

**Using Inquiry-Based Learning to
Enhance Primary Stage Students'
21st Century EFL Literacy**

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Abstract

The study aimed to examine the effect of using inquiry-learning on enhancing 4th primary stage students' 21st century EFL literacy. The study begins with a review of the literature and previous studies about inquiry-based learning and 21st century EFL literacy. The researcher prepared a list of specifications of the 21st century EFL literacy components and performance indicators to guide the researcher to design study instruments. The researcher also designed a pre/post 21st century EFL literacy test and a rubric. The researcher developed the proposed program. Then, she nominated a random group of participants n=30 4th primary stage students at Manaret Heliopolis International School, Nasr City, Cairo, Egypt to participate in the study and its activities. Their ages were between 9 and 10 years old. The participants were submitted to a pre and post-test, and results were analyzed using the T-test and the effect size factor. Then, the scores were analyzed qualitatively, describing students' performance while conducting the study program and the pre/post-test. The results showed that inquiry-based learning effectively enhanced 4th primary stage students' 21st century EFL literacy.

Keywords: *Inquiry-based learning, 21st century EFL literacy*

مستخلص البحث

هدفت الدراسة إلى قياس مدى تأثير استخدام التعلم القائم على الاستقصاء لتعزيز التنوع في اللغة الانجليزية كـلغة أجنبية لدى طلاب الصف الرابع الابتدائي في القرن الحادي والعشرين. وتبدأ الدراسة باستعراض المؤلفات والدراسات السابقة المتعلقة بالتعلم القائم على الاستقصاء و التنوع في اللغة الانجليزية كـلغة أجنبية في القرن الحادي والعشرين. وأعدت الباحثة قائمة بمواصفات مكونات التـنوع في اللغة الانجليزية في القرن الحادي والعشرين ومؤشرات الأداء لإرشاد الباحثة إلى تصميم أدوات الدراسة، كما صممت الباحثة اختبار قبلي وبعدي للتنوع في اللغة الانجليزية في القرن الحادي والعشرين ونموذج التقييم. ووضعـت الباحثة البرنامج المقترح و من ثم تم اختيار مجموعة عشوائية من طلاب الصف الرابع الابتدائي (العدد = 30) و تتراوح أعمارهم بين الـ 9 و 10 سنوات في مدرسة مناره هيليوبوليس الدولية ، مدينة نصر ، القاهرة ، مصر للمشاركة في الدراسة وأنشطتها. وقام الطلاب المشاركون في الدراسة بالاختبار القبلي و البعدي ، وتم تحليل النتائج وعامل حجم التأثير. بعد ذلك ، تم تحليل الدرجات كـيفيا و نوعي ا ، واصفاً أداء الطلاب أثناء T باستخدام اختبار إجراء برنامج الدراسة واثناء إجراء الاختبار القبلي و البعدي أيضا. وأظهرت النتائج أن التعلم القائم على الاستقصاء عزز بشكل فعال التنوع في اللغة الانجليزية كـلغة أجنبية لدى طلاب الصف الرابع الابتدائي في القرن الحادي والعشرين.

الكلمات المفتاحية: التعلم القائم على الاستقصاء ، التنوع في اللغة الانجليزية في القرن الحادي و العشرين

Introduction

Language is a channel to communicate, share and express meanings, feelings, ideas, and experiences. Thus, the importance of enhancing students' 21st century EFL literacy is crucial as it focuses on developing each student's ability to understand and use language, both spoken and written, as an integral part of learning in all areas.

Contemporary definitions of 21st century EFL literacy include more than basic reading and writing; conversely, negotiation, analysis, and raising awareness are as critical as understanding or creating a message. Consequently, 21st century EFL literacy cannot be only the ability to read and write; in contrast, it develops through interactions with others. This enhancement highlights the impact of integrating EFL literacy components with high-order thinking skills to deepen students' understanding and make learning a meaningful process. Moreover, learning as a social process constructed through actively interacting with others and the environment enhances students' confidence to communicate and share ideas, which is the key to life-long learning.

In this respect, EFL literacy cannot be dealt with as a simple linguistic code or even as a set of competencies; however, it should be a global language that people use to express their own identities and communicate easily with the world (Crystal, 2006).

As a consequence of this new perspective, Fandino (2013) asserts that learners “need to become not only literate but also able to use that literacy within their information environment to succeed now and in the future.” In this context, 21st century EFL literacy implies being able to read deeply for meaning in multimedia content, handle appropriate software tools to process information, use practical and technical skills to communicate knowledge with multimedia, and know the ethical use of the information highway” (P.201). Therefore, integrating 21st century skills into ELT and ELL became crucial because of its enormous importance on students’ working and academic life (Varis, 2007).

Due to the importance of implementing information and media literacy in EFL literacy, Webber (2013) emphasizes that using technology enables students to deepen their understandings and construct meaning by providing easy access to various expressive modes while being engaged in reading and writing activities. Moreover, Pytash, Ferdig, Kist and Kratcoski (2013) agree that using technology enables us to bring multiple texts into the classroom to enhance students’ critical thinking, which creates opportunities for them to move past being passive readers and engage in critical conversations that will help them enrich their knowledge and make new connections, but also it will deepen their learning experiences. Ultimately, Karchmer–Klein and

Shinas (2012) state that teachers who have concerns about the role of technology in the classroom “must set aside those concerns and replace them with the knowledge that, when taught well, new literacies can support and extend students’ abilities to read and write for real purposes” (p. 293).

To support previous claims, Kustini et al. (2018) accentuate the dramatic expansions of Information and Communication Technologies (ICTs) nowadays. Its vast impact has altered the patterns of people’s learning, working, socializing, and interacting. These substantial changes have had an enormous influence on the nature of students’ learning and thinking as they are quickly able to access various information and acquire knowledge from their networked digital devices in just one short touch. Therefore, they suggest that multimodal-based instruction is beneficial to develop students’ language skills, motivation, and engagement in learning and enhance their critical awareness capabilities.

By way of illustration, Huang (2017; as cited in Kustini et al. 2018) highlights the importance of critical multimodal literacy pedagogy implementation in English language curriculums supporting the claim that multimodal practices could improve students’ critical literacy awareness through comprehending, interpreting texts, and taking a critical stance towards them. This

proves that multimodal-based instruction which focuses on images, sounds, and words can help students improve their critical thinking skills.

Furthermore, Gerlott and Gronlund (2013) tested the impact of using ICT (Information and Communication Technologies) on improving 1st-grade students' writing skills through using the "Integrated Write to Learn" method (iWTR). They confirmed that students' reading and writing skills improved considerably. They noticed that students in the test group wrote longer texts with better structure, clearer content, and more elaborate language. Besides, iWTR provides learners with an authentic opportunity to collaborate and receive constructive feedback from their peers.

Consequently, Crowther, Hamilton & Tett (2001) emphasize that literacy, in general, is bounded by the context in which it is used, and this gives rise to a plural view of literacy. This illustrates that learning occurs at home, work, school, leisure, and community contexts. Through these varied contexts, students can combine both their educational experiences with their real-life experiences. This will enhance their EFL literacy skills and compensate for low levels of education through learning beyond formal contexts. In this perspective, a study conducted by Goldenberg and Friedlander (2016) in Rwanda emphasized that school only does not have a sufficient impact on students'

learning. On the other hand, involving families and communities creates more significant numbers of readers who read fluently and comprehend.

To boost students' motivation and maintain a rich learning environment, great attention has been given to authentic learning to promote EFL literacy proficiency in the 21st century by practicing and experiencing it in several varied contexts, according to Purcell-Gates et al. (2007) has “real-world relevance.” Thus, Pearce (2016, p. 1) defines authentic learning as “learning designed to connect what students are taught in school to real-world issues, problems, and applications; learning experiences should mirror the complexities and ambiguities of real life. Students work towards producing discourse, products, and performances that have value or meaning beyond success in school.”

Accordingly, the implementation of media information literacy (MIL) in ELL and ELT in the 21st century doesn't only emphasize that the use of media products of the English-speaking countries (which are available through television, radio, social media applications, etc.) into EFL classrooms can introduce students to authentic language use. On the other hand, introducing media information literacy critically require teachers to engage students in various activities that enable them to question what they hear,

watch, read and learn (Arikan, 2002). That is why authentic learning, according to Revington (2015), “is real-life learning. It is a style of learning that encourages students to create a tangible, useful product to be shared with their world.” Based on the former perspective, students will not memorize content and demonstrate understanding through a multiple-choice test. However, under the umbrella of authentic learning, they will be actively participating “in identifying questions and problems, brainstorming solutions, and responding and adapting to failure until they are successful in addressing a need or creating a final product” (Brooke, 2019).

Though authentic learning can take myriad shapes and can vary in its approach, more than anything else, authentic learning makes students more engaged in the learning process because it makes learning more relevant and meaningful to them. That is why questions like ‘Why are we learning this?’ or ‘When am I going to use this in real life?’ will not be heard again in the classroom. Furthermore, Wornyo, Klu and Motlhaka (2018) conclude that students’ ability to acquire academic literacy skills is improved through authentic learning tasks and activities that enable them to perform authentic tasks like academic presentations and seminars.

It is crystal clear that students nowadays need to be taught differently; they are more likely to have ownership of their learning and challenge their abilities to grow. Therefore, traditional teaching has no place; as educators know, equipping students with critical thinking, creativity, communication, and collaboration is the way to prepare students to be international citizens, be challenged in their careers, and question everything around them. Thus, the need for such learning that arouses students' needs and questions over teachers' provided curriculum is crucial (Saqlain, 2016).

Due to the importance of 21st century EFL literacy, the researcher investigates a different alternative to enhance 4th primary stage students required 21st century EFL literacy components through utilizing inquiry-based learning. Because it emphasizes students' roles in the learning process, students are encouraged to explore the material, ask questions, and share ideas. Consequently, the researcher highlights the importance of comprehension and implementation of high-order thinking skills to enable students to have meaningful learning experiences. This clarifies Goertz's (2015) definition of inquiry-based learning as a "student-directed, interest-driven approach to new knowledge." Generally, it is an innate style of learning that takes place in

natural learning contexts where students collaborate to discover new concepts and make sense of what goes on around them.

In this respect, inquiry-based learning uses different approaches to learning, including small-group discussion, differentiated instruction, visible thinking, and guided learning. Instead of memorizing facts and material, students learn by doing. This allows them to build knowledge through exploration, experience, and discussion (Guido, 2017). In this context, Aulia, Poedjiastoeli, and Agustini (2017) confirm that using a guided inquiry model in teaching 11th-grade students has helped them improve their science literacy, construct deep conceptual understandings, and obtain positive attitudes towards learning as well.

Not surprisingly, questions are at the heart of inquiry-based learning. They do not only drive inquiry; however, they provide evidence of students' understanding. The more questions tend to be open, reflective, complex, and arguable, the more they reflect the deepness of the concepts obtained by students (Allen & Hill, 2016). Therefore, fostering a culture of inquiry will enable students to become observers and thinkers. This will deepen students' critical thinking skills and arouse their curiosity.

This spots light on students' demands in the 21st century, as knowledge became accessible at their fingertips; they face a flood

of information that requires a critical mindset to question and evaluate (Scheer, 2015). In this respect, inquiry-based learning enables students to “use relevant questions to evaluate and analyze media messages and to reflect on the media they create” (Rogow, 2011, p.18). This effectively engages discussions and allows students to consider their opinions as they take in new information and hear others’ perspectives. To approach this level, teachers should model media analysis by using questions to lead deep readings. Furthermore, inquiry-based learning can promote students’ information literacy by providing opportunities to analyze, reflect and evaluate information through asking questions and investigate real-life problems. This certainly will enhance students’ attitudes towards learning, develop self-directed learning, and improve their knowledge (Hmutra, 2016).

In this context, Davies (2019) affirms that using inquiry-based learning in EFL/ESL classrooms is highly effective, as it gives students the chance to fill in the gaps in their knowledge and spend quality time through discussions and collaboration. Actually, it works on constructing meaning and reflecting on what they have learned and how they have learned as well. This provides an excellent benefit for students, enabling them to raise their self-awareness, be more autonomous, and enhance their linguistic skills. At the same time, they are actively engaged in

various collaborative activities that will undoubtedly boost their speaking fluency, reading comprehension, and written production.

Therefore, inquiry-based learning enables students to express themselves freely and construct their knowledge in and outside school borders through having the freedom to share ideas and ask questions. This contributes to enhancing students' speaking performance and their writing performance as well. Thus, when students are given time to think silently, to jot down their ideas, to be exposed to various reading texts, and to make their thinking visible through thinking deeply using different thinking routines, this helps students generate ideas, enrich vocabulary, organize thoughts, and build a writing habit which creates positive attitudes towards learning in general and EFL literacy in specific.

Context of the problem

As for English language teaching and learning in Egypt, it has been noticed that teachers tackle language as chunks, not as a whole unit. That is why they still complain about their students' performance and their inability to fit into the required academic level based on the standards specified for each grade level. Besides, traditional teaching and being unknown about how to conduct effective learning strategies can make a difference in both students' attitudes towards English language learning. A study conducted by Huang (2014) on early years teachers regarding

their beliefs about the whole language approach and how it can affect EFL literacy learning concludes that most EFL teachers neither prefer the whole language approach nor the traditional skill-based approach, and they prefer to blend both of them.

These changes shed people's attention on a new up-rising term called "Balanced Literacy," which was first introduced in the 1990s when teaching the English language was either the whole language or phonics instruction (Jordan, 2017). Compared to instructional literacy that includes phonics, phonemic awareness, fluency, vocabulary, comprehension, oral language, and writing, balanced literacy came to find a better balance by mixing the two extremes. However, as the years have passed, it has come to mean much more than just finding a good blend between whole language and phonics-based instruction.

In this context, balanced literacy includes balancing these three essential components when teaching reading and writing: Teacher MODELS (I do) through using read aloud, word study, and shared reading and writing strategies; Teacher SUPPORTS learners as they practice it (we do) through using guided reading and writing, strategy lessons and conferencing one-on-one with learners; and Learners WORK INDEPENDENTLY (you do) through independent reading and writing workshops (HPISD, 2017). Conclusively,

the teacher's role is to decide where to go next, when to intervene and when not to; when to draw children's attention to specific features of the text; and how to model and explain strategies in ways that can enable children to make their connections.

New challenges emerged during the COVID-19 pandemic, especially after the transition to online learning. This urged many educators and researchers to question current teaching practices and what students need to cope with their world nowadays successfully. Mayhoob (2020) points out that EFL learners faced many challenges due to the lack of digital literacy, including how to deal effectively with digital tools and how to use them to collaborate with other students and their teachers to practice the English language. Besides, Islam (2016; as cited in Hossain, 2021) assures the substantial importance of enhancing the ICT skills of the EFL learners and the creations of a society enriched with information availability. In addition, Hossain (2021) highlights the challenges faced by teachers while delivering their EFL lessons online regards how to assess students' online and how to enhance students' linguistic components to make sense of what they read and hear in the target language and deliver their ideas clearly through different oral and written tasks.

That is why helping students be self-regulated will require enhancing their thinking skills to adopt different strategies that can improve their 21st century EFL literacy. Thus, the need to use different strategies that enable students to think, generate questions, create, collaborate, and communicate with each other is crucial. This illustrates the need for teachers whose mindsets are changed to fit with the current updated educational trends. Therefore, Deppeler & Ainsow (2016) confirm that schools worldwide are facing a lot of demands to raise performance standards, narrow students' performance gaps, and provide challenges for the gifted at the same time. Thus, to meet schools' needs in the 21st-century, teachers must develop the capacity to match the current requirements. Therefore, it is essential to conduct more studies on improving new literacies, including information literacy, media literacy, and multimodal instruction using inquiry-based learning as a way that can scaffold students to go beyond the text they read or write and reflect on their new experiences through getting engaged in myriad inquiry activities of different inquiry levels like; open inquiry, guided inquiry, and structured inquiry.

In support of the form perspective, a study conducted on English Department students at Ain Shams University to enhance their critical thinking using a blended program based on the

Community of Inquiry, Zedan (2017) highlights that student teachers have no idea about critical thinking. They always complain about the shortage of time, lack of materials, and training programs that focus on critical thinking. Besides, Wahdan (2020) illustrates that most university English instructors at Al-Azhar University need professional development regards how to assess students for learning and set real-life situations where students can apply and reflect on their learning. Besides, how to use inquiry-based learning strategies effectively so they can improve students' performance and English language proficiency.

Furthermore, AbuRezeq (2018) illustrates that Al-Azhar University students' writing performance is almost poor due to ordinary teaching techniques, and concludes that using inquiry-based learning helped them to improve their writing performance and to show positive reflections towards learning, as it made them able to generate deeper questions, develop ideas, interpret, analyze and criticize the content they deal with. Similarly, El Ramly (2018) emphasizes that before utilizing inquiry-based learning to improve second preparatory stage students' writing performance, they state that writing was boring for them as they depend mainly on memorizing sentences. Also, teachers do not give them concrete instruction on improving their writing skills

regarding organization, content, mechanics, conventions, and style.

In addition, Hussein (2020) affirms that preparatory stage students lack essential critical literacy components due to the exam-oriented education system applied in the Egyptian context. In this context, she agrees that students nowadays are digital natives surrounded by a massive amount of information. Therefore, a dramatic alternation is needed in EFL teaching and learning to support students' demands in the 21st century by allowing them to question, interpret, analyze, and evaluate the information they read, hear, and watch in various authentic contexts by communicating their ideas and constructing meaning collaboratively.

In conclusion, there are numerous studies investigated inquiry-based learning to test its effect on enhancing reading, writing, and thinking skills. However, just a few studies have attempted to examine the effect of using inquiry-based learning on enhancing 21st century EFL literacy components, especially in upper elementary grades with its broader scope, which emphasizes the integration of new literacies (information literacy, media literacy, and multimodal instruction) into EFL literacy curriculums to make learning meaningful and more life-based. Thus, this study will

focus on investigating using inquiry-based learning to enhance 4th primary stage students' 21st century EFL literacy components.

Pilot study

The researcher designed a semi-structured interview, a diagnostic general English language test and a semi-structured survey for fourth primary stage students. Besides, another semi-structured survey for teachers checking their awareness and practices of implementing 21st-century components into students' EFL literacy and their online learning experiences during COVID-19 were conducted to illustrate students' and teachers' attitudes, challenges, areas of weakness as well as comparing students' general level to grade four common core state standards learning outcomes.

First, the researcher surveyed 35 English teachers, and they were asked the following questions:

- 1- What is the most common academic problem that you face while teaching to upper primary stage students?
- 2- What is the most problematic area of your performance that needs development?
- 3- While conducting your session, what do you find hectic?
- 4- According to your understanding, what is meant by EFL literacy, and what is its relation to the 21st century?
- 5- What activities do you use to enhance EFL literacy?

6- What kind of assessment strategies do you use to assess EFL literacy?

7- To what extent are you satisfied with the content you teach? If your answer is less than 4, what do you think you can add to modify your teaching content?

8- After delivering the entire content online, what teaching strategies and skills do you need professional development at?

9- List some of the challenges you faced while teaching online.

Survey results showed that 66% of language teachers' most academic problem while teaching to upper primary stage students is that they cannot express their thoughts through writing. Also, 41% of teachers stated that they need professional development to help them enhance students' thinking skills, while 31% mentioned that they need professional development in teaching writing. Moreover, 34% stated that they need help to scaffold weak students. Besides, when teachers answered the open-ended questions about EFL literacy, some of their answers show sufficient knowledge about the term. In contrast, most of their choices of the challenges they face and the areas they need development at showed that they still need to enhance their abilities to help students go beyond EFL literacy, in its traditional concept, as enhancing students' reading and writing skills.

Furthermore, 16% of teachers confirmed that they need intensive training to implement 21st-century skills in students' EFL curriculums.

Moreover, the majority of teachers illustrated that after delivering their lessons online, they still need professional development in:

- 1- How to deliver multi-modal content and help students have multi-modal production (including all modes audio, video, text, movement, gestures sound, etc.);
- 2- How to improve students' information literacy (To be able to understand, analyze, connect and evaluate the information they read online/offline);
- 3- How to help students collaborate with their friends in Zoom sessions.

Besides, they listed that they faced the following challenges while delivering online sessions:

- 1- Poor students' ICT skills and technical problems that hinder students from communicating effectively with their teachers and other students.
- 2- Students' demotivation.
- 3- Assessing students online, as most students are not committed to submitting their work online. Besides, finding assessments online is a challenging task.

4- Students cannot deal comprehensively with online resources, which indicates that they lack the research essential skills for having self-regulated and lifelong learning.

Furthermore, the researcher interviewed n= 30 4th primary stage students, and they stated the following:

1-80% of the participants confirmed that they are not good writers or readers because they lack:

- The ability to figure out the meaning from context
- Comprehension, including the ability to fully understand the text
- Fluency, including speed to finish reading a given text
- Accuracy, including the ability to write correctly

2- When they were asked if they like reading and writing on electronic devices, 80% stated that they enjoy reading on their tablets, while 20% only find it enjoyable to write on the computer.

3-When students were asked if they like an adult to help them while reading and writing, 70% of participants' answers showed that they are not independent learners and need an adult, either a teacher or their parents, to read and write for them.

In addition, during students' online learning experience period, they noticed that they need to improve their research skills, their general ICT skills (like using Word, PPT, Paint, Video maker), in addition to enhancing their ability to understand, analyze and

connect the information they read online/offline. The researcher also summed up the challenges students faced while learning online, as follows:

- 1– Sessions were boring, as they lack the interactive features to engage students.
- 2– Technical problems hindered effective communication between students and teachers.
- 3– Online assessments were challenging and hard to access due to students’ limited ICT skills.
- 4– They face difficulties deciding which resources to use while searching online, knowing if the information they get was accurate or not, and how to do research tasks independently and keep themselves safe online.

Added to the previous findings, students’ general linguistic components in the English language were below the expected grade four common core state standards learning outcomes as found in their English language diagnostic test results. This proved that students had weaknesses in their EFL literacy in general as well.

Statement of the problem

There is a noticeable weakness in 4th primary stage students’ abilities to comprehend reading texts, to deal critically with awareness with what they generally view (reading text/ videos/

posts) either offline or online and to communicate their understanding in various contexts using a variety of media and modalities. That is why the researcher suggested a program based on inquiry-based learning to enhance 4th primary stage students' 21st century EFL literacy required components, as a step to move beyond basic literacy (reading and writing) and prepare students to be successful digital citizens in the current era.

Study questions

In order to solve this problem, the researcher has to answer the following main question:

“What is the effect of using inquiry-based learning on enhancing 4th primary stage students' 21st century EFL literacy?”

This main question elicits the answer of the following sub-questions:

- 1- What are the required 21st century EFL literacy components?
- 2- What are the inquiry-based learning program components?
- 3- What is the effect of the suggested program based on inquiry-based learning in enhancing 4th primary stage students' 21st century EFL literacy based on grade-level Common Core State Standards (CCSS)?

Hypotheses of the Study

The current study attempted to validate the following hypotheses:

- 1– There is a statistically significant difference between the mean scores of the study group on the pre– and post–applications of the 21st century EFL literacy as sub–components in favor of the post–test scores.
- 2– There is a statistically significant difference between the mean scores of the study group on the pre– and post–applications of the 21st century EFL literacy as a total score in favor of the post–test scores.

Aim of the study

The research aims to enhance 4th primary stage students’ 21st century EFL literacy components by using inquiry–based learning to deepen their understanding of what they read and write, elevate their abilities to think critically and highlight the importance of collaborative learning by exploiting various learning and teaching strategies.

Significance of the study

- 1– **For Learners:** The study emphasizes the importance of dealing with language as a whole, not divided into chunks, in addition to the importance of using inquiry as a way to make students construct their knowledge and create their own learning experiences.

2- **For instructors:** They can use the suggested model and activities to improve the learners' 21st century EFL literacy components.

3- **For Curricula Developers:** They can put the research results into consideration when they design activities or curricula for pupils.

4-**For researchers:** This study opens the doors for researchers to look for, develop and adopt up-to-date strategies that assist the learning process.

Delimitations of the study

This study will be delimited to:

- 1.A group of 4th primary stage students (n=30) at Manaret Heliopolis International School.
- 2.The second trimester of the academic year (2020-2021).
- 3.Some 21st century EFL literacy components which are necessary and appropriate for fourth primary stage students, including information literacy, media literacy and multimodality.
- 4.An inquiry-based learning program that includes generating questions, differentiated instruction, thinking routines, and collaborative learning.

Definition of terms

21st century EFL Literacy

According to Crowley (2015), integrating 21st-century skills into EFL literacy emphasizes “the ability to combine the subject you’re learning, with the skills and awareness that needed to apply knowledge of the subject successfully in various new authentic contexts.” In the light of the previous claim, he sums up that EFL literate students in the 21st century should be able to:

- Analyze, synthesize and evaluate materials written in English
- Develop a “voice” on a topic and express it in English
- Research materials and solve problems that are presented in English
- Be creative in English and take communicative risks in pursuit of fluency
- Collaborate in diverse international teams, and communicate in English
- Respect global cultures and sensitivities
- Use software to express themselves in English
- Navigate digital content that is presented in English
- Have the self-discipline to study English independently and “learn how to learn.”

Therefore, implementing new literacies like information literacy, digital literacy, media literacy, web literacy, and multimodality in the EFL curriculums has become crucial nowadays. Consequently, Thoman and Jolls (2003) assert that students “need to be fluent in “reading” and “writing” the language of images and sounds just as we have always taught them to “read” and “write” the language of printed communications” (p.6) because information nowadays is way complex. It is not presented only by words on a piece of paper but through the powerful images and sounds of the multi-media culture.

In the present study, 21st century EFL literacy refers to the students’ ability to go beyond reading and writing by comprehending and dealing critically with awareness with what they view (reading text, videos, posts, etc.) either offline or online. Besides, being able to communicate their understanding in various contexts using a variety of media and modalities.

Inquiry-based learning

According to Kidman (2019), inquiry-based learning “emphasizes students’ role in the learning process questioning an idea or topic in an active way, rather than sitting and listening to a teacher. In general, the aim of the inquiry-based approach is to help students make meaning of what they are learning and to understand how a concept works in a real-world context.”

In this study, inquiry-based learning is used to enable students to question the texts they are going to deal with and arouse their curiosity to construct meaning by giving them a chance to explore different authentic materials and share ideas with their peers.

Common Core Standards

California Department of Education (2010) assures that the Common Core State Standards are “a set of high-quality academic standards in mathematics and English language arts/literacy (ELA). These learning goals outline what a student should learn and do at the end of each grade. They were created to ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college, career, and life, regardless of where they live” (P.2).

In this study, these standards are used as a guideline for the researcher to determine the required English Language literacy components for 4th primary stage students.

Method

Study Design

A pre-posttest design was used for the following reasons:

- The researcher illustrated the students’ status-quo through collecting data about how they deal with online and offline resources (reading online texts, magazines, books, videos, blogs, social media, websites, etc.) critically with awareness,

and testing their abilities to do a research paper using different modes to communicate their ideas.

- Therefore, at the end of the experimentation phase, the researcher examined the effect of using inquiry-based learning on enhancing 4th primary stage students' 21st century EFL literacy, which implies their abilities to criticize, analyze and evaluate what they read, hear, and watch online/offline and to create their message understanding the deep impact of including different modes into their research paper on audience and readers.
- The study group was exposed to pre-post means of collecting data (pre-posttest and 21st century EFL literacy rubric).
- Moreover, the researcher used a research paper checklist to guide students while answering the final question in the pre-posttest.
- In addition, a post-study survey was conducted to help the researcher while discussing the study results.
- The study employed a mixed-methods design. The students' performance was analyzed using the quantitative and the qualitative analysis of the results. This provides more validity to the program.

Participants

Thirty students were randomly selected at Manaret Heliopolis International School (MHIS) in Nasr City, Cairo, Egypt. All students are enrolled at the 4th primary stage and their age ranges are between 9 and 10 years old. This school was launched in 2016, so the majority of the study participants were enrolled at MHIS since they were in KG stage. Moreover, they study all subjects in English, except Arabic and Religion, that is why they are considered fluent English speakers based on their grade level Common Core State Standards (CCSS).

Despite of being fluent English speakers, they do not meet their grade level CCSS regarding reading and writing and this is shown in their English diagnostic text. Thus, compared to the expected learning outcomes, they are considered below level in reading and writing. That is why the researcher designed an intensive program that can allow the study participants to get exposed to different online and offline resources, so they can critically look for details and analyze content provided through enhancing their 21st century EFL literacy components, like information and media literacy. In addition, the usage of technology allowed them to understand the modes concept and how using different modalities can enhance their understanding of what they read and have a deeper impact on readers as they present their written content.

Instruments

The following instruments were used in this study:

1. 21st-century EFL literacy pre–posttest test
2. A 21st century EFL literacy rubric
3. A 21st century EFL literacy post–study survey

The Inquiry–based Learning Program

Inquiry–based learning was the main strategy that was used to enhance 4th primary stage students' 21st century EFL literacy. Students were asked to form questions, work collaboratively in small and big groups, and reflect on their learning experiences using different visible thinking routines, like see, think and wonder, zoom–in, 321 bridge, connect, extend and challenge, etc. Thus, they were engaged in problem–solving and collaborative activities. They were divided into several groups to finish specific tasks, and they cooperated to achieve predetermined goals.

Guided inquiry–based learning was used to help students make sense of what they read, watch and hear in different online/offline resources and construct meaning through continuous reflections and differentiated designed products to express their understandings of the materials they are exposed to.

Throughout the program, the learners were given several sessions to enhance their 21st century EFL literacy. It consisted of 11 sessions. The first session of the program was an

introductory session. The researcher tried to present the whole program to students to give them a chance to consider the importance of these literacy components on enhancing their abilities to learn better and be digitally literate citizens in the current era.

Concerning the rest of the sessions, different activities were introduced to encourage students to inquire into different concepts to construct meaning, reflect on their learning, and develop 21st-century EFL literacy components required by critically viewing various online/offline resources and questioning them collaboratively.

Results

The study came to the following results:

- 1– There is a statistically significant difference at the 0.01 level between the mean scores of the study group on the pre- and post-applications of the 21st century EFL literacy as sub-components in favor of the post-test scores.
- 2– There is a statistically significant difference at the 0.01 level between the mean scores of the study group on the pre- and post-applications of the 21st century EFL literacy as a total score in favor of the post-test scores.

Conclusions

Based on the study results, it can be concluded that:

- Using inquiry-based learning was highly influential in enhancing 4th primary stage students' 21st century EFL literacy. This was obvious after administering the post 21st century EFL literacy test. It was also apparent through the students' gradual development throughout the experimentation.
- Using interactive online features in different applications like Nearpod and Zoom and using enjoyable inquiry-based learning collaborative activities ensure that all students actively participate in the learning process as they feel that their learning is valuable and authentic.
- Students' Prior knowledge was the start point as they go from what they know to dig deeply through various inquiry activities to discover what they do not know and construct meaning collaboratively.
- Using various visible thinking routines through inquiry activities enabled students to enhance their 21st century EFL literacy through figuring out collaboratively how to summarize, criticize, evaluate, select and deal with effectively with information online and offline.

- Integrating ICT skills into students' collaborative reading and writing inquiry activities online and offline motivated students and increased their willingness to participate in the learning process. Additionally, interpreting and evaluating different online and offline resources enabled them to raise their awareness of what is meant by information and media literacy and why it is crucial nowadays to be an information and media literate student.

Recommendations

Based on the study results and conclusions, the researcher recommends the following:

- Encouraging and maintaining a collaborative learning environment allow students to enjoy EFL learning process as they work together to make sense of what they read or view.
- Teachers should use varied platforms that include different interactive features to encourage students, grab their attention to dig deeper and make sense of more complicated resources collaboratively.
- More time should be provided to allow students to practice, reflect and process knowledge and apply what they have learned in various authentic contexts.
- Teachers should make sure that students understand the purpose of their learning. They have to be acquainted with the

end of mind to have ownership of their own learning and appreciate their participation while putting pieces together to make sense of what they read or view.

- Inquiry-based learning enhances the acquisition of 21st century EFL literacy components, including information literacy, media literacy and multimodality.
- Online contexts motivate 4th primary stage students to deal effectively with online/offline resources and use different modes and modalities to present their understandings.
- Teachers should help students develop their own learning strategies while working collaboratively and writing down reflections on how they learn.
- Autonomous and lifelong learning can be enhanced through IBL as they discover the best learning ways that they developed while working independently and collaboratively in small groups.
- ICT teachers should participate actively and get acquainted with the required skills needed to help their students.

Suggestions for Further Research

Researchers may consider the following suggestions to investigate the adequacy of utilizing inquiry-based learning to enhance 21st century EFL literacy for further research:

- Exploring the effect of using inquiry-based learning on diverse learning outcomes.
- Selecting different learners from different educational levels and applying the current study on them.
- Increasing teachers' awareness of the importance of helping students be information and media literate and deal with awareness with different online and offline resources.
- Enhancing the students' 21st century EFL literacy using various teaching strategies.
- Examining the effect of integrating multimodal instruction to develop EFL students' language performance.

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