| RESEARCH ARTICLE

The Applicability of the PICRAT, TPACK, and SAMR Models to the Teaching and Learning of English as a Foreign Language

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| ABSTRACT

The aim of this exploratory review was to investigate the applicability of PICRAT, SAMR, and TPACK models to the teaching and learning of English in a foreign setting; PICRAT, SAMR, and TPACK models have been viewed, in reference to some of the available literature, as protocols that should be activated in parallel with the process of integrating technology in the design of the teaching and learning practices that compatible with education in this digital age; these three models, as concluded by the available related literature, have gained importance in the field of (TEFL) as technology enhancement seems to be inevitable and irreplaceable because technological solutions can provide authentic native contexts that, otherwise, could not be available, by traditional physical realities, to teachers and learners of English in foreign settings; learners of English as a foreign language, as concluded by the related literature, do not normally use English outside classroom setting, which may violate the communicative aspect of English as a lingua franca in many countries of the world; to gain deeper insights, three related studies were critically reviewed and summarized, by the researcher, to epitomize the validity of these three models, PICRAT, SAMR, and TPACK, to describe how technology integration could effectively be carried out, how to track the development of this integration, what attitudes ,towards this integration, could students and teachers have, and how to assess and evaluate this integration, especially in the teaching and learning of English in a foreign setting. As a result, this exploratory review has reached some conclusions concerning the applicability of the PICRAT, SAMR, and TPACK in the design of teaching and learning English in a foreign setting. This exploratory review has also come up with some recommendations.

1. Introduction

Digital technology has become one of the distinguishing moves of the 21st century; as a result, the teaching and learning practices are heading into new spheres that are steered by the unprecedented spread of digital educational contents, digital educational resources, and digital educational tools; this may dictate that teaching and learning practices should be planned and designed in accordance with the availability of these digital grants, the capabilities of students as digital-natives, and the potential 21st century skills that students must be equipped with in order to deal with challenges of this modern digital age ; moreover, it should be stated that the capabilities of teachers, in a traditional sense, have long been evaluated in reference to two adequacies : the first is the subject matter adequacy ,which means that a teacher must exhibit specialized knowledge in regard to the subject she or he is supposed to teach, and the pedagogical adequacy which goes with the knowledge of how to teach that subject matter; these two central adequacies has become not enough in this modern digital age because teachers, of today, are no longer considered as the only sources of knowledge, or the only media of communicating this knowledge, but, on the contrary, students can get knowledge via various digital and technological orbs; teachers of today must acquire adequate levels of technological awareness and practical digital literacy in order to keep abreast of the technological advancements that will shape their teaching practices

and the learning practices of their students ; teachers of today must be prepared to integrate more and more technology with their existing instructional practice.

Accordingly, it can be confirmed that both traditional teaching and learning practices should be accommodated to spare an adequate place for digital technology integration and enhancement; by the same token, this overwhelming role and impact of technology, on the teaching and learning practices , must not overlook the fact that the integration of digital technology should be anchored to a well-established model which can describe the levels of this technology integration, explain the prerequisites and conditions of this technology integration, give feedback about the effectiveness of this technology integration, and ,then , evaluate the whole process of technology integration; three frameworks that act like models of technology-integration are of concern in this exploratory review , namely, PICRAT, TPACK, and SAMR models: the importance of these models, in my opinion, is that they can function as a road map towards technology integration that, in turn, will be able to revolutionize the practices of teaching and learning.

Correspondingly, Technology integration has become an attribute of (ELT), especially in countries where English is taught and learnt as a foreign language: digital technology can provide authentic native contexts, virtual realities that allow much simulation in both listening and speaking, oral and aural communication skills, online resources and references such as dictionaries, wikis, e-book sources, translation tools, spelling check -tools, grammar check-tools, and self-assessment tools; these virtual contexts are very essential, where English is learnt as a foreign language, because learners, of English as a foreign language, as stated by previous literature, and depending on the researchers' experience in the field, do not normally use English outside the restricted environments of classrooms; this, as a result, can hinder the communicative role that English language, as a lingua franca, is supposed to take. Technology-Enhanced Language Learning (TELL), as concluded by the available literature, has been flexible in exploiting digital technology solutions which allow a wider range of accommodations and editing in content, teaching practices, and learning practices of English in a foreign setting; for this accommodation and editing to occur effectively, it is very important for the process of integrating digital technology in ELT to be referenced to a well-established model such as PICRAT, SAMR, and TPACK because these models, as far as the researcher has found, stand for effective matrixes that enable teachers to collect sufficient data about the variables of the technology integration process, provide critical feedback which can be used to evaluate the process of technology integration, and, then, outline the paths to be taken for more development in the teaching and learning of English in a foreign setting.

Consequently, it can be deduced that the importance of this exploratory review lies in the fact that it can add further domains of comprehensibility in regard to the applicability of these three models to the teaching and learning of the English language in a foreign setting, which constitutes, as far as the researcher has found, a demanding issue in (ELT) as there are many studies that have investigated the applicability of these three models, PICRAT, SAMR, and TPACK, to educational subjects other than English Language teaching and learning, especially in a foreign setting; in this regard, it should be explained, and as far as the researcher has also found, that there are very few studies, including the three studies reviewed and summarized in this exploratory review, which have investigated the applicability of these there models in the field of (TEFL). This exploratory review, it should also be added, bears the limitation that only three studies included in this review were purposefully selected for two reasons: the first is that, as far as the researcher has found, these three studies have adequately described how the themes of PICRAT, SAMR, and TPACK, can form the bases for building instruments to carry out quantitative or qualitative research on the technology-integrated practices of the English language teaching and learning; the second reason, as far as the researcher has found, is that these three studies constitute a representing sample due to the scarcity of similar studies which has investigated the application of PICRAT, SAMR, and TPACK in an English language classroom.

2. Review and summary of the chosen articles:
2.1. *Article (1):* "Adoption of the PICRAT Model to Guide the Integration of Innovative Technologies in the Teaching of a Linguistics Course" (Lixun Wang)
i). Introduction
The rationale of this study is referenced to the proposition that teachers and students, nowadays "are found to have more access to education technology than before. Kohler, Molloy Elreda&Tindle(2023) " As a result, teachers need be able to cope with the growing availability of educational technologies which dictates selecting efficient technologies into their teaching practices; this selection of effective and efficient technologies must be anchored to a well-established pedagogical framework "that will guide them to integrate innovative technologies into their teaching effectively. Wang (2023)" Moreover, as also found by Wang (2023) that "there are very few studies providing concrete and detailed examples of how university teachers adopt such models for effective technology integration in their actual teaching of tertiary level courses; accordingly, this gap assures the need for a pedagogical model that can reveal the status of this technology integration, and, at the same time, serves the students' needs in revealing the degree of their involvement with technology integration. As far as the teaching and learning of the English language is concerned, the integration of technology seems to be a must, especially in a foreign setting like that of the University of Hong

Kong, where this study took place, as technology can provide authentic native contexts that would be not possible without technology. As a result, this study adopted the PICRAT as a model to understand the levels of technology integration by the teachers and then explain the students' relationship with this technology integration.

ii). The Purpose of the study.

The aim of this study was "to explore the adoption of the PICRAT model " (Kimmons, Graham & West (2020) "that guides the concrete integration of innovative technologies into the teaching of an undergraduate level linguistics course 'Introduction to Linguistics' Wang (2023)." The aim of this study was oriented by the fact that most technology models, as revealed by previous studies (Hughes, Thomas &Scharber (2006); Mishra & Koehler (2006); Puentedura, (2003), such as SAMR, TIM, TAM, and TPACK each have some weaknesses that limit their validity for this study, and that most of these models were adopted in school setting not a university context, especially in English language teaching and learning; moreover, this study considers the domain of PICRAT as a comprehensive model that it can simultaneously function with the contexts of both students and teachers: the relationship of students to technology integration is expressed by three phases of which a student's role is seen as either Passive, Integrative or Creative; Technology used by teachers, on the other hand, is understood according to the domains of PICRAT (Replacement, Augmentation, and Transfer).

iii). Methodology:

The methodology of this study was dictated by two considerations: the first is that the aim of this study was to investigate the adoption of the PICRAT model to reveal the teachers' tendency to integrate different technologies in the teaching and learning of English "Introduction to linguistics" course at the University of Hong Kong, and, then, to investigate students' attitudes towards such a technology integration carried out by teachers; consequently, a mix of qualitative and quantitative methodologies was enhanced as the matrix of the investigative scope of this study: Wang (2023) explained that "105 Year 1 undergraduate student participated in the course. After the course was completed, a questionnaire survey was conducted to find out students' views on their technology-enhanced online learning experiences in the course, and follow-up interviews were carried out."These (105) students were divided into four groups in order to allow various stages of PICRAT domains to be employed and to allow the model to have wider applicability. This course (introduction to linguistics) lasted 13 weeks, during which various technology-enhanced teaching and learning activities in accordance with the PICRAT model; Wang (2023) further explained that "a wide variety of online resources were integrated into the learning activities to replace, amplify, and transform traditional teaching practices, such as face-to-face live lectures, live discussions in the classroom, paper-based quizzes, and traditional essay writing."

iv). Conclusions:

This study concludes that adopting the PICRAT model for integrating technology was successful in this course (Introduction to Linguistics): the result of the integrating variety of technologies, by the teacher, such as (EdPuzzle video lectures, mini MOOC, Padlet, Mentimetre, Flipgrid, online quizzes, online forums, VR pages and Wikibook) did not only replace traditional practices, but both amplified and transformed them; Wang, L. (2023) also added that "Students who participated in the IT-enhanced activities were turned from passive learners into interactive and creative learners." As a result, Wang, L. (2023) concluded that "The PICRAT model can be adopted as a shared reference for planning, development, coordination, and evaluation of the clarity, fruitfulness, and student focus of technology-enhanced teaching and learning practices." This study also concludes that inactivity factors should added to technology–enhanced learning, and that should be linked to various assessment practices so as to ensure that the learning process is connected with measurable outcomes.

2.2. *Article (2):* "Tpack Framework: Challenges and Opportunities in EFL Classrooms." **(LitaLivianiTaopan, NurArifahDrajati, Sumardi)**

i). Introduction:

The study considers teaching as a complex and demanding process that includes setting educational objectives, selecting a corresponding subject matter [content], and designing classroom activities (Richard &Lochart, 1996); as a result, teachers are always motivated to search for whatever facilitates and helps them carry out their duties effectively; Luckily, as stated by the study, teachers in Indonesia have positive attitudes in regard to enhancing technology which can help them carry out their duties fruitfully (Chamorro & Rey, 2013). These positive attitudes of teachers stem from the fact that the Indonesian government supports and encourages the tendency to integrate technology and calls for accelerated integration in education. The Ministry of Education and Culture in Indonesia (2016), as reported by this study, has demanded that learning should be more cooperative, interactive, and creative, support student's individualization, guarantee more involvement from parents and community, and support student's physical and mental development; these seemingly far-reached aims can be realized, gradually and continually, by an adequate degree of Technology enhancement which is very capable of aligning with the technological age of the 21st century and beyond.

As far as the teaching and learning of English in Indonesia is concerned, technology integration represents an exploitable domain towards first the professional development of the teachers and, second, the enriching the English language competencies of Indonesian students; this can be achieved through integrating Technology which offers authentic communicative learning experiences, especially in listening and speaking skills; in other words, English is taught as a foreign language in Indonesia which means Indonesian students of English, in reality, do not have the opportunity to use English outside classrooms; this gap can be filled by digital technology which provides simulative conversations to communicate with English in authentic setting, which cannot be achieved, practically, without integrating technological practices to support those practices of the classroom. The integration of technology in the teaching and learning of English faces various challenges that are connected to various factors such as Technical, pedagogical, psychological, and economical; as a result, Taopan, Drajati&Sumardi (2020) proposed that " this study intended to reveal the challenges and the opportunities offered by technology integration through the existing framework called Technological Pedagogical and Content Knowledge (TPACK). "

ii). The Aim of this study

According to this study, teachers traditionally start the profession of teaching in line with two parallels: the first is their adequacy towards the subject matter [content], and the second is their pedagogical adequacies. English teachers, these adequacies are not enough in the digital age of the 21st century to the extent that these adequacies must be aligned with technology, which will soon be the most spoken language in various aspects of everyday life of the future. English teachers in Indonesia, on the other hand, must be prepared to cope with the ever fast spread of digital technology as it will enable teachers to provide authentic content to teach language skills and a wider scope of pedagogy that can vastly augment traditional practices.

As a result, the aim of the study was, as stated by Taopan, Drajati&Sumardi (2020), " to reveal the story of an English teacher dealing with the implementation of the TPACK framework in teaching English, and reveal what are the challenges and the opportunities using the framework in the EFL classroom."

iii). Methodology

To achieve the purpose of this study, the researchers followed a grounded narrative approach that enhances various methods such as the "semi-structured interview, observation, and document analysis for the data collection, and thematic analysis with a single case study was applied for the data analysis (Barkhuinzen, Benson, &Chik, 2014). The 51-year-old female English teacher, who was chosen purposefully, was interviewed; the purposeful selection of this teacher (Anne) was based on meeting specific criteria such as teaching experience of more than 5 years, has been teaching the first or second grades of high school, and that she is familiar with TPACK. The Thematic Analysis Approach, which was proposed by Barkhuinzen et al. (2014), was used to analyze the data gained as a result of the interview; this approach allows a large margin for the researcher to transcend the actual words said by the interviewee into a logical and thematic analysis that can thematically interpret of this data.

iv). Results

The results of this study indicate that there some challenges in using TPACK as a model in teaching English: first, the implementation of TPACK as a model that can be applicable in the teaching and learning of English language requires an adequate level of Information Technology (IT) literacy; IT literacy, in this regard , can be defined as the basic knowledge and skills that are needed to run software , deal with operating systems, and computer foundational skills; IT knowledge and skills are demanding requirements from the part of teacher for two reasons: the first is that if an English teacher is going to integrate technology within his pedagogical and content knowledge (TPACK) , it is very essential for such a teacher to be able to operate and manage technological applications; the second is that students , of today , are digital natives which means that, in some many cases, they are not just familiar with digital technology , but that they have more technical knowledge and applicability skills than their teachers; moreover, IT literacy is a must for a teacher to be able to implement the TPACK as " The IT literacy itself affects the implementation of TPACK framework in Teaching English since the focus of TPACK framework is related to the integration of technology with pedagogy and content knowledge of teaching (Mishra & Koehler, 2006)."The second challenge is how English teachers can use TPACKtripods content knowledge, pedagogy knowledge, and technology knowledge, to innovate creative tasks that can yield meaningful learning; this is a true challenge because, as stated by interviewee teacher (Anne) , "when the role of technology becomes excessive, she knows that students will more focus on how to use the technology rather than how to comprehend the material(Taopan, Drajati&Sumardi (2020) ." depending on that, it can be stated that, English teachers should balance their design of the learning task in accordance with the three pillars of TPACK.The third challenge that may hinder the application of TPACK is the lack of the internet connection as well as the technical problems that can unexpectedly arise while in classroom; the best way to approach this challenge, as stated by the study, is that the teacher's design, of the teaching and learning situation enhancing the TPACK, should always include a technological plan (B) , in the form of backups, flash memories, laptops, and external disks, in order to be able to cope with a disturbing situation.

The results of this study indicate some proposed opportunities provided by using the TPACK model in Teaching English in Indonesia: first, TPACK coheres with digital capabilities of most students of today who are very familiar with mobile phones, iPads, laptops , and technological applications; this technological literacy facilitates the implantation of TPACK as Technological Knowledge is a central integrative component of TPACK and will be able to establish motivation for both students and teachers; second, students, of today, are no longer dependent on the textbook (content) nor the teacher as the only source of information; modern students of today do have various technological sources as an alternative to their paper-based textbooks and this will enable teachers to present the same content, according to TPACK, in various modes and formats which will gain more and more interaction , from the part of the students, and enrich the learning environment with higher levels of flexibility, playfulness, and fun; third, TPACK implementation can provide a precious opportunity to build a multimodal products, from the part of students, such as texts , audios, and videos in a way that focuses   on students' creativity , in learning English language skills, rather than traditional view of focusing on grades and testing;fourth,the results of this study, in my opinion, pointed out a very critical advantage of the TPACK model TPACK as stated by (Misirli, 2016) "TPACK model enables teachers transfer the content knowledge [the teachers must have a specialization and enough adequacies about which] to the students and helps students learn better through the practice and their experience dealing with the technological term."

v). Conclusions
Regardless of the fact that this study bears some limitations, such as being cantered around the opinion of one English teacher participant and that there are some challenges that must be taken into consideration while integrating technology with the teaching and learning of English, at the same time concluded that TPACK can function as a roadmap for innovation and creativity in teaching and learning of English language in Indonesia; this study concluded that TPACK can be taken as a rigid model that can do miracles, but, on the contrary TPACK should be considered as a very flexible model that bears strengths and some weaknesses; as a result, teachers of English should flexible and creative while dealing with learning situation that enhances the TPACK model.

2.3. Article (3): Teachers' Technology Integration into English Instructions: SAMR Model (Sri Wahyuni, Jan Mujiyanto, Sri WuliFitriati, DwiRukmini)
i). Introduction:
Technology has contributed to the development of language instruction (Tseng (2019);the peculiarity of teaching and learning English in a foreign setting, like that of Indonesia,may get a wider benefit out of integrating technology to the teaching and learning English as technology can provide authentic content for some skills of the English language, especially speaking and listening; these skills can maximally be developed by designing learning task while exploiting what digital technology is able to provide in comparison with traditional method ; two points that should be taken into consideration while integrating technology into education : first , as stated by Wahyuni, S., Mujiyanto, Rukmini&Fitriati (2020) , that the "Integration of technology can be realized in the planning stage of the instruction through syllabus which later is translated into the implementation and assessment practices." ; second, as stated by Puentedura (2006), that " Technology integration into instructional activities needs to be evaluated in order to encourage teachers to outstandingly improve learning with technology support."In parallel with these two considerations, there is a need for a well-established model that can , at one hand, facilitates the process of technology integration, and, on the other hand, measure and evaluate the level of this technology integration; accordingly this study proposes SAMR (Puentedura2013) as a model to explore the types of technology English teachers have integrated into their instructions, and how the integration have measured and evaluated; this study has a significance using the four –level (Substation , Augmentation, Modification, and Redefinition) SAMR model as a frame work for this study ; the SAMR model has an advantage over other models of technology integration in that it can be used as a matrix for selecting, using and evaluation any type type of technology at school levels as well as college levels; in this regard , and as far as Englishlanguage in Indonesia is concerned, it should be stated that other models like TPACK was used as a frame work to investigate the integration of specific technology such as the I-Pad and mobile for college students; as a result another layer of significance is given to this study in that its investigative scope covers a wide range of technological utilities which can be compatible to the teaching and learning of English in a high-school levels.

ii). Aims
As mentioned earlier, the aim of this study was to investigate the types of technology teachers in Indonesia integrate while teaching the English language and then to use the SAMR model to measure and evaluate this integration; as far as the aim of this study is concerned, it should be stated that, the types of technology teachers use will be received as a learning technology from the part of students who learn English as a foreign language; by the same token, it should also be stated that the four levels of SAMR model (Substitution, Augmentation, Modification, and Redefinition) can also be an indicator to students' level of technology integration while learning English as a foreign language. In my opinion, the aim of the study reflects a deep understanding, on the part of the researchers, of the applicability of the SAMR model.

iii). Methodology:

This study followed a qualitative descriptive methodology with a case study design to achieve its aims; various methods were enhanced to collect data related to the aims of this study: interviews, observation, questionnaire, and document analysis were used to gather related data; the sample of the study included two English teachers and their (54) students learning English, as a foreign language, in Indonesian Java high school were selected; the data collected, through the mentioned methods, helped in gaining more knowledge about the types of technology they normally integrate while teaching and learning the English language; in addition; the data collected offered a deeper understanding towards the level(s) of integration, for teachers and students, in regard to the four levels of SAMR model (Substitution, Augmentation, Modification, and Redefinition).

iv). Results:

Wahyuni, S., Mujiyanto, Rukmini&Fitriati (2020) confirmed that the " data gained through document reviews, observations, and questionnaires confirmed that the teachers had utilized various types of technology to facilitate English language teaching and learning. Table 1 below displays more detailed information."

Table 1. Types of technology utilized in English instructions

Technology	Teachers	Students
Devices	Computer, laptop, cell phones, LCD, tablets	Computer, laptop, cell phones, LCD, tablets
Learning Platform	Edmodo, Google Classroom	Edmodo, Google Classroom
Learning Applications	Google Drive, Google Form, Google Slides, Google Docs, Quizzed, Kine Master (Video Editor)	Google Drive, Google Form, Google Slides, Google Docs, Quizzed, Kine Master (Video Editor), E-Dictionary, Google Translate, Games, TED, Word Pad, Online Learning Class
Learning Media	PPT, Multimedia (visuals, audio, video), Films, Songs	PPT, Multimedia (visuals, audio, video), Films, Songs
Social Networking Sites	WhatsApp, Youtube, Email	WhatsApp, Youtube, Email, Line, Instagram, Twitter
Others	The Internet	The Internet

Table(2) shows a summary of the most frequently utilized technology(devices, learning platforms, learning applications , learning media , social networking sites, and the internet) by both teachers and students to carry out classroom activities that facilitate teaching and learning of English as a foreign language; moreover, Table(2)also shows that students integrate more technology applications than their teachers : students utilize a set of applications such as E-dictionary , Google translate, TED, Word Pad, and Online learning class which support self-learning; in my opinion this is something that is very expected by learners of English as a foreign language as building competencies in English requires extra applications that are very essential according to students , especially E-dictionaries and Google translate; students also utilize more Social Networking than their teachers : students utilize both twitter and Instagram more than their teachers for posting, sharing , and announcing learning tasks in a social-oriented method. As revealed by Table (2), both teachers and students utilize the internet as an essential component for the whole process of integrating technology in the teaching and learning of English as a foreign language in Indonesian high schools; this confirms the result that without a reliable internet connection, it would be very hard to apply the SAMR model nor to integrate technology in teaching and learning.

Wahyuni, S., Mujiyanto, Rukmini&Fitriati (2020) stated that "Based on the result presented in Table 2 and referring to the framework, the teachers' technology integration has undergone all four levels including Substitution, Augmentation, Modification, and Redefinition. The following sections explain the integration of technology categorized into each of the SAMR levels.

Table 2. Teachers and Students' Technology Integration – SAMR Model

Class Activities	Substitution	Augmentation	Modification	Redefinition
Roll Call	Cell Phone			
Recording tool		Cell Phone Camera		
Presentation	PPT			
File Sharing	Email, WhatsApp, Instagram, Line, Google Drive	Edmodo, Google Classroom, Google Drive, Google Docs, Google Slides	Edmodo, Google Classroom	Edmodo, Google Classroom
Speaking		Cell Phone Camera	Edmodo, Google Classroom	Edmodo, Google Classroom
Listening	Multimedia (Audio-Video), TED, Films, Songs			
Reading	Word Files, PDF Files			
Writing	Google Drive, Google Slides, Google Docs	Google Drive, Google Slides, Google Docs	Google Drive, Google Slides, Google Docs	Google Drive, Google Slides, Google Docs, Edmodo, Google Classroom
Assessment	Edmodo, Google Classroom, Quizzes, Google Form, Kahoot	Edmodo, Google Classroom		

Table (2)shows the most common classroom activities (Roll call, Recording, Presentation, File Sharing, Speaking, Listening, Reading, Writing, and Assessment) that were carried out utilizing technology. Table (2)also shows the teachers' Technology integration levels in accordance with the four domains of the SAMR model: for example, instead of distributing paper-based handouts and worksheets manually, teachers substituted this method by WhatsApp, Instagram, and email as means to distribute handouts and worksheets; teachers augmented the learning activities by integrating technology that can add additional functions to the learning activity: for example, Wahyuni, S., Mujiyanto, Rukmini&Fitriati (2020) illustrates that " the teachers embedded media including pictures, graphs, audio and/or videos into the presentation to gain students' attention and enhance learning."The modification phase of the SAMR model is achieved by English teachers through integrating types of technology that can enable the redesigning of the learning activity in a way to be more manageable, interactivity inviting, and allow more collaboration from the part of the students to solve problems and complete the task: for example, teachers integrated Google Classroom and Edmodo for posting questions and discussions; students, on the other hand, get benefits, as found by Rukmini&Fitriati (2020), " form tools such as cell phone camera to take pictures and record interview process; laptops to process the data; Google Docs to collaboratively write a text; and Google Slides to collaboratively design the presentation as well as an LCD projector to present the project work. They also utilized another application such as Kine Master to edit their movies."Redefinitionentailsthree considerations: the first is that technology is integrated to create learning tasks, and the second is that without technology that without integrating technology it would so hard to create teaching and learning tasks; the third is that without technology integration, it would be so hard for students to complete the task and to demonstrate their creation: for example, Rukmini&Fitriati (2020) " the teachers and students used various Google applications including Google Docs and Google Slides to create various multimedia elements to demonstrate learning."The results of this study indicate that only speaking and writing English language skills fall in the redefinition domain of the SAMR model; this can be explained as technological tools, in regard to the skills of writing and speaking, provide an effective platform for self-correction of mistakes and errors and self-assessment, make available an interactive collaborative peer-assessment, and lend a wider scope of differentiated learning and autonomy in learning.

3. Conclusions

This exploratory review, which included three articles that investigated the applicability of PICRAT , TPACK, and SAMR models, respectively, to the teaching and learning of English language in a foreign setting, has concluded that the reviewed studies above are in agreement on the importance of calibrating the level, density, an applicability scope of integrating digital technology in the teaching and learning of English language in a foreign setting; digital technology facilitates carrying out teaching and learning practices that would not be possible without resorting to digital technology solutions; as a result, the three article reviewed have also been in agreement about the applicability and credibility of the three models PICRAT , TPACK, and SAMR to be used as a dependable reference while integrating digital technology in the teaching and learning of English, especially in a foreign setting; these models can function as an instructional design matrixes which should be used while enhancing technology in the teaching and learning of English in a foreign setting; these models will enable English Teachers to be able to evaluate their technology – enhanced instructional practices, to track the impact of this technology enhancement on students' learning and roles, to get

enough feedback that could be used for more evaluation and development towards effective learning, and to get adequate understanding about the learning needs of students; by the same token , these three models can also function as reflective tools through which teachers of English language can specify what digital adequacies they need and what digital literacies they have to develop; this exploratory review has concluded that these three models , PICRAT , TPACK, and SAMR, should be, in a mixed and an eclectic methodology , consulted at the stages of planning and designing technology-enhanced English language instruction an learning ; this exploratory review, in accordance with the reviewed articles, has acknowledged the existence of a variety of digital contents, digital resources, and digital tools that correspond to the applicability of these models , namely, PICRAT , TPACK, and SAMR ; this exploratory review, in line with the reviewed articles, has also concluded that technology –enhanced English language teaching and learning, especially in a foreign setting, bears some critical challenges and limitations such the level of digital literacy which counts for both the teacher and student, the availability of a compatible infrastructure, motivation and positive attitudes towards technology integration , and the ever growing competency , of the students in using digital tools and resources, which , in some many cases, surpasses teacher's knowledge of digital competency.

4. Recommendations

This exploratory review recommends that teachers of English language, especially in a foreign setting, should use the PICRAT, TPACK, and SAMR models as a reference while integrating technology into their existing teaching practices: teachers of English language should be aware that referencing their teaching practices to these models can be fruitful and promising because technology solutions will compensate foreign students for the absence of a communicative authentic native-context which, instead, functions as a model through which learners of English can maximize their communicative competencies in listening and speaking specifically. This exploratory review also recommends that teachers should be reflexive and reflective while integrating technology, which is referenced to PICRAT, TPACK, and SAMR; this exploratory review also recommends the need for further empirical research to investigate how integrating technology, exploiting these models, would affect sustainability in English language teaching and learning.

Conflicts of Interest: The authors declare no conflict of interest.
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References

[1] Barkhuizen, G., Benson, P., & Chik, A. (2013). Narrative inquiry in language teaching and learning research. Routledge.
[2] Chamorro, M. G., & Rey, L. (2013). Teachers' Beliefs and the Integration of Technology in the EFL Class. *How Journal, 20(*1), 51-72.
[3] Hughes, J., Thomas, R., & Scharber, C. (2006, March). Assessing technology integration: The RAT–replacement, amplification, and transformation-framework. In Society for Information Technology & Teacher Education International Conference (1616-1620). *Association for the Advancement of Computing in Education* (AACE).
[4] Kimmons, R., Graham, C. R., & West, R. E. (2020). The PICRAT model for technology integration in teacher preparation. Contemporary Issues in Technology and Teacher Education, 20(1), 176-198.
[5] Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers college record, 108(6), 1017-1054.
[6] Misirli, Z. A. (2016). Integrating technology into teaching and learning using variety of models. IhlaraEğitimAraştırmalarıDergisi, 1(2), 37-48.
[7] Puentedura, R. R. (2003). A matrix model for designing and assessing network-enhanced courses. Retrieved March, 30, 2014.
[8] Puentedura, R. (2006). Transformation, technology, and education [Blog post].
[9] Puentedura, R. R. (2013). SAMR: Moving from enhancement to transformation.
[10] Richards, J. C., & Lockhart, C. (1994). Reflective teaching in second language classrooms. Cambridge university press.
[11] Taopan, L. L., Drajati, N. A., &Sumardi, S. (2020). TPACK framework: challenges and opportunities in EFL classrooms. Research and Innovation in Language Learning, 3(1), 1-22.
[12] Tseng, J. J. (2019). Do EFL teachers transform their teaching with iPads? A TPACK-SAMR approach. Professional development in CALL: A selection of papers, 71-85.
[13] Wahyuni, S., Mujiyanto, J., Rukmini, D., &Fitriati, S. W. (2020, June). Teachers' technology integration into English instructions: SAMR model. In International Conference on Science and Education and Technology (ISET 2019) (546-550). Atlantis Press.
[14] Wang, L. (2023). Adoption of the PICRAT Model to Guide the Integration of Innovative Technologies in the Teaching of a Linguistics Course. Sustainability, 15(5), 3886.