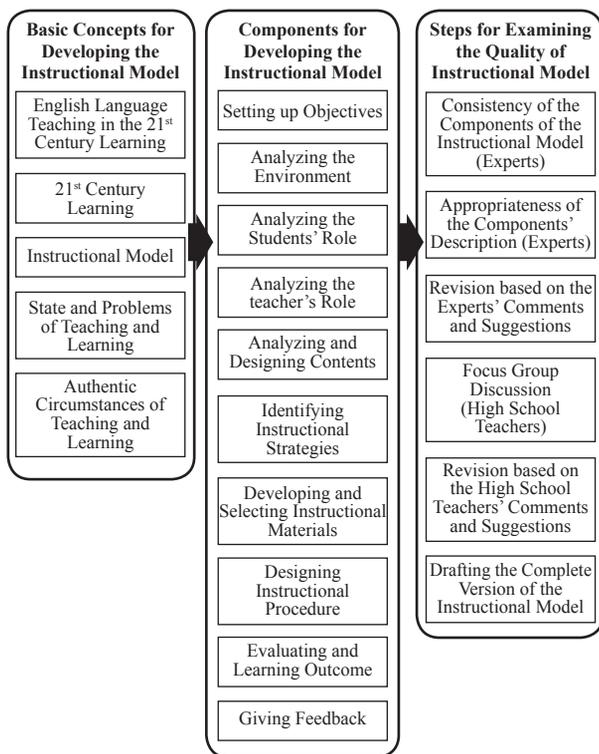


Figure 2 Conceptual framework of an English language instructional model based on the 21st Century learning skills

Research methodology

1. Participants

The participants in this study were 9 high school teachers from 9 high schools in Chiang Rai Province.

Their roles were as co-researchers to brainstorm and collaborate with each other to design the instructional model with the researcher. They were representatives from 3 main school sizes: small, average and large, respectively. In addition, they were selected by purposive sampling based on the school size, their willingness to voluntary to join the research project, teaching responsibility in Chiang Rai context and experience in English teaching for 8-20 years.

2. Research instruments

The two main instruments for this study consisted of semi-structured interview forms and the 21st Century learning skills checklist.

2.1 Semi-structured interview forms

were employed with the purpose of eliciting the information from teacher and learners regarding statements and problems of teaching and learning English language based on the 21st Century learning skills.

2.2 The 21st Century Learning skills checklist

was designed based on three main components which are: life and career skills, learning and innovation skills, and information, media and technology skills (The 12 Partnership for 21st Century Learning, 2016). It was employed after the semi-structured interviews with the purpose of completing the framework for 21st Century learning.

Validity and reliability of the instruments

The instruments used in this study were validated and tested for reliability and are presented below:

The Semi-structured Interviews

The semi-structured interviews for students and teachers were evaluated by three experts specializing in English language. They were asked to evaluate the appropriateness of the interview topics.

The 21st Century learning skills checklist

The 21st Century learning skills checklist was designed based on three main components which are: life and career skills, learning and innovation skills, as well as information, media and technology skills (The Partnership for 21st Century Learning, 2016) was evaluated by three experts specializing in English language regarding the appropriateness and completeness of the checklist.

Results

The development of an English Language Instructional Model based on the 21st Century Learning Skills to Enhance ELLs' Learning Achievement, two findings were found in this study.

Finding 1) The development of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement.

The researcher collected data from three main parts: 1) the theoretical concepts of English language teaching and learning in the 21st Century learning, 2) the synthesis of instructional models, 3) the synthesis of basic information obtained from statements and problems of teaching and learning and 4) information from a field trip of authentic circumstances of teaching and learning based on the 21st Century learning. For the study of basic information, the researcher examined the teachers' statements and problems of teaching and learning English language based on the 21st Century learning skills and the problems of English language learning based on the 21st Century learning skills from the students. Together with, the study of related theories, two main theories which are the 21st Century learning skills and instructional model design were focused on. The data from a field trip for authentic circumstances of teaching and learning English language was based on the 21st Century learning skills and was included. Based on the established research problems which focus on a massive obstacle for both teachers and students to follow up the 21st Century learning skills framework completely, the developed English Language Instructional Model is recommended to respond to the teachers' proficiency.

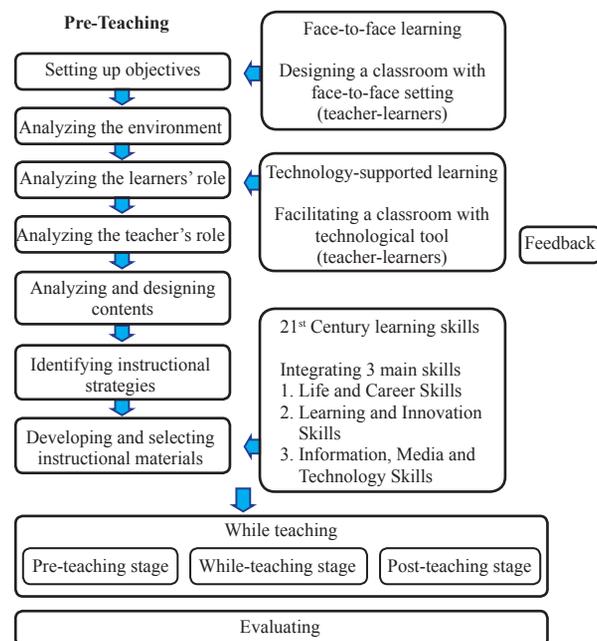


Figure 3 The developed English language instructional model based on the 21st Century learning skills

1. Setting up objectives

For setting up objectives of learning based on the 21st Century learning skills, it is important for teacher to identify the Enabling and Terminal Learning Objectives. The Enabling Learning Objectives (ELO) represent the way that the teacher expects from the learners' performance to achieve the Terminal Learning Objectives (TLO). Meanwhile, the Terminal Learning Objectives (TLO) refer to way that the teacher expects the learners' performance after the lesson is completed. It is to design the contents and activities relevant to those objectives. Apart from that, both ELOs and TLOs should be evidently measured and observed. This enhances the appropriateness of content selection which leads the learners to familiarize themselves in the areas of intelligence, mindset, practice, morality, leadership and analytical skills relating to 3 main skills of 21st Century learning skills: life and career skills, learning and innovation skills and information, media and technology skills. In addition, a variety of content and activities which integrated both face-to-face learning, technological learning and authentic learning environments to support learners' autonomous and lifelong learning.

2. Analyzing the environment

To analyze the environment for learning with English language instructional model based on the 21st Century learning skills, it is required to focus on the readiness of teaching and learning based on the 21st Century learning skills. Mainly on the technologies-facilitated or online learning should be integrated in the classroom. In addition, requirements should include the preparation of a computer network infrastructure and internet connection and experienced technician to serve the learners in case there are some problems. This can support the learners to learn at anytime and anywhere both inside and outside the classroom. Apart from that, the environment should be accessible and flexible for the instruction. In the classroom, the learner's study with face-to-face format. The teacher instructs, guides and facilitates the learners during classroom meetings. In addition, outside the classroom is also supported. The teacher assigns the learners' assignment, tasks or homework in order to continue practice and review the lessons. English language use is slightly supported in the classroom in order to inspire the learners to use English language without any concern. The learners' works and announcements are encouraged to use in English language.

3. Analyzing the learners' role

For analyzing the learners' role for learning with English language instructional model based on the 21st Century learning skills, the teacher is required to survey the learners' basic knowledge involving both academic and 21st Century learning skills before starting the instructional model. The information from the survey is considered and set as guidelines leading to the selection of content that meets the learners' needs as well as to determine the activities of teaching to suit the knowledge, interest and role of learners. Moreover, the learners are encouraged to participate in educational experiences that cultivate critical thinking, communication, collaboration, creativity and other important 21st Century skills.

4. Analyzing the teacher's role

Regarding analyzing the teacher's role, the instruction is emphasized on learner-centred and different kinds of activities both inside and outside the classroom in order to develop the learners' ability to learn. The role of the teacher has changed from knowledge conveyors to facilitators or designers which aims to empower the learners' 21st Century learning skills in terms of 1) learning and innovation skills, 2) information, media and technology skills and 3) life and career skills. This means the teacher highlights creativity, critical thinking, communication and collaboration.

5. Analyzing and designing contents

The content used in this model are consistent with the four strands based on the Basic Education Core Curriculum B.E. 2551 (A.D. 2008). They are aimed at enabling learners to acquire a favourable attitude towards foreign languages, the ability to use foreign languages for communicating in various situations, seeking knowledge, engaging in a livelihood and pursuing further education at higher levels. Learners will thus have knowledge and understanding of diversified matters and events of the world community and will be able to creatively convey the concepts and cultures of Thainess to the global society. The main content includes four strands as follows: Strand 1: Language for Communication, Strand 2: Language and Culture, Strand 3: Language and Relationship with other Learning Areas, Strand 4: Language and Relationship with Community and the World. Based on the above strands, there are indicators for each grade and the teacher can concentrate on the students' background knowledge, area settings and students' capacities.

6. Identifying instructional strategies

The instructional process for this model requires

technologies-facilitated and online learning both in the different settings: in the classroom and outside the classroom. In the classroom, the teacher focuses on learner-centred format and conducts different kinds of activities based on the core contents required for each grade. During the process, the students' 21st Century learning skills in terms of 1) learning and innovation skills, 2) information, media and technology skills and 3) life and career skills are applied.

6.1 Learning and innovation skills

Learning and innovation skills focus on how to prepare for increasingly complex life and work environments in today's world. They consist of three areas: 1) Creativity and innovation 2) Critical thinking and problem solving 3) Communication and collaboration

6.2 Information, media and technology skills

The focus is on how to exhibit a range of functional and critical thinking skills. They consist of three areas: 1) Information literacy, 2) Media literacy and 3) Literacy and Life and Career Skills. They focus on how to develop thinking skills, content knowledge and social and emotional competencies to navigate complex life and work environments and consist of five areas: 1) Flexibility and adaptability, 2) Initiative and self-direction, 3) Social and cross-cultural skills, 4) Productivity and accountability and 5) Leadership and responsibility.

6.3 Life and Career Skills

The focus is on how to develop thinking skills, content knowledge and social and emotional competencies to navigate complex life and work environments and consist of five areas: 1) Flexibility and adaptability, 2) Initiative and self-direction, 3) Social and cross-cultural skills, 4) Productivity and accountability and 5) Leadership and responsibility.

7. Developing and selecting instructional materials

The instructional materials refer to the learning activities the teacher will implement in face-to-face classroom. The materials should allow for both the teacher and learners to interact with each other and the online format which the learners can study via online program to support the teacher and learners' interactivity.

8. Designing instructional procedures

The model is employed in both face-to-face and online delivery modes of instruction. The learners are required to study in the classroom with face-to-face format. Meanwhile, outside the classroom is also supported. The face-to-face classroom lasts three-five hours a week and the online classroom two hours a week which is delivered

through the learners' BYOD. There are three main stages of instruction: pre, during, post as explained below:

Pre-teaching stage

This stage is operated face-to-face in the classroom. It aims to encourage the learners' interest, provide language preparation and build up the learners' prior knowledge before studying. In addition, the teacher is required to teach vocabulary and language and provides a further explanation when there are some unclear points and questions. This can help the learners to be ready for the next stage.

During-teaching stage

This stage is also conducted face-to-face in class. The content will be delivered to the learners. Learners will have opportunities to express their own performance to build up their learning. Meanwhile, the teacher will facilitated and interact with the learners. Learners will be provided with different activities; for example, asking questions, providing guidance, brainstorming, and discussing.

Post-teaching stage

This stage aims for the learners to reflect upon what has been studied via online. The learners will be allowed to convey what they have already known with the new information from the content. The teacher will provide feedback and a further explanation when there are some unclear points and questions.

9. Evaluating the learning outcome

In order to evaluate the learning outcome, pre-test and post-test are administered in order to find out how the learners' ability is developed after employing the instructional model. Both pre-test and post-test are designed similarly. The data obtained from the pre-test and post-test is statistically analyzed in order to compare the difference in learning before and after the implementation of the instructional model.

10. Providing feedback

The learners are provided with feedback after the implementation of the instructional model. There are two dimensions for learners' feedback : strengths and weaknesses. In case of weaknesses, further instruction and materials are offered.

Finding 2) the examination of the quality of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement

In order to examine the quality of an English language instructional model, there are two areas: the consistency of the components of the instructional model and the

appropriateness of the components' description were proposed to 9 experts specializing in four different areas: language, curriculum and instruction, educational technology and computer technology.

For the consistency of the components of the instructional model and the appropriateness of the components' description, the evaluation is presented below:

Table 1 Mean ratings for the evaluation for the consistency of the components of the instructional model and the appropriateness of the components' description

Evaluation items	The consistency of the components of the instructional model		The appropriateness of the components' description	
	Mean	Meaning	Mean	Meaning
Setting up objectives	1	Consistent	1	Appropriate
Analyzing the environment	1	Consistent	1	Appropriate
Analyzing the learners' role	1	Consistent	1	Appropriate
Analyzing the teacher's role	1	Consistent	1	Appropriate
Analyzing and designing contents	1	Consistent	1	Appropriate
Identifying instructional strategies	0.80	Consistent	1	Appropriate
Developing and selecting instructional materials	0.80	Consistent	1	Appropriate
Designing instructional procedures	1	Consistent	0.80	Appropriate
Evaluating the learning outcome	1	Consistent	1	Appropriate
Providing feedback	1	Consistent	1	Appropriate
Mean	0.96	Consistent	0.98	Appropriate

n = 9

From Table 1, it can be noticed that all components in both areas: the consistency of the components of the instructional model and the appropriateness of the components' description are not under 0.50. For the consistency of the components of the instructional model, the mean score evaluated from 9 experts was 0.96. When considering item by item, there were two items which reached the mean score 0.80; meanwhile, the rest met 1. This represents that all components of the instructional model were consistent to each other. For the appropriateness of the components' description, the mean score was 0.98 which means all ten components were appropriate for the components' description.

Conclusions

For the development of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement, it was found that based on a study of basic information in both statements and problems of teaching and learning English language based on the 21st Century learning skills, a study of related theories and data from a field trip for authentic circumstances of teaching and learning English language

based on the 21st Century learning skills, an English language instructional model was developed and consisted of ten components: setting up objectives, analyzing the environment, as well as the learners' role and the teacher's role, designing and analyzing content, identifying instructional strategies, developing and selecting instructional materials, designing instructional procedures, evaluating the learning outcome and providing feedback.

The examination of the quality of an English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement, the instructional model was validated from nine experts who specialized in four different areas: language, curriculum and instruction, educational technology and computer technology. The evaluation of the English language instructional model was focused on two areas: the consistency of the components of the instructional model and the appropriateness of the components' description. The consistency of the components of the instructional model was 0.96 which represented that the English language instructional model was consistent with all components. Furthermore, considering the appropriateness of the components' description, it was found that the English language instructional model was appropriate to employ in teaching and learning. It is greatly expected to facilitate the teachers applying English language instructional model based on the 21st Century learning skills to enhance ELLs' learning achievement. In addition, it can support 21st Century learning skills: life and career skills, learning and innovation skills and information media and technology skills.

Discussions

The two objectives of to develop and examine the quality of the English language instructional model based on the 21st Century learning skills, two areas are discussed below t:

1. The discussion of the development of the English language instructional model

From the authentic circumstances, teachers were a vital factor to ensure teaching and learning was successful. Acceptance and understanding of the framework were essential in order to apply the theoretical concept to design their teaching. Smart teaching will be presented in order to respond to the students' needs and acquisition. Teachers play a cardinal role in the acceptance of technology and the promotion of its use (Rushby &

Surry, 2016). It is recommended to employ ten components: setting up objectives, analyzing the environment, analyzing the student's role, analyzing the teacher's role, analyzing and designing contents, identifying instructional strategies, developing and selecting instructional materials, designing instructional procedures, evaluating the learning outcome and providing feedback. These ten components would lead to a better understanding for both teachers and students regarding the concepts of the 21st Century learning skills. The teachers would design their instruction based on the 21st Century learning skills effectively and the students would be ready to enter the new environment of learning in order to achieve their academic performance and life-long learning.

2. The discussion of the examination of the quality of the English language instructional model

The instructional model was evaluated for the consistency of the components and the appropriateness of the components' description from nine experts who specialized in four different areas: language, curriculum and instruction, educational technology and computer technology. For the consistency of the components of the instructional model, the mean level was 0.96 which represented that all components are consistent to each other. Regarding the appropriateness of the components' description, was 0.98 which meant that all the components are appropriate. The findings confirmed that the guidelines should be employed in teaching and learning. Apart from that, it would be a systematic plan to enhance ELLs' learning achievement. This was supported by Metzler (2017) that the instructional model is a planning blueprint for teachers to use to help students achieve stated learning goals.

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