

**Web Project Based Language Learning for  
Developing the Academic English Speaking Skills  
among Student Teachers of English**

By

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**Abstract**

*This research aimed to develop the academic English speaking skills among student teachers of English. The research design was one group pre and post-test quasi-experimental design. The participants were 66 4<sup>th</sup> year (senior) student teachers of English at Ismailia Faculty of Education in Suez Canal University. In fulfillment of their needs for oral academic interaction success at the faculty as well as oral communication as competent language teachers at schools, this research was oriented towards the participants' academic English speaking skills of description of visuals, picture narration, interpretive explanation, summarization and academic talking based on illustrating or contrasting. Two web projects were developed and introduced via the use of Web Project Based Language Learning as a hybrid pedagogy of Web Based Language Learning and Project Based Learning. Web Project One is on Independent (stand-alone) Academic Speaking and Web Project Two is on Integrated Academic Speaking. Four tools were developed, validated and implemented by the researcher. They were: 1) Needs Assessment Questionnaire, 2) Independent Academic English speaking Test, 3) Integrated Academic Speaking Test and 4) Online Survey by the end of experimentation. The findings revealed that Web Project Based Language Learning had a high positive impact on the academic English speaking skills among the senior teachers of English.*

**Key Words:** Web Based Language Learning, Project Based Learning, Academic Speaking, English Speaking Skills, Student Teachers of English

### الملخص

تعلم اللغة القائم على المشروعات الشبكية لتنمية مهارات التحدث الأكاديمية باللغة الإنجليزية لدى الطلاب المعلمين بشعبة اللغة الإنجليزية

هدفت الدراسة إلى تنمية مهارات التحدث الأكاديمية باللغة الإنجليزية لدى الطلاب المعلمين بشعبة اللغة الإنجليزية. وكان التصميم التجريبي للدراسة هو تصميم المجموعة الواحدة. وكانت عينة الدراسة مجموعة من (66) من الطلاب المعلمين بالفرقة الرابعة بشعبة اللغة الإنجليزية بكلية التربية بالإسماعيلية (جامعة قناة السويس). ونظرًا لاحتياجاتهم الأكاديمية من التفاعل الشفهي بالمقررات التي تدرس باللغة الإنجليزية بالكلية واحتياجاتهم المهنية من التواصل الشفهي كمعلمين اللغة الإنجليزية بالمدارس، توجهت الدراسة الحالية نحو تنمية مهارات التحدث الأكاديمية باللغة الإنجليزية التالية: مهارة وصف المرئيات ، مهارة رواية القصص المصورة ، مهارة التفسير الدلالي ، مهارة التلخيص ، مهارة الحديث الأكاديمي القائمة على الاستيضاح أو المقارنة. وكانت أداة المعالجة التجريبية لتحقيق هذا الهدف هي مشروعان شبكيان تم تطويرهما وتطبيقهما باستخدام طريقة تعلم اللغة القائم على المشروعات الشبكية والذي يعد مدخل تدريسي هجين بين تعلم اللغة القائم على الشبكات والتعلم القائم على المشروعات. المشروع الشبكي الأول هو مهارات التحدث الأكاديمية المستقلة و المشروع الثاني هو مهارات التحدث الأكاديمية التكاملية. وهناك أربعة أدوات من اعداد الباحث وهي استبيان تقييم الاحتياجات ، اختباران قياس للتحقق من الفروض وفاعلية المشروعات الشبكية وهما: اختبار مهارات التحدث الأكاديمية المستقلة ، واختبار مهارات التحدث الأكاديمية التكاملية وقد تم التحقق من صدقهما وثباتهما ، وبالإضافة إلى استطلاع على الانترنت والذي تم بنهاية المعالجة التجريبية للبرنامج للتحقق من مستوى رضا ومدى استفادة الطلاب المعلمين بشعبة اللغة الإنجليزية من المشروعين الشبكيين المقترحين. وأسفرت نتائج الدراسة عن أن تعلم اللغة القائم على المشروعات الشبكية له تأثير إيجابي مرتفع على تنمية مهارات التحدث الأكاديمية باللغة الإنجليزية لدى الطلاب المعلمين بشعبة اللغة الإنجليزية.

**الكلمات المفتاحية:** تعلم اللغة القائم على المشروعات الشبكية ، تعلم اللغة القائم على الشبكات، والتعلم القائم على المشروعات ، مهارات التحدث الأكاديمية ، مهارات التحدث باللغة الإنجليزية، الطلاب المعلمين بشعبة اللغة الإنجليزية.

## Background

Speaking is a part of higher education for oral communication as one of the most important academic skills of the 21<sup>st</sup> century that must be acquired by students (Creative Commons, 2012). For student teachers of English, speaking is the most important skill since they must be effective and fluent speakers who are able to use the language to present facts, explain, analyze, summarize, ask questions, give instructions, etc (Human Resources and Skills Development Canada (HRSDC) & Council of Ministers of Education, Canada (CMEC), 2013, p.17).

Despite the importance of speaking, Arab university students of English Department experience major problems in speaking as indicated in the studies that was conducted by Keong & Hameed (2015) on Iraqi students of English department at Garbiyan University and by Alnakhalah (2016) on Palestinian students of English department at Al Quds Open University. Also, Alzahrani's study (2019) discussed the weak performance of English speaking among the Saudi Arabian students of English department at Najran University. It showed the need for the effective use of modern digital technology side by side with a variety of strategies such as problem-solving and role-playing to establish an environment that could support and allow the university students of English department to practice the academic speaking skills frequently.

Due to the modern technology and the innovative strategies of teaching which overcome the problems of language teaching, speaking in the academic contexts has received much more attention than before (Tuomaitè & Knyza, 2014). In this respect, the current research aimed to develop the academic English speaking skills among student teachers of English via Web Project Based Language Learning that integrates the use of technology to put an end to the difficulties and limitations of teaching and practicing speaking. This proposed pedagogy is a hybrid of Project Based Learning (PBL) and Web Based Language Learning (WBLL).

As a style of active and inquiry-based learning, PBL is a student-centered approach in which students acquire knowledge and skills more deeply via learning by doing as well as active exploration of real-world challenges and problems (Schuetz, 2018). In this respect and via some research, UK College of English (2019) pinpoints the effectiveness of PBL in the 21<sup>st</sup> century language classrooms that call for the collaborative and creative use of language in different contexts. Hence, it was incorporated in the hybrid pedagogy of the present research to help student teachers of English acquire the target academic speaking skills

more deeply and collaboratively via learning by practice and real-life performance tasks.

To facilitate PBL implementation, technology can be used as communication, research, scaffolding, production and presentation tools (Indrawan et al., 2019). For successful PBL, students must be in control of their own learning (Buck Institute for Education, n.d.) and students are already in control of their own language learning online rather than depending on the teacher-centered classroom (Kaufmann, 2018). Here comes the role of WBLL which is an interactive learning via online materials and tools such as podcasting, weblogging, E-Journals, Wikis, and Social Networking websites (Kumar, 2015).

The novel COVID-19 pandemic has accelerated the move all over the world to incorporate online learning into classroom language learning (Kaufman & Machová, 2020). In this respect, the Egyptian Ministry of Higher Education has decided to apply the hybrid education system (Online learning mixed with Face-to-Face Classroom) at Egypt's universities in the academic year 2020-2021 ("Egypt- Supreme Council of Universities announces new academic year dates," 2020). Accordingly, PBL as a classroom learning could be integrated online with WBLL.

Since WBLL considers the social distance norms via remote communication, it was recommended by all the university tutors and student teachers of English in the pilot open interviews for practicing the academic speaking skills. Therefore, the present research attempted to use the hybrid pedagogy of Web Project Based Language Learning (WPBLL) which is a blend between PBL and WBLL in order to develop the academic English Speaking skills among the student teachers of English.

### **Context of the problem**

In lectures of academic courses in English (English Language Teaching (ELT) methodology, Teaching English School Curriculum and Teaching English to Special Needs Learners) with the student teachers of English, it was noticed that their inadequate performance of the academic English speaking skills led to their inefficient oral interaction and collaboration. For further investigation, open interviews were conducted with 15 university staff members (5 TEFL staff members, 6 English linguistics staff members and 4 English literature staff members). They were asked about students' performance level in the academic speaking and how essential an academic English speaking course was for the student teachers. The findings revealed the student teachers' lack of academic English speaking skills which resulted in low oral interaction with the university tutors of the academic courses in English such as

Applied Linguistics, Phonology, Novel, Poetry and so on. It was also indicated that an academic English speaking course is an essential requirement for their professional language development.

This inadequacy of academic English speaking skills, in turn, affected student teachers' oral communication negatively when teaching English during the teaching practice at schools as reported by the supervisors of English. Thus, open interviews were conducted with 11 Supervisors from Ismailia Inspectorate of English Language and 13 senior teachers of English. They were asked about how necessary the academic English speaking skills were for the student teachers of English. The findings showed that the lack of these skills caused critical problems in the student teachers' oral communication when teaching English during the teaching practice at schools and that academic English speaking skills could enhance student teachers' language abilities to be successful teachers (e.g. interpreting poems, narrating stories and describing visuals).

Moreover, open interviews were conducted with 96 senior student teachers of English to check the necessity of academic speaking for their language development and teaching competence as well. The findings were in line with the those of the open interview with the university staff members, supervisors and senior teachers of English.

As a preliminary investigation for the problem size, content analysis was conducted in the second semester of the academic year 2019-2020 on the prescriptions of the academic courses whose content and medium of instruction are in English for the four years of the English department at Ismailia Faculty of Education. Since there is no academic English speaking course in the four years, content analysis was conducted on the academic courses in English that may be related to speaking (Conversation, Phonetics, Phonology and Listening & Pronunciation). It was found out that these courses are completely void of academic English speaking skills.

Finally, a pilot academic English speaking test was electronically applied in three days in the beginning of the second semester of the academic year 2019-2020 at Ismailia Faculty of Education. It was conducted on 60 student teachers of English so that there were 30 junior (3<sup>rd</sup> year) students and 30 senior (4<sup>th</sup> year) students. 20 students were tested per day. Students downloaded the test or received it via Bluetooth share from the tutor's device. During the test, each student was assigned to record their spoken responses via their own digital devices (tablets, laptops or cell phones). Finally, all recorded audio files were taken on a flash drive or shared via Bluetooth or sent by email for later assessment

by three raters via a pilot speaking scoring rubric. The results showed the vast majority's poor performance of the academic speaking regarding clarity, coherence and topic development. Thus, they were used as criteria for assessing students' academic speaking.

Therefore, this research attempted to provide web projects that were based on senior student teachers' mostly needed academic English speaking skills.

### **Statement of the problem**

In light of the pilot open interviews, academic English speaking is essential for the professional language development of the student teachers of English as well as their oral communication in teaching practice at schools and the university lectures of academic courses whose content and instruction are in English. However, there is no academic English speaking course in the four years of the English department at Ismailia Faculty of Education as shown in the pilot content analysis.

Despite the student teachers' need of the academic English speaking skills, the findings of the pilot academic speaking test revealed the vast majority of senior student teachers' poor performance level. As indicated in the pilot open interviews, such lack of academic English speaking skills negatively affects their career development and, in turn, job recruitment. It causes low oral interaction with the university tutors of the academic courses whose content and instruction are in English (e.g., summarization, illustrating and contrasting based on listening from lectures and/or reading from course books) as well as problems in oral communication when teaching English during the teaching practice at schools (e.g., interpreting poems and narrating picture stories).

### **Questions**

This research sought to find answers to the following questions:

1. What are the academic English speaking skills mostly needed by the senior student teachers of English?

2. What are the features of the web project based language learning as a hybrid pedagogy of project based learning and web based language learning?
3. What is the effect of applying the hybrid pedagogy on the academic English speaking skills among the senior student teachers of English?
4. To what extent is the proposed hybrid pedagogy beneficial and satisfactory to the senior student teachers of English?

### **Hypotheses**

1. There is a statistically significant difference between the mean scores of the senior English language student teachers' independent academic English Speaking skills in the pre- and post-administrations of the Independent Academic Speaking Test in favor of the post-administration.
2. There is a statistically significant difference between the mean scores of the senior English language student teachers' integrated academic English speaking skills in the pre- and post-administrations of the Integrated Academic Speaking Test in favor of post-administration.
3. There is a statistically significant difference between the mean scores of the senior English language student teachers' overall academic English Speaking skills in the pre- and post-administrations in favor of the post-administration.
4. The hybrid pedagogy of web project based language learning has a high positive impact on the target academic English Speaking skills among senior student teachers of English.

### **Aim**

Developing the senior English student teachers' academic English speaking Skills that are mostly needed by them for their professional language development as well as competence in their future career as successful language teachers.

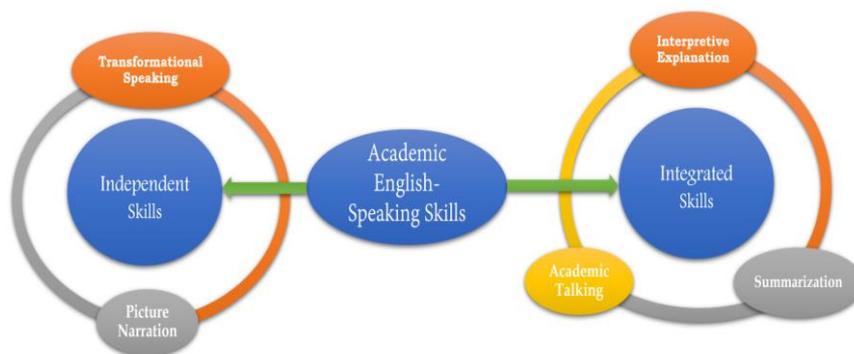
### **Delimitations**

The current research was delimited to the following:

1. 4<sup>th</sup> year (Senior) student teachers of English at Ismailia Faculty of Education in Suez Canal University in Egypt.
2. Web 3.0 [The semantic Web or the 3<sup>rd</sup> web generation]

3. Five academic English speaking skills were selected since they were identified as mostly needed and top ranked in common by the following participants in the needs assessment questionnaire:
- University staff members of academic courses in the fields of TEFL, English linguistics and English literature.
  - Senior teachers of English and supervisors at the Inspectorate of English Language.
  - Senior student teachers of English at the Faculty of Education.
- These five skills are grouped into two categories as follows:

Figure (1)  
Target Academic English Speaking Skills



First, independent academic English speaking skills are stand-alone skills that are practiced purely and individually. They are the following two skills:

#### 1. Description of Visuals (Transformational Speaking)

- Describing visual inputs (tables/ processes/ charts/ diagrams) orally

#### 2. Picture Narration

- Telling short stories taking place in still sequential pictures (12 or more) cohesively and chronologically.
- Telling stories taking place in wordless short animated or motion pictures cohesively and chronologically.

Second, integrated academic English speaking skills are dependent skills based on receptive skills as language input. They are the following three skills:

### 1. Interpretive Explanation

- Explaining a simple short reading poem with oral interpretation. [Read and Speak]

### 2. Summarization

- Summarizing spoken lectures orally. [Listen and Speak]

### 3. Academic Talking

- Contrasting the reading input with the listening input on the same academic topic. [Read, Listen and Speak]
- Illustrating the reading input with examples from the listening input on the same academic topic or vice versa. [Read, Listen and Speak]

## Review of literature and related studies

### 1. Academic English Speaking

This section reviewed the academic English speaking skills to build the inventory of skills used in part one of the needs assessment questionnaire and find out the skills that are mostly needed by the student teachers of English.

#### 1.1 Speaking within Academic Contexts

Speaking is essential for students' academic success (Tuomaitè & Knyza, 2014). It is given the highest priority in the English for Academic Purposes (EAP) courses (Noor, 2007). For oral communication, speaking within academic contexts has become the focus for colleges and universities worldwide and it should be tailored to the needs of the students in the field of study (Creative Commons, 2012). Accordingly, speaking skills vary from one academic context to another. In the field of education and training, speaking involves academic skills such as giving lectures, discussing and administering tasks (Richmond et al., 2018). Speaking within the academic context of arts and humanities may include skills such as criticizing, comparing or contrasting, reviewing and oral presentations (Dannels, 2001).

As a promotion for the 21<sup>st</sup> century skills, academic speaking is the main requirement for the oral communication, career development and job recruitment of the student teachers of English (Hervina, 2017; Nur, 2017, p.27 and Menggo et al., 2019). Hence, the current research attempted to develop the academic speaking skills among the student teachers of English at Faculty of Education. Since these students are graduated with the degree of Bachelor of Arts and Education in English, their English speaking skills should be developed within the following academic contexts:

- a. Arts and Humanities (academic courses of English Language studies such as phonology, novel, sociolinguistics, criticism & syntax)
- b. Education (academic courses of pedagogy whose content and instruction are in English such as English Language Teaching Methodology, Micro-Teaching and Teaching the School Curriculum).

## 1.2 Skills of Academic English Speaking

Oxford University Press (2012) refers to the skills of participating in seminar and giving academic presentations as important speaking skills in an academic context. As for academic presentation, Tuomaitè and Knyza (2014) state that it is necessary for the students' academic success; whereas Hervina (2017) manipulates it as an academic speaking skill for the teacher's career development.

The Council of Ministers of Education, Canada as well as the Human Resources and Skills Development Canada (2013, pp. 31-32) highlight the following academic speaking skills as mostly needed by language teachers: describing drawings and concepts, evaluating and making judgements, inferring and hypothesizing, arguing, predicting, classifying, defining as well as comparing or contrasting. Hui (2011, p. xxii) also refers to the same speaking skills but adds the skills of reporting and narrating.

Kelzenberg (2016, p.6) emphasizes the academic skill of leading content-based conversations as a medium of instruction in EAP courses for English as a Foreign Language (EFL) learners. Lecturing, participating in projects and academic talking are also added by Tuomaitè and Zajankauskaitè (2017) as important speaking skills for competence development in academic contexts. Dalarna University (2018, pp. 6-9) tackles the academic speaking skills of interpreting, analyzing and criticizing as essential requirements to prepare the international students for the university courses in which English language is the medium of instruction.

Educational Testing Services (2017, p.17) divides the speaking skills into two main types. First, independent academic speaking skills that are stand-alone such as providing opinions and giving ideas from previous academic experiences. Second, integrated skills that are dependent on academic reading and/or listening inputs such as paraphrasing, summarizing, contrasting and illustrating.

Based on the literature review of academic English speaking skills, a closed-ended list of 30 academic speaking skills was formed as a part of the needs assessment questionnaire with a three-level gradual scale (not

needed, needed and mostly needed). This gradual scale was developed to allow the university staff of Teaching English as a Foreign Language (TEFL), English Linguistics and English Literature as well as the supervisors, senior teachers and student teachers of English to decide how essential each of these academic speaking skills for the student teachers' professional language competence, academic success and career development.

## 2. Project Based Learning (PBL)

### 2.1 Definition

Buck Institute for Education (n.d.); Farr (2016); The Cognet Construct (2017); Clark (2017, pp.4-5) and Schuetz (2018) give definitions for PBL that asserts seven key elements for gold standard PBL as follows:

1. A challenging problem or driving question:

The driving question sets up students' mind for what is to come

2. Inquiry

An inquiry-based search should be allowed for the resources required to answer the driving question.

3. Authenticity

Students are allowed to provide meaningful products that simulates real-life ones. Accordingly, materials that are gathered by students for the project should be authentic and elicited from real-life resources.

4. Student voice & choice:

Students' freedom of choice can be offered in the content, process or product. The teacher acts as a guide.

5. Reviewing

Constructive feedback is offered continuously until the final version of the product is produced. Formative assessment is provided between the tasks of the project.

6. Reflection

Students evaluate the learning experience to check out what went right and what went wrong.

7. Product

It is the output in its final version for either presentation or publishing.

These elements must be combined in PBL so that students can acquire the target knowledge or skills. Consequently, they were involved in the PBL integrated in hybrid pedagogy of WPBLL. In light of these elements, PBL can be procedurally defined as:

“A teaching method in which student teachers of English practice the academic English speaking skills by actively getting engaged with a *driving speaking question* followed by an *inquiry-based search* by *freely choosing* the topics as well as *exploring* the required *authentic* materials in order to provide *meaningful academic spoken products reflectively reviewed* via academic English speaking scoring rubrics”.

## 2.2 Benefits

Gibbes (2011, p.9), Spalek (2014), Collier (2017, pp.10-11), Schuetz (2018), Spencer (2019) and UK College of English (2019) pinpoint the following benefits of PBL:

1. Enhancing collaborative teamwork, inquiry-based learning and knowledge retention.
2. Addressing full range of students’ needs and learning styles
3. Increasing students’ achievement as they are engaged deeply with the topic, gather information and continuously improve language ability
4. Emphasizing self-autonomous learning as it develops students’ independent investigation
5. Promoting students’ divergent and creative thinking
6. Helping students become explorers and think about new information as they are motivated intrinsically & exposed to lots of language materials.
7. Allowing students to design meaningful products as it consolidates language skills.
8. Providing authentic language and learning experiences as it increases students’ English language proficiency and competency.

## 2.3 PBL phases

DavidLeeEdTech (2015) refers to the following four phases of PBL:

1. Launching project (Entry Event & Driving Question):  
The entry event catches students’ interest via different means such as video, discussion and guest speaker. The driving question (DQ) is a challenging question that intrigues students’ exploration on the topic.
2. Building knowledge, understanding & skills to answer DQ:  
This phase focuses on the significant skills and knowledge needed to solve the challenge and provide an answer to the driving question.

Finally, students get engaged in in-depth inquiry by asking questions, looking for other resources and using them to develop solutions.

3. Developing and revising products and answers to DQ:

Students' voice and choice can be on how they work, how they use their time and also what they create. This makes the project more meaningful. The amount of choice that students have, depends on their age and language level. The project should also contain continuous constructive feedback and revisions in light of criteria which, in turn, leads to additional inquiry.

4. Presenting products that answer DQ:

The product, in this phase, should be presented to public audience such as fairs, exhibition, parents, peers, experts and global community. This motivates students to provide high-quality products.

### 2.4 PBL and Academic English Speaking Skills

PBL mostly develops the speaking skills more than the other language skills of listening and reading since it allows for better and effective development of communicative and productive skills (Molina & Cardona, 2017). Simpson (2011) conducted a study on using PBL to develop students' four language skills within the academic context of tourism in Thai university. The findings revealed students' high achievement and progress in speaking and writing as well as no significant improvement in listening and reading skills. For language acquisition and academic skills development, Sarieva's study (2013) concluded that PBL worked as an efficient support for the development of international students' academic speaking and presentation skills at Saint Leo University. In a university in northern China, three English Language teachers decided to work collaboratively to use PBL to teach an EAP course. Findings showed the success of PBL in developing the academic English language productive skills within the context of the EAP course (Wang et al., 2019).

### 3. Web Based Language Learning (WBLL)

This section tackled Web Based Language Learning (WBLL) as well as web 3.0 features and technologies that it can be utilized for teaching and practicing the academic English speaking skills.

#### 3.1 Definition

Aksal et al (2016); Yongo (2019); Czeropski (2020); Karipidis & Prentzas (2020) and Tsetsos & Prentzas (2021) define WBLL as an instructional strategy for learning language online by:

1. Using the internet as an instructional delivery

2. Exploiting Web materials, resources, applications and tools
3. Internet-enabled transfer of knowledge and skills
4. Student-Student interactions on WWW such as Discussions, forums, emails as well as live lectures and/or videos.

Based on these definitions, WBLL can be procedurally defined as “An online instructional strategy for developing the academic English speaking skills among the student teachers of English via the recommended available web resources (materials, applications, services and tools) as well as web review-based interactions”.

### 3.2 Web 3.0 Features

Web 3.0 is the semantic web, machine centric web or read-write-execute web which emphasizes a machine-facilitated understanding of information (Chang et al., 2012). A semantic web is the vision of information which is understandable by the computers where computers can perform the tedious tasks of finding, combining and acting upon information on the web (Pandey, 2017). Spivack (n.d.); Chang et al (2012); Pandey (2017) and Expert System (2020) refer to the following Web 3.0 features:

1. Social Networking Sites like Facebook, WhatsApp and Viber.
2. Web Conferencing applications like Zoom and Skype
3. Learning management systems like Microsoft Teams, Google classroom and Schoology.
4. Media-Centric Web

Web 3.0 enhances broader searches for information through simpler interfaces. There are File Browsing, Sharing and Transfer tools as well as Podcasting services:

- a. File Transfer Protocol (FTP) applications such as Bit Torrent
  - b. Image Sharing such as Flickr, Shutterfly and Photobucket
  - c. Video Sharing such as YouTube, TeacherTube and GLEF Videos.
  - d. Audio Sharing such as SoundCloud
5. Semantic Web and Artificial Intelligence

Intelligent Semantic Web technology provides an intelligent level to the web by enabling the users to communicate completely with machines and the machines to communicate with each other. It allows for automation and flexibility. Automation is brought to content management where multi-level automated topic aggregation takes

place via taxonomy structures and natural semantic relationships among concepts. In terms of flexibility, the tagging process of automation aims to produce highly dynamic information-rich websites at many levels of aggregation without human intervention. Semantic web technologies may involve:

- a. Intelligent Search Engines as Netscape, Ask.com and Google Scholar
  - b. Semantic Blogs or Weblogs  
Weblogs are posts of comments or news on a particular subject created by a person on a webpage and readers can leave comments and replies if allowed. Blogs may be in a form of a text or any other multimedia element like pictures and animation. There are various websites providing weblogging services such as Edublogs, Blogger, Live Journal, Blackboard and WordPress.
  - c. Semantic Digital Libraries, Forums and Community Portals
  - d. Intelligent Tutoring Systems
6. RSS (Really Simple Syndication)  
It is a news aggregator or feed reader service that helps share and distribute frequent updated web contents. It helps the users keep track of multiple websites by feeding them with notifications of any updates from bookmarked, browsed or visited websites.
7. Video Web which involves broadcasting lots of videos even in high quality resolutions via online presentations as PREZI and VoiceThread.
8. Web 3D is the online display technology that uses 3D graphics and it involves services and applications such as:
- a. Virtual 3D Worlds, Avatars, Encyclopedias and Educational Labs.
  - b. 3D Wikis  
Wikis are websites that allow users to add, remove and edit content. They are an effective tool for mass collaborative authoring that organizes information on websites and allows for linking among any number of pages.
9. Ubiquitous and Pervasive Web which indicates surfing websites and using the internet tools via any digital device such as Tablet, Cell Phone, PC or Laptop or via any Operating System (OS) such as Windows, Linux, Mac or Android.

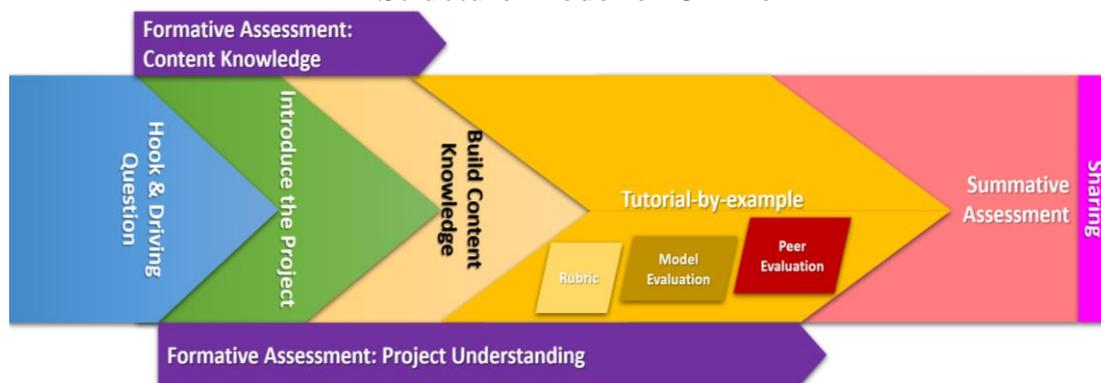
These features of the third-generation web could promote students' language learning efficiently. According to Pandey (2017), Web 3.0 allows for students'

1. English language interaction and real-life communication via web conferencing.
2. Integrated use of language skills via file browsing, sharing and podcasting.
3. Peer editing and peer feedback via social networking sites (Semantics of Social Connections).
4. Personal involvement in language learning and practice via Video Web, Web 3D, RSS and information-rich semantic websites (Semantics of Information Connections).
5. Training for real-life professional language needs via ubiquitous and pervasive web.

Consequently, the current research used Web 3.0 version in WBLL as an attempt to facilitate and enhance students' online practice of academic English speaking skills via project-based learning.

### 3.3 Online Learning Model for PBL

Figure (2)  
Structure Model of Online PBL



(Lokey-Vega & Bondeson, 2017)

According to the instructional design above, Lokey-Vega and Bondeson (2017) demonstrate how the content of the PBL is offered via online through the following seven major components:

1. Driving Question and Hook: This component aims to attract student's attention and make the project meaningful for the learner.
2. Introduce the Project: The project instructions are introduced online via video that provides an overview for the whole project and explains the path which the student leads until the product is produced.
3. Formative Assessments: Internal and embedded online assessment is incorporated in order to check students' understanding before moving

into the new skill or content. Depending on the results of such assessment, changes in the online content takes place.

4. **Build Content Knowledge:** This component includes the readings, videos, and images that introduce the student to the new content in order to understand and recall what will be used to complete the project.
5. **Tutorial-by-Example:** There are various ways to provide tutorials that scaffold students' understanding of the project expectations and processes. Tutorials require an in-depth description of the project, a rubric, at least one student sample, at least one video or screencast where the teacher grades the student sample using the rubric and the opportunity for critical peer or self-evaluation.
6. **Summative Assessment:** Students submit their projects and revision is also allowed and facilitated.
7. **Sharing:** Students publish the product to share with an authentic audience.

### **3.4 WBLL and Academic English Speaking**

Previous studies were conducted on the academic English speaking skill of oral presentation via online. Cartner and Hallas (2009) revealed the significance of online learning activities in learning of academic speaking skills for vocabulary acquisition, pronunciation and presentations. Also, Sari's study (2014) showed the effect of PREZI, the zooming presentation software, on developing the students' academic skill of oral presentation.

For a pedagogical evaluation of the WBLL resources and tools, an appraisal study was conducted by Seiz-Ortiz et al. (2011). The pedagogical analysis pinpointed the web as a feasible environment for effective language learning and as an assistant for students in the efficient and instructional use of the available online language learning resources. This is in line with the study of Kwak et al (2018) in which online portfolios were used as a WBLL source in order to develop students' academic speaking skills at a university in Korea. The findings showed the students' development of their speaking skills owing to reflection, continuous feedback and self-assessment via online web resource of e-speaking portfolios.

Also, Vlog (Video Blog) was used as an online learning tool in a study by Lestari (2019) as an attempt to improve the EFL speaking skills

among the students of Information and Technology (IT) Department in one of Universities in Indonesia. Findings indicated the vlog is an effective online media learning on improving the academic English speaking skills.

At the Arab level, Ghoneim and Elghmotmy (2016) used VoiceThread as a web-based tool in their study to enhance pre-service English teachers' EFL communication skill. Participants' overall speaking ability improved in terms of accuracy and fluency. Also, Sheerah (2018) conducted a study on the use of online learning integrated with classroom learning to develop the four academic English language skills including speaking among students in Saudi Arabia. The results revealed the online power of enabling students to acquire an important level of the language skills.

#### **4 Web Project Based Language Learning (WPBLL)**

This section introduced the WPBLL as a proposed hybrid pedagogy for helping the student teachers of English develop academic speaking skills.

##### **4.1 Definition**

According to the procedural definitions of PBL and WBLL, WPBLL can be defined in light of the research variables as follows:

“A hybrid pedagogy of PBL and WBLL aiming to develop the academic English speaking skills via web projects in which students teachers of English are engaged in an online inquiry-based search triggered by a driving speaking question as well as promoted by freedom on topic choice and exploitation of the provided authentic web resources so that they can practice speaking and produce meaningful academic spoken responses reflectively reviewed via web interactions and in light of the academic speaking scoring rubrics.”

##### **4.2 Rationale**

Integrating PBL into remote learning via WBLL can help students stay connected and engaged (Castelo, 2020). This integration is essential as it matches the policy of the hybrid learning of the Egyptian ministry of higher education during the pandemic of COVID-19. Moreover, WPBLL is a hybrid pedagogy that combines the benefits and advantages of WBLL and PBL as indicated in the following table:

Table (1)

The hybrid pedagogy of WBLL and PBL

Web-based language learning	Project-based learning
<p><b>Social Distancing:</b> It enhances remote communication among students while practicing and assessing speaking.</p> <p><b>Extended practice:</b> It extends the time to practice speaking.</p> <p><b>Variety and Infinity:</b> It provides unlimited, updating and various listening, reading and visual resources that can be used by students to practice speaking.</p> <p><b>Content Accessibility:</b> The visual, listening and reading resources are available and reachable anytime &amp; anywhere.</p>	<p><b>Inquiry-Based:</b> It allows students to use the listening, reading and/or visual inputs for speaking.</p> <p><b>Problem-Based:</b> It provides real world problems that capture students' interest and provoke their thinking.</p> <p><b>Meaningfulness:</b> It makes the speaking task meaningful by connecting speaking with the students' real-life experiences and promoting performance rather than competence.</p> <p><b>Reflection:</b> Students evaluate the learning experience &amp; identify points of weakness and strength.</p>
<p><b>Authenticity:</b> PBL allows students to provide authentic spoken products by using authentic resources. WBLL makes such resources available since it provides various and unlimited real-life listening, reading and visual inputs as raw materials to practice speaking.</p>	

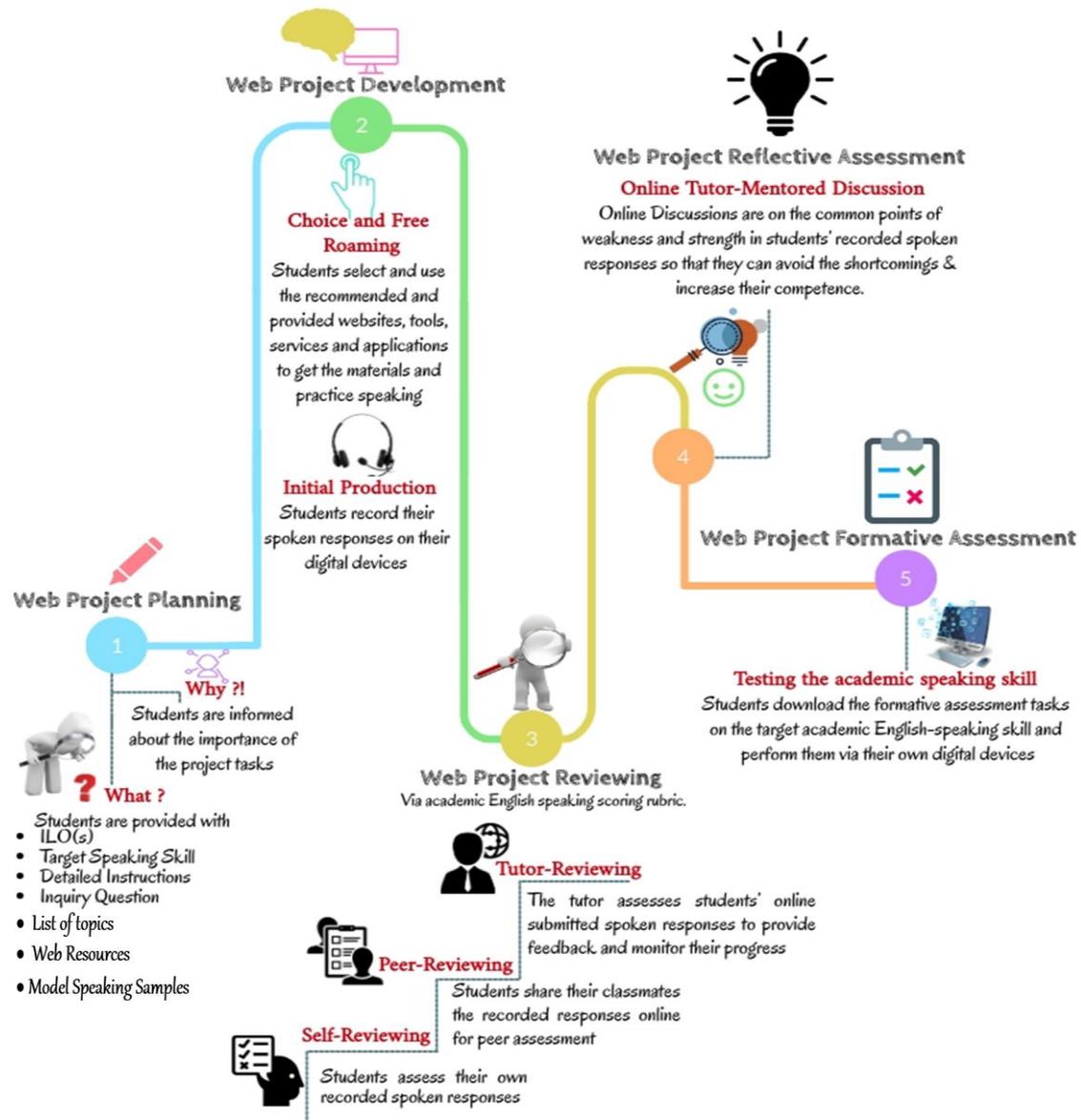
According to the table above, this combination helps overcome crucial problems that students encounter while practicing speaking. While PBL allows students to use the listening, reading and/or visual materials for speaking, WBLL helps the students acquire various and updated materials within infinite resources. As PBL promotes students' collaboration, WBLL considers the social distance norms by having students collaborate remotely. PBL makes the speaking tasks meaningful by connecting them to students' real-life experiences; however, WBLL enhances such real-life experiences by providing authentic listening, reading and/or visual materials for students to perform their speaking tasks. WBLL helps overcome the limitation of time when practicing speaking via PBL.

Online environments provide flexibility in time and space which are limited in the face-to-face classroom (Lokey-Vega & Bondeson, 2017). In this respect, WBLL allows extensive time for the students to practice speaking intensively outside the class as the content is accessible all the time and anywhere. Finally, PBL provides reflection by the end of a series of tasks on each academic English speaking skill so that students

can figure out what went right and what went wrong in their online learning experience via peer reviewing and mentored discussions.

### 4.3 Framework

Figure (3)  
Web Project Based Language Learning Framework



To answer the second research question, this framework was developed by the researcher in light of the research variables, the PBL stages and the WBL model. According to this framework figure, there are five main stages for the hybrid pedagogy of WPBLL as follows:

1. Web Project Planning:

This stage involves the PBL elements of challenging problem or question. It takes place inside the lecture classroom with the tutor where students are provided with detailed instructions for the whole project regarding the use of the provided web resources, the practice of speaking in the online tasks as well as the review and assessment of the spoken responses. For each type of tasks in each web project, students are provided with:

- Target academic English speaking skill
- Rationale for practicing the skill (importance of performing the tasks)
- Intended Learning Outcomes (ILOs)
- A **challenging** speaking **question** to start the tasks of the target skill.
- A list of topics on the target speaking skill to select from.
- Recommended web resources (sites, tools, applications and services)
- Model speaking samples on the skill for the students as a guide and a model of evaluation while practicing to produce the spoken response

## 2. Web Project Development:

Figure (4)

### Phases of Web Project Development



This stage involves the PBL elements of students' choice, sustained inquiry and authenticity. It takes place in two phases outside the lecture classroom. In the first phase of **choice** and free roaming, freedom is provided in the content and process of the project. As for the content, students **freely choose a topic** from a provided list of major based academic speaking topics on the target skill. Regarding the process, students **openly surf** the recommended websites as **sustained inquiry** to select the provided web 3.0 File Browsing tools such as TED Talk, YouTube, Mixcloud and Pinterest as well as web 3.0 services such as (Really Simple Syndication) RSS, and Semantic Web Technologies in order to gather the visual, listening and/or reading **authentic** materials (inputs) necessary to practice speaking in light of the ILOs. In the second phase of initial production, students record their spoken responses (output) by utilizing web 3.0 podcasting services such as Audio Blogging, Video Blogging (Vlogging), Story Jumper & VoiceThread. After

recording, they upload their responses by using the appropriate web 3.0 applications such as Vimeo and SoundCloud.

As long as web 3.0 is ubiquitous, students can go online via any type of digital devices (PC, Tablet, Laptop or Cell Phone) with any operating system (Mac, Android or Windows). If speaking is based on visuals such as pictures and diagrams, the output is independent speaking which is stand-alone. If speaking is based on reading and/or listening inputs, the output is integrated speaking which is dependent on reading and/or listening.

### 3. Web Project Reviewing

This stage involves the PBL element of reviewing. It occurs via three phases outside the lecture classroom. First, students self-assess their recorded spoken responses by comparing them to the model samples and reviewing them via related academic speaking scoring rubric. After **self-reviewing**, they re-record their scrutinized responses. Second, they use the available social networking applications such as WhatsApp and Messenger to share their recorded spoken responses attached by their visual, reading and/or listening materials with their classmates for peer reviewing.

Students check the accompanying materials, listen to the recordings of their classmates and assess them via related academic speaking scoring rubric. They can also provide comments on such recorded responses via online discussions using web conferencing or meeting applications such as Skype and Zoom. After **peer-reviewing**, they re-record their modified spoken responses. Third, students deliver the peer-reviewed spoken responses to the tutor online accompanied by the materials based on which they produced their spoken responses. The tutor assesses students' submitted spoken responses (**tutor-reviewing**) to provide feedback and monitor their progress via related academic speaking scoring rubric.

### 4. Web Project Reflective Assessment

This stage involves the PBL elements of reflection and product. It occurs outside the lecture classroom. Students are divided into small groups so that each group has an online mentored discussion with the tutor one at a time. The tutor leads an online mentored discussion for **reflection** via one of the web-based learning management systems such as Microsoft Teams on the common shortcomings in students' recorded spoken responses to avoid them as well as the good points to promote their academic speaking performance in light of the scale levels and

criteria of the related academic speaking scoring rubric. Finally, students give their **meaningful authentic** spoken **products** in their final refined version.

#### 5. Web Project Formative Assessment

This stage takes place inside the lecture classroom with the tutor where students download or receive four formative assessment tasks of the target academic English speaking skill on their own digital devices (Laptops, Tablets and Cell Phones) via Bluetooth share from the tutor's device. Students read the instructions of the four academic speaking tasks on the target skill and perform them via their own digital devices in a lecture classroom. They submit their recorded responses back online or via Bluetooth share with the tutor. The tutor with other two university staff members assess students' submitted spoken responses via related academic speaking scoring rubric. If they get 90% or more, they move on to the next skill. If not, they start over again but with different choices among the topics as well as the recommended and provided web resources in the free roaming phase of the Web Project Development.

#### 4.4 WPBLL and English Speaking Performance

WBLL can be more effective when it incorporates PBL as one of its tools since PBL can be implemented more efficiently via web-based technology (Cong-Lem, 2018). From this perspective, Cong-Lem (2018) reviewed 31 empirical studies investigating the employment of web-based technology to enhance EFL speaking performance. The findings indicated that project-based tools could be one of the WBLL's five major resources for practicing EFL speaking via Websites with technology allowing students to create their learning projects such as presentations or digital story videos. As for online oral presentation as a project learning tool, Sun and Yang (2015) proved its effectiveness in enhancing the public speaking skill of EFL university students. In Hwang et al's study (2016), the online video digital storytelling was used as a project teaching tool administered by the teacher. Results showed its impact on promoting children's EFL speaking ability of narration.

In conclusion, WPBLL is expected to develop the target academic English speaking skills since it is based on web projects that integrate PBL as a method of instruction into WBLL.

#### Method

##### 1 Participants

66 senior student teachers of English who enrolled at Ismailia Faculty of Education in the academic year 2020-2021. Their age ranged between 20

and 21 years old. Resitters were excluded. The reason for this sample selection was to ensure that the results of the treatment could be attributed to the use of the hybrid pedagogy of web project based language learning since senior student teachers of English studied many academic courses in English for more than three years at Ismailia Faculty of Education and they almost lacked the mostly needed target academic English speaking skills.

## 2 Instruments

### a. Needs Assessment Questionnaire

Prepared by the researcher to answer the first research question, this paper-and-pencil questionnaire aims to identify the senior English major student teachers' mostly needed academic English Speaking skills for their professional language development at the Faculty of Education as well as their success in the future career as competent language teachers. It is divided into two parts. Part one was developed according to review of literature and related studies. It consists of a closed-ended list of 30 academic speaking skills with a gradual scale of three levels (not needed, needed and mostly needed). Part two involves three open-ended questions so that there is one question for the university staff members, one question for the in-service supervisors of English and senior teachers of English and one question for the senior students. Such open-ended questions in part two were given to gather as much information as possible regarding students' needs other than those in the close ended list.

The questionnaire was administered within three days in the first week of the 2<sup>nd</sup> semester of the academic year 2019-2020. It was conducted on three main sources for needs analysis:

- 15 university specialists (five TEFL staff members, six English linguistics staff members and four English literature staff members)
- 24 in-service employees (11 supervisors from Ismailia English Language Inspectorate and 13 senior teachers of English)
- 96 senior student teachers of English at Ismailia Faculty of Education.

### b. Independent Academic Speaking Test

It is an electronic oral test prepared by the researcher to provide a partial answer to the third research question. It works on digital electronic

devices such as computers, laptops, tablets and cell phones. It aims to assess the academic English speaking skills that are stand-alone so that students speak based on visual inputs such as diagrams and pictures. The test duration is 60 minutes. It is composed of two parts so that there is one part for each skill. As for part one, there are four questions on the skill of description of visuals where students are asked to look at the visual input (table, process, chart or diagram), prepare their responses for transformational speaking in two minutes and finally answer the question by speaking in two minutes to describe the visual input. In part two, there are four questions on the skill of picture narration. Two questions on still picture narration where students are asked to look at several still sequential pictures (12 or more) of a short story, prepare their response in one minute and then tell the story coherently and chronologically in two minutes. The other two questions are on animated or motion pictures where students are asked to watch a wordless short animated film ranging between 10-16 minutes, prepare their response in one minute and then tell the story coherently and chronologically in two minutes.

There is an independent academic speaking scoring rubric for students' answers so that the mean scores of three raters are estimated for each of the students' answers in each question with a maximum score of 12 points. The total score is 96 points. It is a grading rubric with a five-level scale (Invalid=0, Weak=1, Limited=2, Fair=3 and Good=4) in light of three criteria (Topic development, Coherence and Clarity) for students' answers to the speaking questions related to the independent academic English speaking skills. This scoring rubric was used for grading students in the independent academic speaking test before and after the treatment as well as in the web project reviewing, reflective assessment and formative assessment stages after the online practice of each independent skill.

To check the validity of this test, a checklist was submitted to a jury committee of university TEFL staff members to verify each question's representation of the target independent academic English speaking skills with the intended learning outcomes. This checklist presented the two independent academic English speaking skills with their intended learning outcomes accompanied by their related test questions, and a three-level scale of consistency (Inconsistent, consistent and very consistent) between each of the two independent academic English speaking skills with its intended learning outcome and its test questions.

As for the test reliability, Alpha ( $\alpha$ ) formula was used in order to estimate the reliability coefficient. The value of the reliability coefficient was (83.8%) for the Independent Academic Speaking Test. Thus, the test's reliability was established.

Finally, it was administered in two days before and after the treatment in the 1<sup>st</sup> semester of the academic year 2020-2021 so that 33 participants were tested per day. It was individually submitted by having each participant record his/her responses on his/her own digital device (Tablet, Cell Phone or Laptop) in the lecture hall at the faculty. Such orally recorded responses, in the form of saved audio files, were collected by the researcher on a flash drive or shared via Bluetooth or sent by email for later assessment. The researcher with other two university staff members of TEFL assessed each of the participants' spoken responses via the independent academic speaking scoring rubric before and after the treatment. The participant's score was the mean scores of the three raters.

### c. Integrated Academic Speaking Test

It is an electronic oral test prepared by the researcher to provide a partial answer to the third research question. It works on digital electronic devices such as computers, laptops, tablets and cell phones. It aims to assess academic English speaking skills that are dependent on listening and/or reading inputs. The test duration is two hours. It is composed of three parts so that there is one part for each skill.

As for part one, there are three questions on the skill of interpretive explanation where students are asked to read a simple short poem (ranging 3-6 Stanzas / 6-8 lines per stanza) in three minutes and explain what the poet wants to tell with an oral interpretation for what the poem means to them in four minutes.

In part two, there are three questions on the skill of summarization where students are asked to take notes while listening to a mini-lecture ranging between (5-15) minutes, prepare their response for an oral summary in one minute and answer the question by speaking in one minute to sum up the main ideas and key information.

Regarding part three, there are four questions on the skill of academic talking where students are asked to read a short text (ranging between 250 and 350 words) on an academic topic in one minute, then take notes while listening to a mini-lecture ranging between (5-15)

minutes on the same academic topic, prepare their response for an oral contrast (between the contents of the reading and listening inputs on the same topic) or an illustration (clarifying the reading content with examples from listening input or vice versa) in one minute and finally answer the question by speaking in two minutes to contrast or illustrate based on the reading and listening inputs.

There is an integrated academic speaking scoring rubric for students' answers so that the mean scores of three raters are estimated for each of the students' answers in each question with a maximum score of 12 points. The total score is 120 points. It is a grading rubric with a five-level scale (Invalid=0, Weak=1, Limited=2, Fair=3 and Good=4) in light of three criteria (Topic development, Coherence and Clarity) for students' answers to the speaking questions related to the integrated academic English speaking skills. This scoring rubric was used for grading students in the integrated academic speaking test before and after the treatment as well as in the web project reviewing, reflective assessment and formative assessment stages after the online practice of each integrated speaking skill.

To check the validity of this test, a checklist was submitted to a jury committee of university TEFL staff members to verify each question's representation of the three integrated academic English speaking skills with the intended learning outcomes. This checklist presented the target integrated skills with their intended learning outcomes accompanied by their related test questions, and a three-level scale of consistency (Inconsistent, consistent and very consistent) between each of the three integrated skills with its intended learning outcome and its test questions.

As for the test reliability, Alpha ( $\alpha$ ) formula was used in order to estimate the reliability coefficient. The value of the reliability coefficient was (87.3%) for the Integrated Academic English Speaking Test. Thus, the test's reliability was established.

Finally, it was administered in two days before and after the treatment in the 1<sup>st</sup> semester of the academic year 2020-2021 so that 33 participants were tested per day. It was individually submitted by having each participant record his/her responses on his/her own digital device (Tablet, Cell Phone or Laptop) in the lecture hall at the faculty. Such orally recorded responses, in the form of saved audio files, were collected by the researcher on a flash drive or shared via Bluetooth or sent by email for later assessment. Three university staff members of TEFL assessed each of the participants' spoken responses via the integrated academic

speaking scoring rubric before and after the treatment. The participant's score was the mean scores of the three raters.

d. Online Survey

Online survey was conducted via emails at the end of the treatment in the 1<sup>st</sup> semester of the academic year 2020-2021 in order to gather data for qualitative analysis. This survey consists of three main questions with four statements under each one. There is a five-level scale (Strongly disagree= 1, Disagree= 2, Not Sure= 3, Agree= 4 and Strongly agree= 5) so that the participants tick the most suitable number for each statement. This online survey attempted to answer the fourth research question. The survey questions and their inherent statements, hereby, aimed to figure out to what extent the senior student teachers of English were satisfied with web project based language learning, how it helped them develop their target academic English Speaking skills as well as how useful the web projects were for them. All participants, enrolled in the current research, fully responded to the online survey and submitted it via email.

3 Design

- b. Quasi-experimental method (One Group Pre and Post Test Design) was used to test the hypotheses.
- c. Descriptive method was used for literature review as well as the discussion of findings and analysis of data collected via online survey.

**The Web Projects**

There are two web projects so that there is one web project for each of the two categories of academic English speaking skills as indicated in the following two tables:

Table (2)

Tasks of web project one, their descriptions, objectives, web practice materials, speaking time and academic speaking skills

<b>Web Project One: Independent Academic Speaking</b>					
<b>Tasks</b>	<b>Description</b>	<b>ILOs (Intended Learning Outcomes)</b>	<b>Web Materials of Speaking</b>	<b>Speaking Time (Recording Length)</b>	<b>Independent academic English speaking skills</b>
<b>Transformational Speaking</b>	Descriptive Talk on Academic Tables	1. Describing tables orally	Visual images for tables, diagrams, processes and charts on major based academic topics	2-minute spoken response for each task	<b>Description of Visuals</b>
	Descriptive Talk on Academic Processes	2. Describing processes in visual graphs orally			
	Academic Charts	3. Describing charts orally			
	Academic Diagrams	4. Describing diagrams orally			
<b>Storytelling</b>	Telling short stories via Sequential pictures	1. Telling short stories taking place in still sequential pictures (12 or more) cohesively & chronologically.	At least 12 sequential pictures for each story		<b>Picture Narration</b>
	Telling short stories via Animated or motion picture movies	2. Telling stories taking place in wordless short animated or motion pictures cohesively & chronologically	Wordless 3D motion pictures or movies ranging between 10-16 minutes		

Table (3)

Tasks of web project two, their descriptions, objectives, web practice materials, speaking time and academic speaking skills

<b>Web Project Two: Integrated Academic Speaking</b>					
<b>Tasks</b>	<b>Description</b>	<b>ILOs (Intended Learning Outcomes)</b>	<b>Web Materials of Speaking</b>	<b>Speaking Time (Recording Length)</b>	<b>Integrated academic English speaking skills</b>
Poetry	Simple short poems to explain what the poet wants to tell and interpret what the poem means to readers	Explaining a simple short reading poem with oral interpretation.	Poems ranging between 3 & 6 stanzas (Sestet, Septet or Octave)	4-minute spoken response for each task	Interpretive Explanation [Speaking via reading input]
Lectures	Mini-lectures on major based academic topics to summarize	Summing up spoken lectures orally.	Audio or video lectures ranging between 5-15 minutes	1-minute spoken response for each task	Summarization [Speaking via listening input]
Academic Talks	Talking about reading and listening inputs on the same major based academic topic but one of them provides examples	1. Illustrating the reading input with examples from the listening input on the same academic topic or vice versa.	The reading text is a short passage ranging between 250 and 350 words.  The listening input is an audio or video file ranging between 5-15 minutes	2-minute spoken response for each task	Academic Talking Illustrating & Contrasting [Speaking based on reading and listening inputs]
	Talking about reading and listening inputs showing different issues on the same major based academic topic	2. Contrasting the reading input with the listening input on the same academic topic.			

As shown in tables (2) and (3), web project one is on two independent academic English speaking skills; whereas web project two is on three integrated academic English Speaking skills. In each web project, there are intensive and extensive tasks for each academic English speaking skill. Students perform these tasks to accomplish the ILOs by using the provided web 3.0 resources (applications, tools, sites & services) to practice the target speaking skill and orally answer the inquiry-based question within the time allotted for recording the spoken response. After practicing each academic speaking skill online, reviewing takes place in three levels by using the related academic speaking scoring rubric to identify the points of weakness and strength. Here, students review their digitally recorded spoken responses via self-assessment and then share the responses online with classmates for peer reviewing. After that, they submit their responses for tutor-reviewing. Finally, students participate in tutor-mentored online discussions on tutor-reviews of their responses for reflection.

After practicing and reviewing each academic speaking skill, students perform four formative assessment tasks for internal mastery on each skill by using their own digital devices (laptops, tablets or cell phones) in a lecture hall at the faculty. Students' spoken responses are assessed by three raters via related academic speaking scoring rubric later after submitting their recorded spoken responses. Students' scores are the mean scores of the three raters. They should get 90% or more in the tasks of each academic speaking skill in order to move on to the other skill. If not, they have to go online again for further practice. Once they get 90% or more as an internal mastery level for the tasks of the skills in web project one, they can move on to web project two.

### **Treatment**

WPBLL was introduced in the first semester of the academic year 2020-2021. Two web projects were administered in ten weeks starting from the 24<sup>th</sup> of October 2020 until the 29<sup>th</sup> of December 2020. There were two weeks for each academic speaking skill. Accordingly, web project one, involving two independent academic speaking skills, was administered in four weeks. Web project two, involving three integrated academic speaking skills, was administered in six weeks. From Saturday till Tuesday weekly, four days were scheduled in each of the two weeks for each skill as indicated in the following table:

**Table (4)**

1 <sup>st</sup> week schedule for each academic speaking skill in the two web projects	
<p><b>Day 1:</b> Web Project Planning  <b>Duration:</b> One hour  <b>Location:</b> Inside Lecture Classroom at the Faculty</p>	<p>1. Students are informed by the university tutor about the rationale, ILOs, target academic English speaking skill                  2. Students are given:</p> <ul style="list-style-type: none"> <li>• Major based academic topics on the target speaking skill to select from</li> <li>• Detailed instructions for performing the tasks online by using the provided &amp; recommended web resources to practice speaking and assessing the spoken responses.</li> </ul> <p>3. Students have the driving speaking question</p>
<p><b>Days 2 &amp; 3:</b> Web Project Development  <b>Duration:</b> Open Time  <b>Location:</b> Outside Lecture Classroom</p>	<p>Students use the recommended websites and provided web 3.0 tools, applications and services to:</p> <ol style="list-style-type: none"> <li>1. get the materials necessary to practice speaking in light of the ILOs.</li> <li>2. record their spoken responses on their digital devices</li> </ol>
<p><b>Day 4:</b> Web Project Reviewing  <b>Duration:</b> Open Time  <b>Location:</b> Outside Lecture Classroom</p>	<ol style="list-style-type: none"> <li>1. Students self-assess their recorded spoken responses by comparing them to the model speaking samples &amp; checking via related academic speaking scoring rubric.</li> <li>2. Students share their gathered materials used in speaking as well as their digitally recorded and reviewed responses with their classmates for peer assessment via academic speaking scoring rubric.</li> <li>3. Students deliver the reviewed spoken responses to the tutor online accompanied by the materials based on which they produced their spoken responses.</li> <li>4. The tutor reviews &amp; assesses students' submitted spoken responses to provide feedback via related scoring rubric.</li> </ol>
2 <sup>nd</sup> week schedule for each academic speaking skill in the two web-based projects	
<p><b>Days 1, 2 &amp; 3:</b> Web Project Reflective Assessment  <b>Duration:</b> 4 hours daily  <b>Location:</b> Outside Lecture Classroom</p>	<ol style="list-style-type: none"> <li>1. Students are divided into three small groups of 22 so that each group has an online mentored discussion with the tutor in one of the three days</li> <li>2. The tutor leads an online mentored discussion for four hours daily with one of the three groups. Discussions are on the common points of weakness and strength in students' recorded spoken responses so that they can avoid the shortcomings &amp; increase their competence.</li> </ol>
<p><b>Day 4:</b> Web Project Formative Assessment  <b>Duration:</b> Ranging between 16-47 minutes for four tasks depending on the skill type.  <b>Location:</b> Inside Classroom</p>	<ol style="list-style-type: none"> <li>1. Students download the formative assessment tasks of the target skill on their own digital devices.</li> <li>2. Students read the instructions of the four academic speaking tasks on the target skill and perform them via their own digital devices in a lecture classroom</li> </ol>

## Results

To answer the third question, the hypotheses were statistically tested via the two academic speaking tests as follows:

Hypothesis One stated “There is a statistically significant difference between the mean scores of the senior English language student teachers’ independent academic English Speaking skills in the pre- and post-administrations of the Independent Academic Speaking Test in favor of the post-administration”. The paired samples t-test was used to check this hypothesis. The following table shows the results related to the student teachers’ independent academic speaking skills.

Table (5)

Paired Samples t-test value of the difference between the mean scores of the independent academic English speaking skills in the pre- and post-administrations of the Independent Academic Speaking Test

		N	Mean	St. Deviation	t	Significance
Hypothesis I	Pre-administration	66	10.83333	2.98501	-86.73	.000
	Post-administration		83.15151	5.69546		

Table (5) shows that there is a difference between the mean scores of the independent academic English speaking skills in the Pre-and Post-administrations of the independent academic speaking test in favor of the pos-administration. The difference was statistically significant ( $t = -86.73$ ,  $p < 0.05$ ).

Hypothesis Two stated “There is a statistically significant difference between the mean scores of the senior English language student teachers’ integrated academic English speaking skills in the pre- and post-administrations of the Integrated Academic Speaking Test in favor of the post-administration”. The paired samples t-test was used to check this hypothesis. The following table shows the results related to the student teachers’ integrated academic speaking skills.

Table (6)

Paired Samples t-test value of the difference between the mean scores of the integrated academic English speaking skills in the pre- and post-administrations of the Integrated Academic Speaking Test

		N	Mean	St. Deviation	t	Significance
Hypothesis II	Pre-administration	66	25.1364	8.97498	-46.43	.000
	Post-administration		97.6667	10.68764		

Table (6) shows that there is a difference between the mean scores of the integrated academic English speaking skills in the Pre-and Post-administrations of the integrated academic speaking test in favor of the pos-administration. The difference was statistically significant ( $t = -46.43$ ,  $p < 0.05$ ).

Hypothesis Three stated “There is a statistically significant difference between the mean scores of the senior English language student teachers’ overall academic English Speaking skills in the pre- and post-administrations in favor of the post-administration”. The paired samples t-test was used to check this hypothesis. The following table shows the results related to the student teachers’ overall academic English speaking skills.

Table (7)

Paired Samples t-test value of the difference between the mean scores of the overall academic English Speaking skills in the pre- and post-administrations of the two Academic Speaking Tests

		N	Mean	St. Deviation	t	Significance
Hypothesis III	Pre-administration	66	35.9697	10.32543	-73.48	.000
	Post-administration		180.6667	12.15836		

Table (7) shows that there is a difference between the mean scores of the independent and integrated academic English speaking skills in the Pre- and Post-administrations of the two Academic Speaking Tests in favor of the pos-administration. The difference was statistically significant ( $t = -73.48$ ,  $p < 0.05$ ).

Hypothesis Four stated “The hybrid pedagogy of web project based language learning has a high positive impact on the target academic English Speaking skills among senior student teachers of English”. The effect size ( $\eta^2$ ) was estimated to check this hypothesis. The following table shows the values of ( $\eta^2$ ) for the student teachers’ independent and integrated academic English speaking skills as well as the overall academic speaking skills:

Table (8)

The Effect Size level of WPBLL on the student teachers’ English academic speaking skills

Independent variable	Dependent variable	t <sup>2</sup>	DF	$\eta^2$	Effect Size
WPBLL	Independent academic speaking skills	7522.1	65	0.99	Large
	Integrated academic speaking skills	2155.7		0.97	Large
	Overall academic speaking skills	5399.3		0.98	Large

According to table (8), Eta-squared was used to calculate the effect size of WPBLL on the academic English speaking skills among senior student teachers of English. The effect sizes were large ( $\eta^2 = 0.99, 0.97$  and  $0.98$ ). Thus, the proposed hybrid pedagogy of WPBLL had a high positive impact on the student teachers’ English academic speaking skills.

### Discussion of results

Several major reasons may have led to the students’ highly intelligible academic speaking performance of the target independent and integrated skills. Their academic speaking performance was characterized by full topic development, coherence and clarity. The results may be related to WBLL with web 3.0 technologies as well as integrating PBL into WBLL in a way that maximized students’ benefits from PBL and WBLL to practice the target academic speaking skills successfully and effectively.

WBLL provided students with unlimited web resources for different materials of speaking. Thus, free roaming was available enough to promote students’ voice and choice in PBL which, in turn, motivated students to practice speaking intensively and extensively.

The semantic technology of web 3.0 guaranteed students’ uses of the appropriate and required materials of speaking during free roaming since it is based on artificial intelligence that brings flexibility and automation to content management. It automatically customized students’ speaking materials in light of the tutor recommended web resources among which students select and expand their search by using semantic websites like TEDTALK, semantic digital libraries like British Library and search engines like YouTube video-search, SoundCloud audio-search and

Google Scholar that promote automated topic aggregation in multi-level cognitive structure.

As a feature of web 3.0, Media-Centric Web made students' customized search broader and simpler as they could search the materials required to fulfill the speaking tasks of the web project via different multimedia elements other than text like searching by voice or images. Thus, students' practice of academic speaking was intensive as they had lots of materials for visual and/or language inputs required to address their assigned speaking tasks of each of the two web projects.

The RSS, as a web 3.0 technology in WBLL, notified students about the updates in the web resources required to fulfill the speaking tasks of the web project. Accordingly, students kept in touch with the latest materials of speaking that became so various and changing that students could practice the target skill skillfully rather than memorizing the content of the speaking materials.

WBLL provided students with authentic real-life visual and language inputs to address the requirements of the speaking tasks in the web projects. Here, it made the authentic learning tools available for students in PBL. As a result, such authenticity fostered students' meaningful spoken products in PBL.

WBLL provided the students with useful online learning tools like VoiceThread, helpful podcasting like YouTube and SoundCloud as well as vlogging and audio logging services like Edublogs to practice speaking. These tools allowed students to create and share their spoken products as in Yang's study (2015) and Hwang et al's study (2016). This is also in agreement with Ghoneim's & Elghmotmy's study (2016) in which VoiceThread was used to enhance pre-service English language teachers' overall speaking skills within the context of their career communication. Also, this is supported by Lestar's study (2019) in which video blog was used to improve the university students' EFL speaking skills within the academic context of information and technology.

WBLL provided online remote communication which helped students expand the practice of the target academic speaking skills by extending the time of practice outside the lecture classroom. Hence, they were able to practice speaking without time or place restrictions. The ubiquity of web 3.0 technology allowed students to practice the academic speaking skills online via any possible digital device such as PC, Laptop, Tablet and Cell phone. No matter which device they owned, all students managed to practice the academic speaking skills online.

PBL helped develop the students' academic speaking skills as it works appropriately with productive language skills (Molina & Cardona,

2017). PBL provided students' practice with guidance regarding the ILOs, details instructions for the tasks of the web project, the inquiry speaking question that works as a trigger for task performance as well as a list of topics on the target skill to choose from. This is in line with the studies conducted by Simpson (2011), Sarieva (2019) and Wang et al (2019) who used PBL to develop the university students, EFL speaking and writing skills within the academic contexts of Tourism and International Studies.

Incorporating PBL into WBLL could be more effective than WBLL as stated by Cong-Lem (2018). This integration enhanced students' practice of the academic speaking skills via different levels of assessment (Self-reviewing, Peer-reviewing, Tutor-reviewing, Reflective assessment and Formative assessment). By allowing students to digitally record their spoken responses, WBLL helped students self-review their responses in the speaking tasks of the web project. While collaborative assessment had to be part of PBL, WBLL allowed students to exchange the materials of speaking and the recorded spoken responses for peer reviewing and tutor reviewing via social networking websites like Facebook or web conferencing and chat applications like Skype, Viber and WhatsApp. In respect to reflective assessment, WBLL expanded students' reflection in PBL by administering students' participation efficiently in online tutor-mentored discussions via web-based learning management systems like Microsoft Teams, Google Classroom and Schoolgy to evaluate their learning experiences during the fulfillment of the speaking tasks for each of the two web projects. Hence, students' self-assessment was also allowed since self-review was followed by reflection. This is shown in Kwak et al's study (2018) in which university students' academic EFL speaking was developed due to the reflection and self-assessment via online e-speaking portfolios.

In conclusion, WPBLL had a high positive impact on developing the academic English speaking skills among student teachers of English since it embedded some significant features of web 3.0 technologies into WBLL and combined between the privileges of PBL and WBLL as well.

### **Qualitative data discussion of Online Survey**

The Online Survey data, gathered in the following table, were organized according to the number of students who responded to the five scale levels of each statement embedded in the survey questions.

Table (9)  
The Online Survey Data

Question	Statement	Number of Students who				
		Strongly disagree	Disagree	Are not sure	Agree	Strongly Agree
One	1	nil	nil	4	5	57
	2	nil	nil	4	6	56
	3	nil	nil	nil	7	59
	4	nil	nil	nil	8	58
Two	1	nil	nil	4	50	12
	2	nil	nil	nil	1	65
	3	nil	nil	4	52	10
	4	nil	2	nil	2	62
Three	1	nil	nil	nil	nil	66
	2	nil	nil	nil	nil	66
	3	nil	2	nil	46	18
	4	nil	nil	nil	nil	66

According to the table (9) above, qualitative analysis of data was presented for the statements of each question in terms of the students' responses to each scale level.

The first survey question stated "To what extent were you satisfied with integrating project-based learning via web-based language learning?" In this question, a great number of students were extremely satisfied with integrating PBL into WBLL. The first two statements were "I enjoyed practicing the academic speaking skills via projects" and "I felt comfortable while practicing the academic speaking skills online". For these two statements, four students were not sure about feeling enjoyed or comfortable while practicing academic speaking online via projects since they encountered difficulties with internet connectivity. However, most students (94%) enjoyed practicing the academic speaking skills via projects as well as felt comfortable during the online practice since they had the freedom for topic choice and material selection. Statements three and four stated "I learnt a lot from my mistakes and figured out my strong points during the project reflective assessment via web" and "I regularly practiced academic speaking online during the project development and reviewing". Regarding these statements, almost all of students strongly pinpointed their success in figuring out their points of weakness and strength via web reflective assessment as well as their resilience and persistence in the online practice of academic speaking during the project development and reviewing.

The second survey question stated “How did web project based language learning help you develop your academic English Speaking skills?” In this question, the majority of students referred to the great deal of help provided by WPBLL in developing their target academic speaking skills. As for the first and third statements, they stated “I managed to plan & organize my practice time well” and “I could assess and monitor my progress via web project reviewing”. In these statements, four students were not sure about their capabilities of organizing the practice time effectively nor monitoring their progress. They were the same students who experienced technical problems with internet connectivity so this might be the reason for their response. Nevertheless, the major rest of students (97%) managed to plan their practice time skillfully and assess the progress in their speaking performance level efficiently. In respect to the second and fourth statements, they stated “I could make the best use of the available web tools and applications to get the required online materials to practice academic speaking via projects” and “I collaborated successfully and effectively online for project peer reviewing”. Here, the majority strongly confirmed their ability to benefit most from the provided web resources to get the online materials necessary to practice academic speaking via projects. They also revealed their efficient online collaboration for project peer reviewing. Only very few of them (n=2) indicated their unsuccessful online collaboration in project peer reviewing.

The third survey question stated “How beneficial were the web projects for your academic English Speaking?” In this question, almost all students strongly asserted the significant benefits of web projects on their academic English speaking performance of the target skills. In regards to the first two statements, they stated “Online materials were helpful for practicing the academic speaking skills” and “Online materials were various and sufficient enough to practice each of the target academic speaking skills better”. With these statements, all students highly recommended web projects as a helpful means of learning due to the useful online materials that were various and sufficient enough to practice the academic speaking skills more effectively. In the third statement “Web Projects promoted self-autonomous learning and collaborative learning”, two students disagreed about the enhancement of the self-learning as well as collaborative one via web projects. However, the large number of students (agree: n= 46 & strongly agree: n= 18) indicated their better ability of self-learning and collaborative learning via web projects. For the last statement “Web Projects extend practice time of academic speaking outside the lecture class”, all students referred to the extensive

practice time they had outside the lecture class to perform the academic speaking skills via online projects.

In conclusion, the senior student teachers of English were satisfied with hybrid pedagogy of WPBLL that had a high positive impact on their academic English speaking skills owing to the following benefits:

- Affording the students with unlimited online resources
- Extending the practice time outside the lecture class
- Facilitating web-based communication platforms that promote students' collaboration for interacting, exchanging materials and peer reviewing via online chatting tools
- Enhancing self-autonomous learning by helping students plan their practice time and get the required materials
- Offering freedom on topic choice and selection of web resources
- Creating student-oriented learning environment in which students can assess and monitor their progress
- Motivating students to regularly practice academic speaking
- Allowing students to evaluate the learning experience and learn from their mistakes via reflective assessment

## Recommendations and Suggestions

### Recommendations

The following are the recommendations of the current research:

1. Integrating PBL into WBLL promotes students' deeper independent online investigation and collaborative teamwork in a way that addresses their different needs and learning styles.
2. When developing English speaking skills, WBLL can be used to:
  - a. Provide students with various, authentic and unlimited resources.
  - b. Make students' practice of speaking intensive and extensive.
  - c. Allow students to offer authentic spoken products via meaningful speaking tasks based on real-life web resources such as YouTube.
3. For a successful hybrid learning in higher education during the pandemic of COVID-19, WBLL can be integrated with other teaching methods, strategies or techniques so that remote communication among students can be efficiently established.

### Suggestions

Here are some suggestions for possible further research:

1. The Effect of Web Project Based Language Learning on Students' Scientific EFL Writing Skills at faculties like Engineering & Medicine.
2. The Impact of Web Project Based Language Learning on Improving the English Majors' Integrative Writing Skills at the Faculty of Education.
3. Replicating the current study on:
  - a. Enhancing the Paper EFL Writing Skills among ELT Researchers at the Faculty of Education.
  - b. Developing EFL Public Speaking Skills among Students at the Faculty of Commerce.

## References

- Aksal, F., Gazi, Z.A., Sari, A., Berigel, M. & Emiroglu, B. (2016). The Problems and Support Services in Web-Based Distance Education: Expectations in Support Services. In F. Altinay, Z. Altinay, J. Batista, J. Borzovs, T. Cardoso, D. Casanova, M. Cinar, P. De Almeida, I. Huet, M. Lucas, A. Moreira, F. Moreira, L. Niedrite, F. Noriega, P. Rea, M.C. Reis, A. Rocha, S. Rutherford, L. Santos, ... S.M. Whitehead (Eds.), *Handbook of Research on Engaging Digital Natives in Higher Education Setting* (pp. 362-373). IGI Global. <https://doi.org/10.4018/978-1-5225-0039-1.ch017>
- Alnakhalah, A. (2016). Problems and Difficulties of Speaking That Encounter English Language Students at Al Quds Open University. *International Journal of Humanities and Social Science Invention*, 5(12), 96-101.
- Alzahrani, G.A.S. (2019). The Reasons behind the Weakness of Speaking English among English Department's Students at Najran University. *Journal of Education and Human Development*, 8(1), 48-56. <https://doi.org/10.15640/jehd.v8n1a7>
- Buck Institute for Education. (n.d.). *PBL Works*. <https://www.pblworks.org/what-is-pbl>
- Cartner, H. & Hallas, J. (2009). Exploring the R2D2 model for online learning activities to teach academic language skills. In A. Abraham, S. Agostinho, R. Al-Mahmood, P. Albon, R. Albon, B. Allen, A. Anderson, B. Aris, R. Atkinson, N. Augar, K. Baskett, I. Beale, S. Beames, C. Beasley, R. Benson, M. Berry, T. Billany, J. Bird, G.D. Bitew, ... L. Zeeng (Eds.) *Same Places, Different Spaces. Proceedings ascilite Auckland 2009 Conference, 6-9 December 2009* (pp. 110-115). <http://www.ascilite.org.au/conferences/auckland09/procs/cartner.pdf>
- Castelo, M. (2020, August 6). *How to Facilitate Project-Based Learning Online*. EdTech Magazine. <https://edtechmagazine.com/k12/article/2020/08/how-facilitate-project-based-learning-online>
- Chang, C.W., Pearman, C. & Farha, N. (2012). *Second Language Acquisition: Implications of Web 2.0 and Beyond. Critical Questions in Education*, 3(2), 52-46. Retrieved from ERIC database. (EJ1047008).
- Clark, B.A. (2017). *Project Based Learning: Assessing and Measuring Student Participation* [Master's Thesis, University of Nebraska]. <http://digitalcommons.unl.edu/cehsgpirw/39>
- Collier, L.D. (2017). *Using a Project-Based Language Learning Approach in the High School Spanish Classroom: Perceived Challenges and Benefits* [Master's Thesis, Brigham Young University]. <https://scholarsarchive.byu.edu/etd/6542>
- Cong-Lem, N. (2018). Web-Based Language Learning (WBLL) for Enhancing L2 Speaking Performance: A Review. *Advances in Language and Literary Studies*, 9(4), 143-152. <http://dx.doi.org/10.7575/aiac.all>
- Creative Commons. (2012). *Speaking in Academic Settings*. <https://2012books.lardbucket.org/books/a-primer-on-communication-studies/s12-02-speaking-in-academic-settings.html>

- Czeropski, S. (2020). Use of Online Discussion Forums for Training. In J. Hale, R. Kaufman, Educational Research Association, P.P. Phillips & T. Warner (Eds.), *Cases on Performance Improvement Innovation* (pp. 65-81). IGI Global. <https://doi.org/10.4018/978-1-7998-3673-5-ch005>
- Dalarna University. (2018). *English for Academic Purposes (EAP) Course Handbook*. Retrieved February 2, 2019, from <https://www.du.se/contentassets/4ef9711439e54d0a8ac9a9cb5efd79ac/2018-eap-course-handbook.pdf>
- Dannels, D.P. (2001). Time to Speak Up: A Theoretical Framework of Situated Pedagogy and Practice for Communication across the Curriculum. *Communication Education*, 50 (2), 144-158. <https://doi.org/10.1080/03634520109379240>
- DavidLeeEdTech. (2015, May 12). *Introduction to Project Based Learning (PBL) Process*. [Video file]. YouTube. <https://www.youtube.com/watch?v=08D0dBGIZYQ&t=161s>
- Educational Testing Services. (2017). *The Official Guide to the TOEFL Test* (5<sup>th</sup> ed.). ETS
- Egypt- Supreme Council of Universities announces new academic year dates. (2020, July 21). *MENAFN – Daily News Egypt*. <https://menafn.com/1100521642/Egypt-Supreme-Council-of-Universities-announces-new-academic-year-dates>
- Expert System. (2020, April 30). *5 main features of Web 3.0*. <https://expertsystem.com/web-3-0/>
- Farr, C. (2016, May 5). *Project Based Learning*. [Video file]. YouTube. <https://www.youtube.com/watch?v=R01WO4AnvYA&t=170s>
- Ghoneim, N. M. M. & Elghotmy, H. E. A. (2016). *Using Voice Thread to Develop Pre-Service Teachers' Speaking Skills*. *International Journal of English Language Teaching*, 4(6), 13-31.
- Gibbes, M. (2011). *Project-Based Language Learning: An Activity Theoretical Perspective* [Doctoral Dissertation, School of Linguistics, Speech and Communication, Trinity College Dublin]. [https://www.academia.edu/4384502/Project\\_Based\\_Language\\_Learning\\_An\\_Activity\\_Theoretical\\_PerspectiveProject\\_based\\_language\\_learning\\_An\\_activity\\_theoretical\\_perspective](https://www.academia.edu/4384502/Project_Based_Language_Learning_An_Activity_Theoretical_PerspectiveProject_based_language_learning_An_activity_theoretical_perspective)
- Hervina, H. (2017). Developing Academic Speaking Material: What do Colledge Students Really Need? *Proceedings of the Fifth International Seminar on English Language and Teaching*, 5, 62-67. <http://ejournal.unp.ac.id/index.php/selt/article/download/7985/6088>
- Hui, L. (2011). *Improving Students' English Speaking Skill Through Content-Based Instruction* [Master's thesis, Sebelas Maret University, Surakarta]. <https://eprints.uns.ac.id/8911/1/204911011201111351.pdf>
- Human Resources and Skills Development Canada (HRSDC) & Council of Ministers of Education, Canada (CMEC). (2013). *Speaking for Excellence: Language Competencies for Effective Teaching Practice*. Cmec. Retrieved February 13, 2020, from [http://www.cmec.ca/Publications/Lists/Publications/Attachments/320/Speaking\\_for\\_Excellence.pdf](http://www.cmec.ca/Publications/Lists/Publications/Attachments/320/Speaking_for_Excellence.pdf)

- Hwang, W. Y., Shadiev, R., Hsu, J. L., Huang, Y. M., Hsu, G. L., & Lin, Y. C. (2016). Effects of storytelling to facilitate EFL speaking using Web-based multimedia system. *Computer Assisted Language Learning*, 29(2), 215-241.
- Indrawan, E., Jalinus, N., & Syahril. (2019). Review Project Based Learning. *International Journal of Science and Research (IJSR)*, 8(4), 1014-1018. [www.ijsr.net](http://www.ijsr.net)
- Karipidis, N. & Prentzas, J. (2020). Designing an Educational Program for Teachers Based on TPACK Principles and Wikis. In S. Hai-Jew (Ed.), *Building and Maintaining Adult Learning Advantage* (pp. 1-20). IGI Global. <https://doi.org/10.4018/978-1-7998-4516-1.ch001>
- Kaufman, S. (2018, May 24). Online Language Learning: *The Learner Is In Control*. [Video file]. YouTube. <https://www.youtube.com/watch?v=-nrh58tqyps>
- Kaufman, S. & Machová, L. (2020, April 30). *COVID-19 Accelerates Move to Online Language Learning - A Discussion with Lýdia Machová*. [Video file]. YouTube. <https://www.youtube.com/watch?v=0SX8xxkfRVs&feature=youtu.be>
- Kelzenberg, B.R. (2016). *The Effects of Content-Based Academic Paired Conversations on the Speaking Skills of Fifth-Grade English Learners* [Master's thesis, School of Education Student Capstone Theses and Dissertations, Hamline University]. [https://digitalcommons.hamline.edu/hse\\_all/4093/?utm\\_source=digitalcommons.hamline.edu%2Fhse\\_all%2F4093&utm\\_medium=PDF&utm\\_campaign=PDFCoverPages](https://digitalcommons.hamline.edu/hse_all/4093/?utm_source=digitalcommons.hamline.edu%2Fhse_all%2F4093&utm_medium=PDF&utm_campaign=PDFCoverPages)
- Keong, Y., & Hameed, F. (2015). Speaking Competence of Iraqi EFL Undergraduates of Garmiyah University. *International Journal of Education and Research*, 3(5), 157-170.
- Kumar, C.P. (2015). Click and learn: a critical analysis of web-based learning of English. *Journal of Technology for ELT*, 5(3). <https://sites.google.com/site/journaloftechnologyforelt/>
- Kwak, Y. & Yin, J. (2018). Using Electronic Speaking Portfolios for Assessment in the EFL Classroom: Students' Perspectives. *Korean Journal of English Language and Linguistics*, 18(4), 442-469. <https://doi.org/10.1111/j.1467-8535.2009.00996.x>
- Lestari, N. (2019). Improving the Speaking Skill by Vlog (video blog) as Learning Media: The EFL Students Perspective. *International Journal of Academic Research in Business and Social Sciences*, 9(1), 915-925. <http://dx.doi.org/10.6007/IJARBS/v9-i1/5490>
- Lokey-Vega, A. & Bondeson, K. (2017, August 21). *Project Based Online Learning: Meeting the Challenge*. [Blog post]. <https://www.pblworks.org/blog/project-based-online-learning-meeting-challenge>

- Oxford University Press. (2012, November 7). *Teaching Speaking for Academic Purposes*. [Blog post]. <https://oupeltglobalblog.com/tag/academic-speaking-skills/>
- Menggo, S., Suastra, I.M., Budiarsa, M. & Padmadewi, N.N. (2019). Needs Analysis of Academic-English Speaking Material in Promoting 21st Century Skills. *International Journal of Instruction*, 12(2), 739-754. <http://www.e-iji.net/>
- Molina, D.K.G. & Cardona, B.S.R. (2017). Project-Based Learning to Developing Oral Production in English as a Foreign Language. *International Journal of Education and Information Technologies*, 11, 78-96
- Noor, S.N.F.M. (2007). Students' learning preferences of English for academic purposes - A KUiTTHO Affair. *The Second Biennial International Conference on Teaching and Learning of English in Asia: Exploring New Frontiers (TELiA2)*, 14-16 June 2007 (pp. 1-11). <http://repo.uum.edu.my/3270/>
- Nur, M.R. (2017). *A Qualitative Investigation of the Teaching of English Speaking for Academic Purposes*. Jakarta. <http://repository.uinjkt.ac.id/dspace/handle/123456789/36829>
- Oxford University Press. (2012, November 7). *Teaching Speaking for Academic Purposes*. [Blog post]. <https://oupeltglobalblog.com/tag/academic-speaking-skills/>
- Pandey, M. (2017). *Web 3.0 and English Language Teaching* [PowerPoint slides]. SlideShare. <https://www.slideshare.net/MeenuMishraPandey/web-30-and-english-language-teaching-by-dr-meenu-pandey>
- Richmond, V.P., Houser, M.L. & Hosek, A.M. (2018). Immediacy and the Teacher-Student Relationship. In T.P. Mottet, V.P. Richmond & J.C. McCroskey (Eds.), *Handbook of Instructional Communication: Rhetorical and Relational Perspectives* (2<sup>nd</sup> ed., pp. 170-178). Routledge
- Sari, D.R. (2014). PREZI: An Online to Offline 'Zooming' Presentation Software in Oral English for Academic Speaking Students. *The 61st TEFLIN International Conference, UNS Solo 2014* (pp. 932-934). <https://core.ac.uk/download/pdf/43024760.pdf>
- Sarieva, I. (2013). Project-Based Learning with Emerging Technology: The Bridge Program Case. *Society for Information Technology & Teacher Education International Conference, March 25, 2013* (pp. 3558-3561). <https://www.learntechlib.org/p/48650/>
- Schuetz, R. (2018, June 1). Project-Based Learning: Benefits, Examples, and Resources. [Blog post]. <https://www.schoology.com/blog/project-based-learning-pbl-benefits-examples-and-resources>
- Seiz-Ortiz, R., Gimeno-Sanz, A. & de Siqueira, J.M. (2011). Appraisal Web: an online platform for the pedagogical evaluation of Web-based Language Learning Resources. *Procedia Social and Behavioral Sciences*, 15, 667-671. <https://doi.org/10.1016/j.sbspro.2011.03.161>

- Sheerah, H.A. (2018). *Exploring English as Foreign Language (EFL) Students' Perceptions on the Use of Blended Learning to Develop Academic English Language Skills in Preparatory Year in Saudi Arabia* [Doctoral Dissertation, University of Reading]. <http://centaur.reading.ac.uk/84952/>
- Simpson, J. (2011). *Integrating Project-Based Learning in an English Language Tourism Classroom in a Thai University* [Doctoral Dissertation, Australian Catholic University]. <https://www.semanticscholar.org/paper/Integrating-project-based-learning-in-an-English-in-Simpson/a739f20aee813124ff027f3f36f028c73bb8866c?p2df>
- Spalek, S. (2014). Project-Based Learning: Experiences from the Initial Stage of Implementation in a Higher Education Institution. *Int. J. Innovation and Learning*, 16(1), 1-11. <https://doi.org/10.1504/IJIL.2014.063370>
- Spencer, J. (2019, August 20). *What Happens When Students Engage in Project-Based Learning?* [Video file]. YouTube. <https://www.youtube.com/watch?v=6JrjiSRhPEk>
- Spivack, N. (n.d.). *Web 3.0: The Third Generation Web is Coming*. Lifeboat Foundation. <https://lifeboat.com/ex/web.3.0>
- Sun, Y. C., & Yang, F. Y. (2015). I help; therefore, I learn: service learning on Web 2.0 in an EFL speaking class. *Computer Assisted Language Learning*, 28(3), 202-219.
- The Cognet Construct. (2017, May 8). *7 Steps of Project-Based Learning*. [Video file]. YouTube. <https://www.youtube.com/watch?v=7uU8oO--5XE&t=95s>
- Tsetsos, S. & Prentzas, J. (2021). A Survey of Recent Approaches Integrating Blogs in School Education. In G. Ariely, M.Z.U. Arif, S. Balandin, C. Ballesteros, W. Bart, S. Bhattacharyya, M.A. Brown, I.C. Camillo, Z. Chen, L. Daniela, S.M. Fedorovich, F.J. Gracia-Penalvo, B. George, V. Gonzalez-Prida, M.K. Habib, S. Hai-Jew, T.A. Henriques, W.C. Hu, D.J. Jakobczak ... A.H.S. Zolait (Eds.), *Handbook of Research on Modern Educational Technologies, Applications, and Management* (pp. 229-245). IGI Global. <https://doi.org/10.4018/978-1-7998-3476-2-ch014>
- Tuomaitė, V. & Knyza, R. (2014). *Developing Oral Communication Skills in Academic Contexts*. [http://uki.vdu.lt/wp-content/uploads/doc/konferencijos/03/abstracts/Tuomaite\\_Knyza.pdf](http://uki.vdu.lt/wp-content/uploads/doc/konferencijos/03/abstracts/Tuomaite_Knyza.pdf)
- Tuomaitė, V. & Zajankauskaitė, Z. (2017). Oral Communication in a Foreign Language Competence Development in Academic Contexts. *COMPUTATIONAL LINGUISTICS*, 31, 113-129. <https://doi.org/10.5755/j01.sal.0.31.19049>
- UK College of English. (2019, December 12). *Project Based Learning in English Language Teaching*. <https://www.ukenglish.org.uk/project-based-learning-in-english-language-teaching/>
- Wang, Y., Wang, J. & Wang, L. (2019). *Trialing project-based learning in a new EAP ESP course: A collaborative reflective practice of three college English teachers* [Unpublished Paper]. Waikato Institute of Technology, Shandong University of Technology, China. <http://researcharchive.wintec.ac.nz/7240/>
- Yongo, C.W.N. (2019). Instructional Design Considerations, Challenges, and Best Practices on Cross-Cultural Adult Web-Based Learning Experiences in Higher Education. In J. Agamba, D. Agyei, S. Elwood, F.K. Iraki, L. Kyei-

Blankson, P. Mutisya, F. Nafukho, R. Oboko, E. Onsomu, P. Rambe, J. Rotich & P. Semingson (Eds.), *Handbook of Research on Cross-Cultural Online Learning in Higher Education* (pp. 335-363). IGI Global. [https://doi.org/ 10.4018/978-1-5225-8286-1.ch003](https://doi.org/10.4018/978-1-5225-8286-1.ch003)