Vidya Karya
https://ppjp.ulm.ac.id/journal/index.php/jvk
e-ISSN: 2614-7149 p-ISSN: 0215-9619
Vol 40 No 1 2025
DOI: https://doi.org/10.20527/jvk.v40i1.21868

An Analytical Study of English Language Learning Through a Multiple Intelligence and Constructivist Framework

Utami Rosalina[1*], Salah Abobaker Almabruk Shahat[2], and Teguh Syafrudin[1]
[1]Institut Prima Bangsa, Cirebon, Indonesia
[2] University of Benghazi, Libya, North Africa
*utami.rosaline@gmail.com

Article Info

Article history:
Received: February 10, 2025
Accepted: April 16, 2025
Published: April 24, 2025

Keywords:
Constructivism
English
Multiple intelligence
Online learning

This article is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

© 2025 Vidya Karya

Abstract

This study aimed to evaluate the urgency of online English learning based on multiple intelligences within a constructivist framework. Employing a descriptive qualitative approach with case studies, the research collected data from informants, events, and documents through interviews, direct observations, and document analysis. Data analysis followed interactive techniques, including data reduction, presentation, and conclusion drawing. Key findings revealed that internal and external factors significantly influence the development of students' intelligence. Integrating English online learning with a multiple intelligences framework and a constructivist approach was essential to support educational goals. Additionally, the constructivist approach identified five learning models suitable for integrating multiple intelligences. The study concluded that implementing online English learning based on multiple intelligences and a constructivist framework is crucial for enhancing students' learning experiences. To facilitate this, developing a decision support system application was recommended. This system would assist educators in selecting appropriate learning models, ensuring more effective and efficient teaching processes. These insights highlight the importance of aligning teaching strategies with students' diverse intelligences to foster engagement and improve learning outcomes, particularly online education.

To cite this article: Rosalina, U., Shahat, S. A, A., & Syafrudin, T. (2025). An analytical study of english language learning through a multiple intelligence and constructivist framework. *Vidya Karya*, 40(1), 12–28.

INTRODUCTION

The term "Internet-based courses" is quite broad, encompassing a range of educational methods delivered online (Dash, 2022). These methods offer learners flexibility of time and place, such as 1) distance education, 2) e-learning and virtual schools, and 3) online education (Gupta & Gupta, 2020). Among these, "distance education" is perhaps the most fitting descriptor for this wide array of courses. It refers to "institution-based, formal education in which the learning group is geographically separated, and interactive telecommunications systems connect learners, resources, and instructors (Odenigbo, 2023). A key distinction of distance education, in contrast to independent or self-directed study, lies in its institutional foundation. The hallmark of distance education is the separation between instructors and students, which can manifest in both temporal and geographical dimensions (Aboagye & Dlamini, 2021). This educational model has evolved significantly in recent years, with many institutions embracing hybrid learning approaches that combine traditional face-to-face instruction with online components (Azouri & Karam, 2023). As a

result, courses are increasingly referred to as hybrid, combined, or mixed-method, highlighting the integration of in-person and digital interactions (Ortiz, 2023). These courses aim to provide flexibility, catering to diverse learners while maintaining a formal educational structure. This hybrid model is rapidly gaining popularity as a practical and effective means of delivering content while addressing the varied needs of students (Caulfield, 2023). The expansion of distance education requires educators to thoroughly understand the strategies employed in online instruction and the distinct needs of students participating in these courses. Transitioning to online education calls for a fundamentally different pedagogical approach than traditional classroom learning (Hew, Jia, Gonda, & Bai, 2020). Hence, instructors must adjust their teaching methodologies to ensure effective learning outcomes in a virtual environment. This adjustment includes gaining familiarity with the tools and platforms essential for online delivery and emphasizing the importance of personalized engagement with students, even within a digital context (Grewal, Gauri, Roggeveen, & Sethuraman, 2021).

The constructivist approach to teaching and learning is founded on the premise that students develop new concepts and knowledge by building upon their existing understanding (Pande & Bharathi, 2020). This approach highlights the significance of prioritizing the individual learner. In this framework, students are not mere recipients of information; rather, they actively construct knowledge based on their prior experiences and comprehension (Buehl, 2023). Consequently, effective teaching must consider individual differences, including diverse learning styles, and offer ample opportunities for students to enhance their knowledge. One essential aspect of the constructivist approach is integrating diverse teaching methods to cater to various learning styles (Sekwena, 2023). Every student has a different way of processing information. Some may prefer a visual learning style, while others prefer an auditory or kinesthetic one. By using a variety of teaching strategies, such as lectures, group discussions, project-based learning, and technology integration, teachers can provide an enriched learning experience and encourage a more inclusive environment (Pierson, 2022). This approach allows students to construct new knowledge that resonates with their preferences and strengths.

Recognizing and accommodating various learning styles is essential for providing students greater opportunities to connect new knowledge to their existing understanding (El-Sabagh, 2021). This idea, known as "scaffolding" in constructivist theory, involves offering temporary support to aid students in grasping more complex material. By enabling students to link new concepts to their personal experiences, teachers help them forge stronger connections between their prior knowledge and new information (Archambault, Leary, & Rice, 2022). This process fosters deeper learning and enhances comprehension of the subject matter.

Current educational reforms predominantly emphasize personalized teaching, focusing on the unique needs, interests, and abilities of individual learners (Walkington & Bernacki, 2020). By centering education around the student, teachers can identify and tailor their instructional methods to align with each learner’s strengths and weaknesses (Doyle, 2023). For example, some students may require additional time to fully understand certain concepts, while others might excel and grasp more challenging material quickly. Recognizing these differences enables educators to provide more effective instruction, ultimately fostering greater success in student learning (Tomlinson & Imbeau, 2023).

A key element of personalized teaching is differentiating instruction across various learning environments, whether face-to-face, online, or blended. Each learning mode possesses unique characteristics, necessitating teachers to adapt their strategies to suit their students' context and specific needs. Face-to-face learning facilitates direct interaction and prompt feedback, while online learning demands more independent study and proficient

use of technology (Ghazi-Saidi et al., 2020). Conversely, blended learning combines face-to-face and online formats, providing students with enhanced flexibility to engage with materials in ways that align with their learning styles and schedules.

The term "intelligence" encompasses a multifaceted concept with a rich and complex history (Maruthi, Dodda, Yellu, Thuniki, & Reddy, 2021). In discussions on this subject, people often refer to cognitive ability, commonly measured by the "intelligence quotient", or IQ. The origins of the intelligence quotient can be traced back to Alfred Binet (Nicolas, 2021), who devised a written test over a century ago to assess the IQ of elementary school children in France. The U.S. Armed Forces later adopted this test during World War I to evaluate recruits. Subsequently, educational institutions and businesses began using the intelligence quotient to classify students and select employees. The Stanford-Binet Intelligence Quotient (SBIG) Test (Roid & Pomplun, 2012), a widely recognized tool in both educational and professional contexts, was initially designed to assess the cognitive abilities of elementary school students in France, focusing primarily on two traditional cognitive dimensions: verbal/linguistic and mathematical/ logical. These dimensions were believed to be fundamental in determining intelligence (Eysenck, 2019). It is important to note that individuals, including identical twins, display physical and mental uniqueness. For example, physical uniqueness is exemplified by fingerprints, as each person has a distinct set. Mental uniqueness is evident in how individuals respond to the same object or event; despite the constancy of the object or event, people can react in numerous ways (Iser, 2022). Experts assert that these varied responses stem from differences in intelligence.

Intelligence encompasses the capacity to solve problems or create solutions relevant to a particular cultural context (Rowe, 2024). The spectrum of challenges or creations can range from straightforward tasks to more intricate endeavors, such as crafting a narrative, devising chess strategies, repairing torn blankets, composing music, or engaging in political activities. A person is deemed intelligent if they can effectively navigate the challenges they encounter in life and contribute something meaningful to humanity (Baba, 2020).

Some previous studies, such as Ahmad (2022), explored the integration of Multiple Intelligences Theory (MIT) in English Language Teaching (ELT). It highlights Gardner's nine intelligences and their role in enhancing language learning. The research discusses various teaching methods, such as CLT, Suggestopedia, and Silent Way, emphasizing the need for diverse strategies to address students' different intelligence types. The second study was from Tiansoodeenon & Sitthitikul (2024), who stated that the theoretical foundation and practical application of Multiple Intelligences (MI) in English Language Teaching (ELT). It examines Gardner's intelligence theory, discusses various teaching strategies, and highlights challenges in MI-based instruction. The research emphasizes student-centered approaches, promoting diverse learning styles to enhance language acquisition and engagement. The research emphasizes student-centered approaches, promoting diverse learning styles to enhance language acquisition and engagement. The third study was conducted by de Freitas (2022), who conducted the research in a private school in Feira de Santana, Bahia, Brazil. She focused on the challenges of planning English classes for second graders. The study analyzed lesson plans, revealing a concentration on linguistic and logical-mathematical intelligence while highlighting the need for a more balanced approach to teaching. The fourth comes from Jahroh (2022), who conducted research in Madrasah Ibtidaiyah Muhammadiyah and MI-based learning, such as its impact on linguistic intelligence or its application in secondary schools; these studies mainly focus on describing learning strategies and student engagement. The last was conducted by (Sibuea, Lubis, Nasution, & Purba, 2023)The study was conducted in SMA Negeri 1 Percut Sei Tuan. The researchers examined various intelligence-based learning strategies.

Impact on linguistic intelligence or its application in secondary schools, these studies mainly focused on describing learning strategies and student engagement. For example, a survey of multiple intelligences at Madrasah Ibtidaiyah Muhammadiyah Kartasura showed increased student engagement. Meanwhile, research conducted at SMA Negeri 1 Percut Sei Tuan examined various multiple intelligences-based learning strategies (Sibuea et al., 2023). However, those studies do not comprehensively analyze how multiple intelligences interact with constructivist principles to enhance English learning.

Unlike previous studies, this research examines the role of multiple intelligences in language learning and incorporates constructivist principles, which emphasize experiential learning and online social interaction in university. Although constructivist models have been used to design multimedia-based teaching, as seen in junior high school research on learning through CD-based interactive materials, this approach is often still technology-dependent.

In contrast, this research integrating online English learning with a multiple intelligences framework and constructivist approach is essential to support the educational goal of providing a more flexible framework, allowing different teaching methods to be tailored to different intelligences. This research contributes to a deeper understanding of how English learning can be optimized through a more personalized and interactive approach by critically analyzing the synergy between multiple intelligences and constructivism.

Howard Gardner's theory of multiple intelligences redefined the concept of intelligence by proposing that intelligence is not limited to academic abilities alone (Gardner, 2020). He argued that individuals possess various cognitive capabilities that work together to solve problems, adapt to situations, and respond to stimuli. Initially, Gardner identified seven core intelligences: linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal intelligence. These intelligences reflect the diverse ways individuals process information and solve problems (Gardner, 2020).

Linguistic intelligence involves using language effectively, while logical-mathematical intelligence focuses on analytical thinking and problem-solving (Shirawia et al., 2023). Visual-spatial intelligence pertains to the ability to perceive and manipulate three-dimensional space; bodily-kinesthetic intelligence is the skill to control physical movements (Young, 2021). Musical intelligence relates to understanding and creating music, while interpersonal intelligence involves understanding others' emotions and intentions (Yavich & Rotnitsky, 2020). Intrapersonal intelligence is the ability to understand oneself and make decisions based on self-awareness (Barman & Roy, 2021).

Gardner later expanded his theory, introducing naturalist intelligence, which involves understanding and interacting with the natural world, and existential intelligence, which concerns deep reflections on life and the universe. His theory challenged traditional views that focused solely on linguistic and logical abilities and highlighted the broad range of intelligence individuals may exhibit (Gardner, 2021)Gardner's work has profoundly influenced education. It encourages a more inclusive approach that recognizes and nurtures each student's unique strengths, allowing them to thrive in their areas.

METHODS

This study aimed to analyze the urgency of English online learning based on multiple intelligences with a constructivist approach. Researchers conducted the study at the Department of English Language Education, Prima Bangsa Institute, between October and November 2024. This research was qualitative (Woods & Sikes, 2022). The emphasis is placed on understanding the underlying context, processes, and dynamics that cannot be easily quantified. The researchers collected data through descriptions from observations,

statements, and writing materials obtained through observations, interviews, and research document collection (Tracy, 2024). This study collected data from 5 qualified respondents: 3 lecturers from the English Education Study Program (LE 1, LE 2, and LE 3) and 2 lecturers from the Teacher Education and Primary School Study Program (LTE 1 and LTE 2). The participants in this study were selected based on their expertise in multiple intelligences-based learning, their teaching experience, and their familiarity with relevant pedagogical approaches. The inclusion of participants from a diverse range of backgrounds ensured a comprehensive understanding of the subject, which is in line with the study's qualitative focus on contextual and process-driven insights.

The researchers employed observation, interviews, and document collection as data collection techniques. The data analysis technique they used was qualitative analysis. In this context, qualitative data refers to descriptive information in words rather than numbers. The researchers analyzed the data throughout the reflection process, from preparing reports to the conclusion. The Researchers used the Miles and Huberman flow model (Asipi, Rosalina, & Nopiyadi, 2022) data analysis involves three main steps: data reduction, data presentation, and conclusion, as shown in Figure 1.

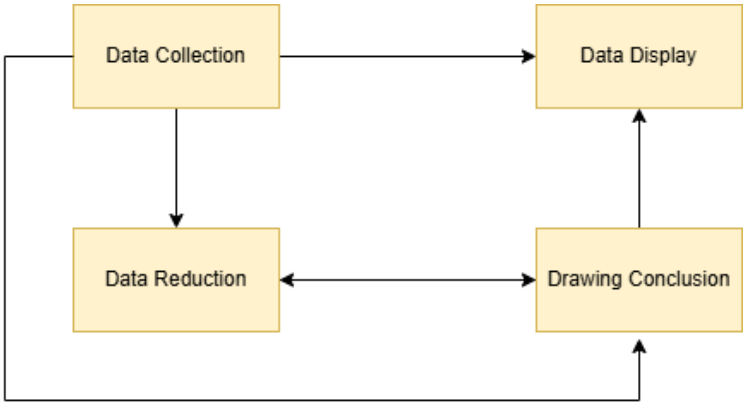

Figure 1 Data analysis with three steps

RESULTS AND DISCUSSION

The research found that educators actively respond to multiple intelligences in various learning processes. They demonstrated their commitment by facilitating students' diverse needs. Educators built multiple intelligences on the foundations of talent, social skills, and religious understanding, which they developed through contextual learning strategies. They approached education as a process aimed at transforming individual behaviors to achieve desired outcomes in the learning experience. As Gardner (2024) stated, the principles outlined in Gardner's book align closely with the themes of the analytical study of English language learning. Both works emphasize integrating multiple intelligence theories and constructivist frameworks in educational settings.

In practice, most learning processes occur in classrooms characterized by heterogeneity. Educators faced challenges in preparing lesson plans for these diverse groups. During interviews, respondents shared their perspectives on managing heterogeneous classrooms, and their feedback is summarized in Table 1.

Table 1 Analyzing lecturers' understanding of heterogeneous classes

No	Respondent	Respondent's Answer
1.	LE 1	A heterogeneous class is a learning environment characterized by students with diverse abilities, backgrounds, learning styles, and interests. This diversity encompasses variations in academic

		proficiency, cultural and linguistic heritage, social experiences, and individual learning preferences. Such a classroom fosters an inclusive atmosphere where students interact and collaborate, benefiting from one another's unique perspectives. The differences among students can enhance the learning process by promoting critical thinking, adaptability, and empathy. However, this diversity also presents challenges for educators, who must employ varied instructional strategies to meet the needs of all learners while maintaining a cohesive educational experience.
2.	LE 2	A learning environment where students with varying academic levels and abilities come together rather than being segregated by skill or performance. This inclusive approach allows for a rich exchange of ideas, fostering collaboration and mutual understanding among learners with diverse strengths. While it promotes equity and encourages peer learning, it also challenges educators to design differentiated instruction that caters to the individual needs of all students in the classroom.
3.	LE3	A heterogeneous class may include students from different cultural, social, and linguistic backgrounds, enriching the learning experience.
4.	LTE 1	It represents an inclusive educational setting where students with different needs, such as those with special education needs or gifted students, learn alongside their peers.
5.	LTE 2	A heterogeneous class fosters interaction and collaboration among students with different perspectives, encouraging critical thinking and social skills.

Respondents emphasized that lecturers ensured these diverse elements contributed positively to the learning environment. Based on the observations, they adjust teaching strategies to meet each student's unique needs, encouraging inclusiveness and engagement. The discussion further highlights the classification of students based on their cognitive aspects, enabling teachers to create instructional designs aligned with individual learning abilities. Various forms of evidence were examined to validate the implementation of multiple intelligences and the constructivist framework. Classroom observations revealed that teachers designed activities that catered to different intelligences, such as group discussions for interpersonal learners, hands-on experiments for kinesthetic learners, and visual aids for spatial learners. Additionally, lesson plans and instructional materials reflected MI-based approaches, incorporating storytelling, music, and project-based tasks to engage diverse learners. Interviews with lecturers further confirmed their deliberate efforts to integrate multiple intelligences and constructivist principles by adapting lesson structures to students' strengths (Cianci, 2024). Moreover, student work and feedback demonstrated the effectiveness of these methods, showcasing varied outputs that aligned with different intelligence types. By triangulating these sources, the study provides substantial evidence that multiple intelligences and constructivism were actively practiced in the classroom, ensuring meaningful and adaptive learning experiences.

Lecturers actively analyzed students' cognitive strengths and weaknesses, using these insights to implement effective learning strategies. They incorporated differentiated instruction and group activities to encourage collaboration among students with varying abilities. This approach bridged cognitive gaps and promoted peer learning and mutual respect among students. Table 2 provides respondents' answers to classifying high-achieving and low-achieving students.

Table 2 Retrieved data on the classification of high-achieving and low-achieving students

No	Respondent	Respondent's Answer
1.	LE 1	High-achieving students consistently perform well academically and demonstrate a strong grasp of the material. They tend to be self-motivated and proactive in their learning. In contrast, low-achieving students often struggle with understanding the concepts, which may be due to a lack of foundational knowledge, motivation, or external factors impacting their learning.
2.	LE 2	The distinction between high-achieving and low-achieving students is primarily based on their ability to meet academic expectations. High achievers excel in tests, assignments, and participation, while low achievers face challenges. However, this classification should not overlook the potential of low-achieving students to improve with proper guidance.
3.	LE3	High-achieving students usually have a disciplined approach to studies, complete their tasks on time, and show a keen interest in learning. Low-achieving students lack focus, exhibit inconsistent performance, and require additional support to understand and apply concepts effectively.
4.	LTE 1	In my experience, high achievers are characterized by their ability to think critically, ask insightful questions, and contribute actively in class discussions, often supported by a higher level of IQ that aids in their problem-solving and analytical abilities. Low achievers, who may have average or below-average IQ levels, often lack these traits and require tailored interventions and personalized teaching strategies to help them reach their full potential.
5.	LTE 2	For example, a high-achieving student might set a goal to complete all assignments a week before the deadline. They proactively seek additional resources, participate in class discussions, and consistently perform well in exams. Their internal motivation drives them to excel, and they are highly self-disciplined in managing their time and tasks. In contrast, a low-achieving student may find it difficult to set specific academic goals and often miss deadlines. They may lack confidence in their abilities, which leads to procrastination and inconsistent effort. However, this student can improve and reach their potential with proper support, such as personalized guidance from the teacher, encouragement, and development of effective study habits. For instance, providing them with clear, manageable steps to achieve a goal and offering positive reinforcement can gradually boost their self-regulation and academic performance.

In Indonesia, the labels "High Achieving" and "Low Achieving" are commonly applied to students, and these labels can have significant psychological impacts. Labeling students in such a way can affect their self-esteem and confidence, often leading to long-term consequences that extend into higher education. Students who lack confidence in their abilities may struggle to master academic concepts and apply the knowledge they acquire effectively (Haug & Mork, 2021). it can hinder their overall academic progress, making it challenging to fully engage with the learning process.

To address these challenges, shifting the focus from fixed labels to a more holistic understanding of student potential is important. One approach is to incorporate the concept of multiple intelligences, which emphasizes the diverse cognitive strengths of students (Tugberk & Sirin, 2024). By recognizing and nurturing these different forms of intelligence, educators can provide more inclusive learning environments that allow all students to thrive, regardless of their academic background or perceived intelligence. This approach promotes a positive learning experience and empowers students to build

confidence in their abilities, leading to better academic outcomes and personal growth. Therefore, understanding and applying the concept of multiple intelligences is crucial in fostering a supportive and effective educational environment. It is shown in Table 3.

Table 3 Retrieved from multiple intelligences

No	Respondent	Respondent's Answer
1.	LE 1	Multiple intelligences focuses on the idea that individuals possess various intellectual strengths, not limited to traditional academic skills.
2.	LE 2	Howard Gardner's theory of multiple intelligences reshaped how we view human potential by categorizing intelligence into eight distinct forms. Linguistic intelligence, for instance, is evident in writers and speakers with a flair for words and communication. Logical-mathematical intelligence thrives in scientists and engineers who excel in analytical reasoning and problem-solving. Spatial intelligence empowers architects and artists to visualize and create. Music, too, finds its champions in those with musical intelligence, attuned to melodies and rhythms. Athletes and dancers, on the other hand, showcase bodily-kinesthetic intelligence through their mastery of physical movement. Socially adept individuals exhibit interpersonal intelligence, while those deeply introspective demonstrate intrapersonal intelligence. Lastly, nature enthusiasts, with their acute understanding of ecosystems, embody naturalistic intelligence. Each form showcases the rich tapestry of human abilities, emphasizing the need for education systems to recognize and nurture these varied strengths.
3.	LE3	This refers to self-awareness and understanding one's own emotions and motivations, which can lead to careers in psychology, philosophy, or writing.
4.	LTE 1	reflects a natural ability to recognize pitch, rhythm, tone, and melody. Musically intelligent individuals often become musicians, composers, or music educators.
5.	LTE 2	People with this intelligence excel in understanding and interacting with nature, often working in agriculture, biology, or environmental science.

Table 3 demonstrates that respondents comprehensively understand the concept of multiple intelligences. Respondents consistently agreed that intelligence is not a singular construct but a multifaceted attribute inherent to everyone, including students. This perspective aligns with Howard Gardner's theory (Gardner, 2021) of multiple intelligences, which emphasizes that intelligence spans various domains such as linguistic, logical-mathematical, spatial, interpersonal, intrapersonal, and others. Respondents highlighted that measuring intelligence solely through cognitive abilities is inadequate and fails to capture students' diverse potential. This broader understanding underscores the importance of recognizing and nurturing multiple intelligences within educational frameworks to promote holistic student development (Liu & Jiang, 2024). It refers to an analysis of online learning within the English Education Department conducted to explore how multiple intelligences manifest in virtual classrooms, and the results are given in Table 4.

Table 4 Retrieved data on online learning

No	Respondent	Respondent's Answer
1.	LE 1	In the wake of the COVID-19 pandemic, students and lecturers of Prima Bangsa Institute English Education Department have had to adapt to conditions and situations that keep face-to-face meetings to a minimum. Online learning is one of the available learning options. Teachers must be innovative and creative to ensure students remain enthusiastic when participating in online learning. In online learning, students should also be able to find and explore as much information as possible independently to build their learning plan.

2.	LE 2	Online learning requires teachers and students to be more creative in the learning process and disciplined in following the course. The constructivism method is the best method to apply in online learning. During this process, innovative learning approaches should be applied to enable students to develop their understanding. Discipline in lectures is also important so that learning objectives can be achieved.
3.	LE3	Online learning has become the safest option for healthcare students and academics. While conventional learning may not be enjoyable, many institutions have implemented online methods to ensure the continuity of the teaching-learning process. Lecturers and students, however, must adapt to the changes. Various learning strategies have been developed to increase the effectiveness of online learning, and supporting technologies are constantly being updated to make the learning experience more interactive.
4.	LTE 1	The ability to master the technology of lecturers and students in the Department of English Education Prima Bangsa Institute is also tested during the COVID-19 pandemic. Creative and tech-savvy lecturers can utilize as many validated sources as possible from the internet to improve the quality of learning. In addition, various digital platforms have been used to support interaction between lecturers and students. Students who think critically and are tech-savvy can also explore online learning resources and apply their knowledge to various academic tasks. Thus, the learning process becomes richer and more meaningful than the traditional one, as various innovative resources and methods have been applied to improve learning effectiveness.
5.	LTE 2	To succeed in online learning, not only must the teacher be able to use technology, but also the students must be able to control themselves. This keeps the teaching on the route that has been set since the beginning of the course. Students can complete tasks requiring knowledge, resulting in good learning outcomes.

Online learning has been running quite well in the English Education Department, as shown in Table 4. However, it requires improvement in several aspects, including the innovation and creativity of teachers and students, and their ability to organize their knowledge (Shermukhammadov, 2022). Furthermore, an analysis of multiple intelligence-based internet learning of English has been conducted. Table 5 shows the respondents' answers to questions about English online learning based on multiple intelligences.

Table 5 Retrieved data on English online learning based on multiple intelligences

No	Respondent	Respondent's Answer
1.	LE 1	Online English learning based on multiple intelligences allows for a more personalized approach for students. However, the main challenge is providing materials that cater to all types of intelligence, such as linguistic, spatial, musical, and kinesthetic intelligence. An LMS platform that supports multimodality is essential to accommodate this diversity of intelligences.
2.	LE 2	The multiple intelligences approach can help enhance students' learning motivation in online classes. For example, those with musical intelligence can learn through English songs, while those with logical-mathematical intelligence can be given exercises based on language patterns and structures. However, implementing this approach requires technological readiness and lecturers' skills in designing varied learning materials.
3.	LE3	In online learning for elementary school children, the multiple intelligences approach is crucial to keep them engaged and prevent boredom. However, in practice, many teachers still rely on conventional

		methods such as reading and writing without considering other intelligence aspects like kinesthetic or naturalistic intelligence
4.	LTE 1	Implementing multiple intelligences-based English learning online is quite challenging for elementary students, mainly because they are still in the sensory and motor exploration stage. Teachers must be creative in designing activities involving text, movement, visuals, and sound to align with students' diverse intelligences.
5.	LTE 2	Today's online learning platforms are not optimal in supporting multiple intelligences, especially for children with kinesthetic and interpersonal intelligence. A project-based learning model or gamification could be a solution to ensure students are more actively engaged in online English learning.

The multiple intelligences approach in online English learning has great potential but presents challenges. Diverse learning materials, multimodal LMS, and creative content design are essential to accommodate different intelligence types. Engaging young learners remains difficult due to limited kinesthetic and interpersonal intelligence support, highlighting the need for interactive and gamified methods (Ibisu, 2024). Successful implementation depends on strong technological support, innovative teaching strategies, and well-prepared educators.

Meanwhile, Table 6 provides data on a suitable English online learning model that can be applied while considering the composition of multiple intelligences.

Table 6 Retrieved data on the suitable English online learning model to be applied while still paying attention to the composition of multiple intelligences

No	Respondent	Respondent's Answer
1.	LE 1	Blended Learning
2.	LE 2	Project-Based Learning
3.	LE3	Gamification
4.	LTE 1	Storytelling-Based Learning
5.	LTE 2	Flipped Classroom

No single online learning model suits all students, requiring a flexible approach to accommodate multiple intelligences. Some emphasize blended learning, project-based learning, and gamification to enhance engagement, while others recommend storytelling and the flipped classroom for younger learners. Success depends on innovative instructional design, effective technology use, and educator readiness.

Moving to suitable English online learning opportunities while considering multiple intelligences composition, the data is given in Table 7.

Table 7 Retrieved data on suitable English online learning opportunities while considering multiple intelligences composition

No	Respondent	Respondent's Answer
1.	LE 1	Integrating adaptive learning technology is one of the greatest opportunities for English online learning. AI-powered platforms can personalize learning experiences based on students' intelligence types. For instance, linguistic learners benefit from text-based exercises, while visual-spatial learners engage better with interactive infographics and videos. The challenge is ensuring accessibility and training educators to use these technologies effectively.
2.	LE 2	The rise of collaborative online platforms presents a major opportunity to implement multiple intelligences in English learning. Group-based activities on platforms like Google Classroom or Microsoft Teams allow interpersonal learners to excel in discussions, while logical-mathematical learners benefit from structured analytical exercises. However, lecturers must carefully design tasks to support each intelligence type.

3.	LE3	Multimedia-based learning offers vast opportunities for engaging students with different intelligence compositions. Video lectures, podcasts, and gamified quizzes simultaneously cater to auditory, visual, and kinesthetic learners. The key is to balance content variety and ensure all students receive equal opportunities to explore materials based on their dominant intelligence.
4.	LTE 1	Online English learning can be optimized for young learners by incorporating storytelling and gamification elements. Interactive digital storytelling, supported by animations and sound effects, can engage linguistic, spatial, and musical intelligence. The challenge lies in making these tools interactive enough to prevent passive learning.
5.	LTE 2	One of the most promising opportunities is the development of hands-on virtual activities for kinesthetic learners. While online learning is often criticized for being too passive, integrating physical activities such as interactive games, role-playing exercises, and video-based assignments can help accommodate active learners. However, this requires creativity from educators and well-structured learning platforms.

The respondents highlighted various opportunities for implementing online English learning while considering multiple intelligences. Adaptive learning technologies, collaborative platforms, and media-based learning enhance engagement and personalization, while gamification, virtual practice, and storytelling cater to young learners. These approaches accommodate different intelligence types, but their success relies on accessibility, teacher preparedness, and well-structured learning materials that support diverse learning needs.

Then, Table 8 provides data on the challenges in implementing English online learning while considering multiple intelligences.

Table 8 Retrieved data on the challenges in implementing English online learning while considering multiple intelligences

No	Respondent	Respondents' Answer
1.	LE 1	One major challenge in online English learning is designing activities that cater to multiple intelligences while maintaining engagement. Traditional online learning platforms often focus on text-based materials, which mainly benefit linguistic learners but neglect kinesthetic, spatial, and interpersonal learners. Educators must integrate interactive elements such as role-playing, virtual simulations, and collaborative discussions to overcome this.
2.	LE 2	A key challenge is the limited real-time interaction, which affects students with interpersonal intelligence who learn best through discussion and collaboration. Online learning often lacks spontaneous conversations and peer engagement, making it harder for these students to develop communication skills naturally. Educators must creatively use breakout rooms, discussion forums, and collaborative tasks to compensate for this limitation.
3.	LE3	Maintaining motivation in online learning is particularly difficult for students with musical and kinesthetic intelligence. Traditional online platforms rarely incorporate music, rhythm, or movement-based activities, leading to disengagement. Implementing gamification, incorporating music-based exercises, and encouraging students to practice English through physical activities, such as interactive challenges, could make learning more dynamic and inclusive.
4.	LTE 1	One of the biggest challenges for young learners is the lack of hands-on, tangible learning experiences that cater to multiple intelligences. Most online English lessons rely on videos and worksheets, which do not fully engage kinesthetic and spatial learners. To address this, educators should

		incorporate interactive storytelling, augmented reality, and practical exercises encouraging active participation.
5.	LTE 2	Technical limitations pose a major challenge in ensuring online English learning accommodates multiple intelligences. Not all students have access to high-speed internet or advanced digital tools, making it difficult to implement interactive learning models effectively. To bridge this gap, educators should provide flexible learning options, such as downloadable materials, offline activities, and simplified digital tools that can still support diverse learning needs.

The respondents highlight several key challenges in applying online English learning while considering multiple intelligences. These include the passive nature of many online platforms, limited real-time interaction, low motivation among certain intelligence types, the lack of hands-on learning for young students, and technical barriers. Teachers as educators must, therefore, integrate interactive elements, collaborative activities, gamification, and flexible learning options to ensure that all students, regardless of their intelligence composition, can effectively engage in the learning process (Khaldi, Bouzidi, & Nader, 2023).

Then, Table 9 provides data on a decision support system application that links multiple intelligences to learning models.

Table 9 Retrieved data on a decision support system application that links multiple intelligences to learning models

No	Respondent	Respondent's Answer
1.	LE 1	Very good
2.	LE 2	Excellent. This will greatly assist lecturers in designing classroom learning plans.
3.	LE3	Interesting
4.	LTE 1	Really worth a try
5.	LTE 2	Very good

The respondents agree that a decision support system (DSS) connecting multiple intelligences with learning models can improve personalized education. Key considerations include accurate intelligence assessment, AI-driven material adaptation, user-friendly design, and interactive interfaces for young learners (Ukenova & Bekmanova, 2023). However, challenges such as ensuring system accuracy, balancing automation with teacher control, accessibility, and curriculum alignment must be addressed for effective implementation. Table 10 shows the suggestions related to the development of this application.

Table 10 Suggestions related to the development of this application

No	Respondent	Respondent's Answer
1.	LE 1	The system should be able to adjust recommendations based on student progress in real time to improve the accuracy of the results.
2.	LE 2	Collaboration features allow students with different types of intelligence to work together on activities that match their strengths.
3.	LE3	Adding game elements such as achievements, interactive challenges, and interesting progress reports to make learning more engaging, especially for kinesthetic and visual-spatial learners.
4.	LTE 1	Using animation, interactive storytelling, and experiential activities to appeal to children with multiple intelligences.

5.	LTE 2	Apps must be able to run on low-specification devices and provide offline access to remain usable in technology-challenged environments.

The respondents suggest several key improvements for the DSS application, including adaptive intelligence assessments, real-time collaboration tools, gamification, multisensory learning experiences, and customizable lesson plans. Ensuring accessibility, offline functionality, and an intuitive interface is essential for broader adoption. These features help the system connect multiple intelligences with appropriate learning models, enhancing engagement and educational outcomes.

Previous research supports the respondents' recommendations for improving the DSS application, particularly in integrating multiple intelligences with adaptive learning models. Studies conducted in Madrasah Ibtidaiyah Muhammadiyah Kartasura and SMA Negeri 1 Percut Sei Tuan emphasize the importance of personalized and interactive teaching strategies, demonstrating how multiple intelligences-based instruction enhances student engagement. These findings highlight the necessity of incorporating adaptive intelligence assessment and customizable lesson plans into the DSS application. Furthermore, research on constructivist approaches, particularly in SMP studies that utilize CD-based interactive materials, underscores the benefits of real-time collaboration tools and gamification in improving learning experiences.

Despite these findings, some previous studies primarily focus on the theoretical applications of multiple intelligences and constructivism rather than their practical implementation in digital platforms. Unlike these studies, the DSS application aims to create a more dynamic and accessible learning environment by integrating offline functionality, multisensory learning, and an intuitive user interface. Traditional multiple intelligences and constructivist models promote differentiated instruction and experiential learning, yet DSS enhances these principles by providing real-time feedback and personalized learning pathways. Therefore, while existing research aligns with the proposed improvements, DSS addresses the practical challenges of integrating multiple intelligences with technology-based learning solutions, ensuring broader accessibility and more effective educational outcomes.

CONCLUSION

Implementing English online learning that integrates multiple intelligences within a constructivist framework is imperative to enhancing student outcomes. Developing a decision support system application can assist educators in selecting multiple intelligence-based learning models, thereby streamlining the design and implementation of effective instructional strategies.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS STATEMENT

This study was primarily conducted by the first author, who was responsible for conceptualizing the research design, developing the theoretical framework, formulating research questions, and executing qualitative data collection through in-depth interviews and observations. The first author also undertook the thematic analysis, coding, and interpretation of findings, as well as the initial drafting of the manuscript. The second author contributed to refining the methodology, provided critical feedback on the data interpretation, and was involved in reviewing and editing the manuscript. The third author offered supervision and academic guidance throughout the research process, ensuring the

validity and coherence of the final version. All authors have read and approved the final manuscript.

REFERENCES

Aboagye, E., & Dlamini, S. N. (2021). *Global citizenship education: Challenges and successes*. University of Toronto Press.

Ahmad, P. (2022). Integrating multiple intelligences theory in english language teaching. *Premise Journal of English Education*, 11, 348.

Archambault, L., Leary, H., & Rice, K. (2022). Pillars of online pedagogy: A framework for teaching in online learning environments. *Educational Psychologist*, *57*(3), 178–191.

Asipi, L. S., Rosalina, U., & Nopiyadi, D. (2022). The analysis of reading habits using Miles and Huberman interactive model to empower students' literacy at IPB Cirebon. *International Journal of Education and Humanities*, *2*(3), 117–125.

Azouri, M., & Karam, J. (2023). From in-person to hybrid learning mode. In *Governance in Higher Education: Global Reform and Trends in the MENA Region* (pp. 61–88). Springer.

Baba, M. M. (2020). Navigating COVID-19 with emotional intelligence. *International Journal of Social Psychiatry*, *66*(8), 810–820.

Barman, P., & Roy, A. (2021). Intrapersonal intelligence and decision-making ability of higher secondary school students. *MIER Journal of Educational Studies Trends and Practices*, *11*(2), 343–367.

Buehl, D. (2023). *Classroom strategies for interactive learning*. Routledge.

Caulfield, J. (2023). *How to design and teach a hybrid course: Achieving student-centered learning through blended classroom, online and experiential activities*. Taylor & Francis.

Cianci, M.-G. M. (2024). *The experiences of university faculty with integrating multiple intelligences into their teaching strategies*. Capella University.

Dash, B. B. (2022). Digital tools for teaching and learning English language in 21st century. *International Journal Of English and Studies*, *4*(2), 8–13.

de Freitas, A. C. (2022). Multiple intelligences in the english learning context: challenges in class planning. *Sisyphus—Journal of Education*, *10*(3), 244–264.

Doyle, T. (2023). *Helping students learn in a learner-centered environment: A guide to facilitating learning in higher education*. Taylor & Francis.

El-Sabagh, H. A. (2021). Adaptive e-learning environment based on learning styles and its impact on development students' engagement. *International Journal of Educational Technology in Higher Education*, *18*(1), 53.

Eysenck, H. (2019). *The structure and measurement of intelligence*. Routledge.

Gardner, H. (2020). *A synthesizing mind: A memoir from the creator of multiple intelligences theory*. mit Press.

Gardner, H. (2021). *Disciplined mind: What all students should understand*. Simon & Schuster.

Gardner, H. (2024). 14 multiple intelligences and education. *Understanding and Using Challenging Educational Theories*.

Ghazi-Saidi, L., Criffield, A., Kracl, C. L., McKelvey, M., Obasi, S. N., & Vu, P. (2020). Moving from face-to-face to remote instruction in a higher education institution during a pandemic: Multiple case studies. *International Journal of Technology in Education and Science*, *4*(4), 370–383.

Grewal, D., Gauri, D. K., Roggeveen, A. L., & Sethuraman, R. (2021). Strategizing retailing in the new technology era. *Journal of Retailing*, *97*(1), 6–12.

Gupta, S. B., & Gupta, M. (2020). Technology and e-learning in higher education. *Technology*, *29*(4), 1320–1325.

Haim, K., & Aschauer, W. (2022). Fostering scientific creativity in the classroom: The Concept of Flex-Based Learning. *International Journal of Learning, Teaching and Educational Research*, *21*(3), 196–230.

Haug, B. S., & Mork, S. M. (2021). Taking 21st century skills from vision to classroom: What teachers highlight as supportive professional development in the light of new demands from educational reforms. *Teaching and Teacher Education*, *100*, 103286.

Hew, K. F., Jia, C., Gonda, D. E., & Bai, S. (2020). Transitioning to the "new normal" of learning in unpredictable times: pedagogical practices and learning performance in fully online flipped classrooms. *International Journal of Educational Technology in Higher Education*, 17, 1–22.

Ibisu, A. E. (2024). Development of a gamification model for personalized e-learning. *ArXiv Preprint ArXiv:2404.15301*.

Iser, W. (2022). The reading process: A phenomenological approach. In *New directions in literary history* (pp. 125–145). Routledge.

Jahroh. (2022). *Penerapan pembelajaran berbasis multiple intelligences sebagai branding sekolah di madrasah ibtidaiyah muhammadiyah program khusus kartasura tahun pelajaran 2021/2022 jahroh*. Retrieved from http://eprints.iain-surakarta.ac.id/3639/1/Tesis fuuuul jahroh.pdf

Khaldi, A., Bouzidi, R., & Nader, F. (2023). Gamification of e-learning in higher education: a systematic literature review. *Smart Learning Environments*, *10*(1), 10.

Liu, Z., & Jiang, W. (2024). Research on the design of adaptive testing based on multiple intelligences theory and its impact on student learning outcomes. *Research and Advances in Education*, 3(3), 21–25.

Maruthi, S., Dodda, S. B., Yellu, R. R., Thuniki, P., & Reddy, S. R. B. (2021). Deconstructing the semantics of human-centric ai: A linguistic analysis. *Journal of Artificial Intelligence Research and Applications*, 1(1), 11–30.

Nicolas, S. (2021). Alfred Binet and the psychology of testimony. *Rivista Sperimentale Di Freniatria: La Rivista Dei Servizi Di Salute Mentale: CXLV, 1, 2021*, 13–39.

Odenigbo, V. N. (2023). Promoting distance education through information communication and technology (ict) towards attaining sustainable development goals in nigeria. *ESUT Journal of Education*, 6(2), 306–315.

Ortiz, D. (2023). *Speaking proficiency in a hybrid environment. A mixed-method study of spanish beginner learners.* Universitat Politècnica de València.

Pande, M., & Bharathi, S. V. (2020). Theoretical foundations of design thinking–A constructivism learning approach to design thinking. *Thinking Skills and Creativity*, *36*, 100637.

Pierson, A. L. (2022). Teacher perceptions of technology-enhanced, collaborative, project-based learning on students in mixed-ability classrooms. Walden University.

Roid, G. H., & Pomplun, M. (2012). *The stanford-binet intelligence scales* (Vol. 654). The Guilford Press New York, NY, USA:

Rowe, H. A. H. (2024). *Problem solving and intelligence*. Taylor & Francis.

Sekwena, G. L. (2023). Active learning pedagogy for enriching economics students' higher order thinking skills. *International Journal of Learning, Teaching and Educational Research*, 22(3), 241–255.

Shermukhammadov, B. (2022). Creativity of a teacher in an innovative educational environment. *Journal of Higher Education Theory & Practice*, *22*(12).

Shirawia, N., Alali, R., Wardat, Y., Tashtoush, M. A., Saleh, S., & Helali, M. (2023). Logical mathematical intelligence and its impact on the academic achievement for pre-

service math teachers. *Journal of Educational and Social Research*, 13(6), 239.
Sibuea, B., Lubis, M. S., Nasution, P. M. G., & Purba, A. (2023). Penerapan metode multiple inteligences untuk meningkatkan hasil belajar bahasa inggris siswa sma negeri 1 percut sei tuan, *17*(4), 1639–1650.
Tiansoodeenon, M., & Sitthitikul, P. (2024). The theoretical review and practice of multiple intelligences in English language teaching. *LEARN Journal: Language Education and Acquisition Research Network*, 17(1), 55–72.
Tomlinson, C. A., & Imbeau, M. B. (2023). *Leading and managing a differentiated classroom*. Ascd.
Tracy, S. J. (2024). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.
Tugberk, C., & Sirin, S. (2024). Beyond intelligence: The life and work of howard gardner. In *The Palgrave Handbook of Educational Thinkers* (pp. 1367–1383). Springer.
Ukenova, A., & Bekmanova, G. (2023). A review of intelligent interactive learning methods. *Frontiers in Computer Science*, 5, 1141649.
Walkington, C., & Bernacki, M. L. (2020). Appraising research on personalized learning: Definitions, theoretical alignment, advancements, and future directions. *Journal of Research on Technology in Education*. Taylor & Francis.
Woods, P., & Sikes, P. (2022). *Successful writing for qualitative researchers*. Routledge.
Yavich, R., & Rotnitsky, I. (2020). Multiple Intelligences and Success in School Studies. *International Journal of Higher Education*, 9(6), 107–117.
Young, S. J. (2021). A case study of teachers of elementary gifted students and their perceptions of best practices for teaching visual spatial activities in the classroom.

AUTHOR PROFILES

Utami Rosalina
Email : utami.rosaline@gmail.com
Afiliation : Institut Prima Bangsa
Expertise : ELT,Applied Linguistics.
Google Scholar : hUXYDiQAAAAJ
Sinta : 6743734
Orcid : 0000-0002-9145-2170

Salah Abobaker Almabruk Shahat
Email : salah.shahat@uob.edu.ly
Afiliation : University of Benghazi
Expertise : TEFL, English translating, Public Speaking.

Teguh Syafrudin
Email : teguhsyafrudin21@gmail.com
Afiliation : Institut Prima Bangsa