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Impact of Using Gagne's Nine Events of Instruction on Student's Academic Achievement and Satisfaction in an Online English Course for French Speakers

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THE IMPACT OF USING GAGNE'S NINE EVENTS OF INSTRUCTION ON

STUDENT'S ACADEMIC ACHIEVEMENT AND SATISFACTION IN AN ONLINE

ENGLISH COURSE FOR FRENCH SPEAKERS

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Dedicated to the memory of my mom, Gouely Diomandé.

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ABSTRACT

Yara Olive Paterne Loua, Ph.D., University of South Alabama, December 2023. The Impact of Using Gagne's Nine Events of Instruction on Student's Academic Achievement and Satisfaction in an Online English Course for French Speakers. Chair of Committee: James P. Van Haneghan, Ph.D.

This dissertation explored the effect of Gagne's nine events of instruction on student academic achievement and satisfaction during an online English class for French speakers. A group of 30 Facebook users from French-speaking countries in North and Sub-Saharan Africa participated in the research. They were divided randomly into two groups: one receiving traditional instruction through an asynchronous online lecture with PowerPoint presentation, and the other using instruction utilizing Gagne's nine events of instruction integrated with an LMS designed for this purpose. This mixed methods study explored several hypotheses related to academic achievement and satisfaction in the two groups. While the quantitative data did not show significant differences between the two groups, a highly significant difference was noted in Event 7 (providing feedback) indicating that feedback was mentioned more frequently in the treatment group. Qualitative data showed that participants from both groups enjoyed the course, felt satisfied, and experienced improvements in their English abilities. Although the study had some limitations, such as the small sample size and specific focus of assessment tools, the findings offer important insights that can enhance the design of future courses and help educators better understand their students' preferences in online English courses for French speakers in the African context. While no significant statistical differences were observed, it is still worth considering the potential value of Gagne's nine events of instruction for specific learners. This research contributes to improving online language

education for French speakers and empowers educators to make informed decisions regarding course design and teaching methods to enhance the effectiveness of online instruction.

CHAPTER I

INTRODUCTION

Technology continues to advance at an incredible rate and the Internet has become an indispensable aspect of daily life; therefore, education has undergone dramatic change, particularly online learning (Cook & Sonnenber, 2014). Online education has seen remarkable expansion, providing learners worldwide with access and flexibility needed for knowledge acquisition (Ally, 2004). One area which has experienced notable expansion is English language instruction to non-native speakers in Africa. Recent years have witnessed an exponentially rising demand for online courses tailored specifically to learners outside of English-speaking regions, especially African regions where English is not their native language; particularly among French speakers who wish to learn it as a second language. A significant portion of this online learning market includes these learners.

To understand why English language learning among African French speakers has grown increasingly attractive, it's necessary to consider its wider linguistic diversity on the continent. Africa is home to over two thousand languages (El Shazly, 2015), with several nations being multilingual due to colonial influences and global histories. Around 6.5 million Africans speak English as their first language, and approximately 700 million non-native English speakers (Srivastava, 2021). Fluency in English has become essential for Africans seeking international communication, commerce, and education; prompting

a rising demand for language courses specifically from French-speaking communities who face distinct linguistic and cultural hurdles in attaining English proficiency.

Online English courses targeted towards African French speakers have seen rapid expansion due to various factors, including increased mobile device access and globalization trends as well as self-directed learning (Mahlaba, 2020). Affordable smartphone technology and internet connections in remote and underprivileged regions have allowed more sub-Saharan Africans access online educational resources (GSMA, 2021). Globalization has highlighted the necessity of having an international language, making English proficiency essential for Africans wanting to join the global community (Plonski et al., 2013). Online learning platforms have emerged to meet this demand by providing learners with a convenient and cost-effective means of developing English skills at their own speed.

Yet despite their rising demand, online English courses remain controversial with regard to their effectiveness and the satisfaction of those taking them. Some observers have identified some potential drawbacks of online learning environments, citing the lack of face-to-face interactions as one potential issue. This impedes the development of oral communication skills as well as the formation of social bonds between learners (Burton, 2022; Robinson, 2020; Tamm, 2023). Quality instructional materials and their adaptability to African French speakers' specific needs must still be thoroughly assessed, to make sure online language learning platforms cater specifically to this target market. By doing this, course offerings can be fine-tuned while meeting individual audience demands more effectively.

Purpose and Scope of the Study

The purpose of this study was to investigate the impact of using Gagne's Nine Events of Instruction on students' academic achievement and satisfaction in an online English course for French speakers. The study compared the traditional instructional approach, involving asynchronous online lectures with online PowerPoint presentations, to a method incorporating Gagne's Nine Events of instruction within a learning management system. The scope of the study included evaluating the effectiveness of both instructional methods in terms of academic achievement, as well as student satisfaction.

Statement of Problem

As online language learning becomes ever more popular, demand has skyrocketed for effective and engaging instructional methods to maximize students' language acquisition experience and outcomes, particularly English courses tailored specifically for French speakers. Despite this demand, there is a notable gap in the literature regarding the effectiveness of Gagne's Nine Events of instruction within the context of online language learning for this specific demographic. This lack of research leaves educators or course designers uncertain about the best instructional methods for optimizing the learning experience and outcomes for their learners.

As online language courses continue to expand (Carney, 2022), it is imperative to identify effective instructional methods that can enhance both academic achievement and satisfaction for students. The current body of research does not sufficiently explore the relationship between the application of Gagne's Nine Events of instruction, academic achievement, and satisfaction within the context of online English courses for French speakers. This lack of information makes it difficult for educators or course designers to

identify the best way to build their courses and choose the right instructional methods. It could end up in poor courses that don't help students as much as they should.

The problem this dissertation seeks to address is the gap in knowledge surrounding the impact of Gagne's nine events of instruction on academic achievement and satisfaction in an online English course designed for French speakers. Failing to address this gap would leave educators missing valuable insights that may result in creating more effective and engaging courses, ultimately improving the learning experiences and outcomes for their students.

Significance and Contribution of Planned Research

Gagne's nine events of instruction can be an extremely effective tool in improving academic performance (Ali & Ali, 2015; Miner et al., 2015; Ullah et al., 2015). Through exploring its applications this study sought to establish best practices in online language education that benefit educators as well as learners alike.

This study significantly enhanced online language learning experiences by supporting educators in designing more engaging and successful courses within a learning management system. By understanding Gagne's nine events of instruction on academic achievement and satisfaction, educators can leverage Gagne's nine events of instruction principles to increase academic results while creating an enjoyable journey for their learners. Its findings inspired innovation in online language education. By emphasizing effective instructional methods and student-centric course design, this research inspired course designers to reevaluate traditional approaches while devising original solutions tailored specifically for online language learners.

Additionally, this study provided valuable data regarding student preferences and requirements when it comes to online language learning. With this knowledge at their disposal, course designers are better able to tailor course designs according to specific audience expectations in order to enhance overall effectiveness and appeal of courses; such customizability not only leads to improved learning outcomes but also enhances student satisfaction levels.

Research Questions

Research question 1 - Do students in the online language course using Gagne's nine events of instruction report higher scores than students participating in an online lecture?

Research question 2 - Do students in the online language course using Gagne's nine events of instruction report greater learning satisfaction than students in an online lecture?

Research question 3 - Is there a relationship between performance and satisfaction of students in the online language course using Gagne's nine events of instruction?

Research question 4 - Is there a difference in student average satisfaction scores between the group that received instruction with Gagne's nine events of instruction and the group that did not receive such instruction in an online English course for French speakers?

Research question 5 - Do the percentages of positive ('Yes') responses differ significantly between the control and treatment groups for each of Gagne's nine events of instruction in the online course?

Definition of Key Terms

Gagne's nine events of instruction: An instructional design model consisting of nine sequential steps for facilitating learning (Gagne, 1985; Hricko, 2008).

Academic achievement: In this study, the students' achievement will be assessed by their scores in the posttest administered upon completion of the courses.

Satisfaction: For this study, satisfaction will be measured in terms of the student's perception of the online course design and delivery.

Online language learning: The process of acquiring a second or foreign language by utilizing digital learning platforms, tools, and applications (Tzirides, 2019).

French speakers: For this study, individuals who are located in North Africa and Sub-Saharan Africa and who either have French as their first language or second language are included.

Learning management system: The platform for providing and administering instructional content, as well as determining and evaluating individual and organizational learning or training objectives, monitoring progress towards achieving those objectives, and accumulating and displaying data to oversee the learning process of an entire organization (Watson & Watson, 2007).

Asynchronous online lecture: For the purposes of this study, an animated video has been developed to simulate the format of an asynchronous online lecture, where an avatar delivers the instructional content.

Nine Events LMS Integration: A course template that integrates Gagne's nine events of instruction model into a Learning Management System (LMS).

Summary

Recent research suggests that Gagne's nine events of instruction can be helpful in boosting academic performance across different educational settings. Numerous studies have delved into the effectiveness of these events in enhancing leaning outcomes (Ali & Ali, 2015; Miner et al., 2015; Ullah et al., 2015). However, not much research has focused on using Gagne's nine events of instruction within online language learning context for French speakers; yet these findings could greatly enhance both learners' experiences and outcomes while aiding educators make better-informed decisions regarding course design and instructional strategies.

CHAPTER II

LITERATURE REVIEW

The following literature review is divided into two main sections. The first section explores the various facets of Gagné's nine events of instruction and its potential impact on student's academic achievement and satisfaction. On the other hand, the second section provides insights from existing literature on online learning in Africa, digital tools in online language instruction and the specific challenges faced by French speakers when learning English online.

Gagne's Nine Events of Instruction

Gagne's nine events of Instruction are a set of nine essential steps designed to facilitate effective learning by activating critical cognitive processes (see Table 1). Each event and internal processes they support should be included into instructional design for optimal effectiveness.

Table 1

Nine Events of Instruction Associated with the Internal Learning Process They Support

Internal Process	Event	Action
Reception	1. Gaining attention	Use abrupt stimulus change.
Expectancy	2. Informing learners of the objective	Tell learners what they will be about to do after learning.
Retrieval to working memory	3. Stimulating recall of prior learning	Ask for recall of previously learned knowledge or skills.
Selective perception	4. Presenting the stimulus	Display the content with distinctive features.
Semantic encoding	5. Providing learning guidance	Suggest a meaningful organization.
Responding	6. Eliciting performance	Ask learner to perform
Reinforcement	7. Providing feedback	Give informative feedback
Retrieval and reinforcement	8. Assessing performance	Require additional learner performance with feedback.
Retrieval and generalization	9. Enhancing retention and transfer	Provide varied practice and spaced reviews.

Source : Gagné, R. M. & Medsker, K. L. (1996). The conditions of learning: Training applications. Fort Worth: Harcourt Brace College Publishers.

Gagne recognized that the sequence of events can vary based on instructional delivery system such as classroom or computer-based tutorial. He suggested that effectiveness across instructional methods should remain similar if they implement similar events of instruction; his framework aimed to enhance learning through attention, pattern recognition, retrieval, rehearsal, encoding, retention (Driscoll 2014) among other processes related to memory and executive control. These events could also be applied in both instructor-led or self-instructional learning scenarios (Gagne & Medsker, 1996). The nine events are:

Gaining Attention. Event 1 in Gagné's nine events of Instruction is Gaining Attention. Learning can only occur if learners are open and responsive to new

information; therefore, capturing attention early is integral in any instructional process. Gaining Attention can occur through various stimulus changes like calling student names out loud, verbal signals or turning lights off and on in classroom environments; when using technology-mediated instruction this attention may also be captured through flashing signs on screens or beeps that signal important messages indicating important content.

Informing the Learner of the Objective. Event 2 in Gagné's nine events of instruction is Informing the Learner of the Objective. This step plays an essential role in motivating learners and aiding information processing effectively; when learners know exactly what their expectations are from instruction, they become more attentive and engaged with relevant material presented to them. One way of setting expectations would be through outlining instructional goals or discussing expected outcomes or showing students results of learning; furthermore, it's vital that explicit learning objectives be provided explicitly so learners do not form expectations themselves from class activities and assessments alone.

Stimulating Recall of Prior Learning. Event 3 in Gagné's nine events of instruction is Stimulating Recall of Prior Learning. New knowledge often builds upon what we already possess; yet students may struggle recall relevant details when faced with new tasks or assignments. Instructors must assist their learners in recalling essential background knowledge effectively so they can encode and transfer knowledge effectively, for effective learning to take place. Reminding them of previous lessons or engaging them in activities to reinforce this prerequisite knowledge is one effective

method, while encouraging active recalling is essential in building perseverance and problem-solving abilities.

   Presenting the Stimulus. Event 4 in Gagné's nine events of instruction is Presenting the Stimulus. Which stimulus you select depends upon what learning objective you are trying to meet. For verbal information, stimuli can take the form of textbook chapters, lectures, or even films featuring relevant subject matter. For intellectual skill learning, selecting an engaging stimulus that vividly shows its features is essential, such as diagrams or demonstrations accompanied by verbal explanations. Presenting stimuli for motor skill or cognitive strategy learning involves either showing the desired result visually or providing clear verbal instructions. Attitude learning requires stimuli which highlight desired actions or choices, often by using role models as examples. No matter the learning outcome, stimuli should emphasize distinct features or critical components which aid pattern recognition and selective perception.

   Providing Learning Guidance. Event 5 in Gagné's nine events of instruction is Providing Learning Guidance. Guidance we provide depends on a range of variables, including our desired instruction outcome, learners' abilities, time available for teaching and whether there are multiple learning goals that must be accommodated. Learning guidance serves an important purpose, aiding semantic encoding for content that will remain meaningfully stored in their long-term memory. As highly proficient students are already equipped with a solid base, their needs may require less guidance; those experiencing difficulties might require extra support in understanding concepts properly. As instructors work to enhance learning processes and problem-solving abilities, instructors may opt to provide minimal directive guidance while encouraging discovery

learning. It's important to remember, though, that discovery learning may take more time and require substantial resources than anticipated, so instructors must carefully weigh its benefits against costs before engaging with discovery learning methods.

Eliciting Performance. Event 6 in Gagné's nine events of instruction is Eliciting Performance. After making sure learning has taken place with Events 1-5, Event 6 gives learners the chance to demonstrate their understanding by performing. This event serves as an assessment process where learners feel free to make mistakes while continuing improving themselves; their performance serves as an indication whether learning goals have been reached as well as valuable insight for improving future instructional events; plus, it gives the learner an opportunity to apply what they've learned actively while building confidence in themselves and in themselves as learners.

Providing Feedback. Event 7 in Gagné's nine events of instruction is Providing Feedback. Feedback for learners on their performance serves two important functions. First, it enables learners to assess whether their answers were correct, while also aiding in the identification and correction of any mistakes that they might have committed. Kulhavy and Stock's feedback model suggests that feedback plays a varied role, depending on learners' confidence in their initial responses. Feedback plays an integral part in correcting learners' mistakes, and they typically pay close attention when being provided by teachers or peers. Feedback that addresses learners' uncertainty of answers must focus on either reteaching the knowledge/skill at stake or providing more in-depth explanation. Feedback should focus on showing learners how they can enhance existing abilities or increase strategic or creative performance; ultimately the aim is for feedback to guide improvement and promote growth among its recipients.

Assessing Performance. Event 8 in Gagné's nine events of instruction is

Assessing Performance. Learning is defined as a change in behavior or performance that

persists over time, so before considering a skill as well-learned, it must be performed

dependably. After learners have had opportunities to demonstrate and refine their

knowledge, their performance is formally assessed through methods such as tests,

projects, portfolios, or skill demonstrations. These assessments often form the basis for

assigning student grades. Even at this stage, Gagné and Driscoll emphasize the

importance of providing suitable feedback for each correct performance.

Enhancing Retention and Transfer. Event 9 in Gagné's nine events of

instruction is Enhancing Retention and Transfer. Although it's the last event in the series,

activities promoting retention and transfer are often integrated earlier in the instruction.

For example, using various examples and contexts during Event 5 (providing learning

guidance) can help with the transfer of intellectual skills. Spaced reviews can be planned

during Events 6 and 7 (eliciting performance and providing feedback) to facilitate

retention of intellectual and motor skills. Attitude learning has unique requirements for

retention and transfer. Activities such as role plays or discussions around hypothetical

scenarios can encourage students to reflect upon their knowledge and beliefs. Computer-

based simulations, though still developing, can also help students examine their attitudes

in various situations and understand the consequences of their decisions, making the

information more personal and relevant (Driscoll, 2014).

According to Driscoll (2014), effective instruction may not require all nine

instructional events, as the choice of events should be tailored to the learning situation.

Complex situations with multiple goals may need a larger context for individual

objectives. Including too many or too few events can lead to boredom or inadequate learning. Training failures often result from omitting one or more events, like insufficient practice. The key to successful instruction is to observe students and adapt the approach based on their needs.

Applications in Online Learning

Gagne's principles boost online student success, long-term learning, and course interest (Donmus Kaya & Akpinar, 2021). D'Souza and Kasinath (2010) found Gagne's theory to be applicable across various fields including bioinformatics, mathematics, science, physics, and English as a second language. Gagne's instructional design is particularly helpful in building problem-solving abilities among high school physics students (D'Souza & Kasinath, 2010), while his nine events of instruction can facilitate transitioning traditional classroom learning environments into online environments (Kusumawati, 2020).

Benefits and Limitations

Gagne's nine events of instruction aim to boost learner engagement and cognitive processing (McNeil & Fitch, 2022). Gagne's instructional design model may have certain restrictions when teaching more complex skills (Berger-Estilita & Greif, 2020). Critics contend that Gagne's instructional strategy is rigid, neglecting individual learning differences as well as motivation and engagement (Hawkins, 2014). Yet numerous articles explore its application to medical education (Berger-Estilita & Greif, 2020), showing its versatility across diverse fields of endeavor.

Empirical Research on Gagne's Nine Events of Instruction

Gagne's nine events of instruction is a powerful teaching framework developed by Robert M. Gagne in the 1960s. Since its creation, it has become a cornerstone of instructional design and educational research. This theory has not only shaped how we design instruction, but it has also influenced curriculum development and the creation of meaningful learning experiences in various fields and settings. Its impact spans across different domains and contexts, making it an essential tool for educators and instructional designers alike.

Academic achievement. Academic achievement serves an invaluable purpose: it measures an individual's progress toward fulfilling educational goals across different educational environments like schools, colleges, and universities (Steinmayr et al., 2014). An extensive body of research demonstrates the positive effect that Gagne's nine events of instruction have had on academic performance. Numerous studies have proven the efficacy of Gagne's nine events of instruction as an instructional model to increase student performance across disciplines such as mathematics, science, and language arts (Agboghoroma et al., 2022; Buckingham, 2023; D'Souza & Kasinath, 2010; Shaheen & Khatoon, 2017). To enhance academic achievement further, educators have employed various instructional strategies; Gagne's nine events of instruction is seen by educators as one such framework (Neo et al., 2010).

Gagne's theory of nine events of instruction has been successfully used across different educational contexts to improve student outcomes (Neo et al., 2010). Neo et al. (2010) reported using Gagne's model when designing a multimedia learning environment; as a result, it increased motivation, engagement, and post test score

improvement. Shaheen and Khatoon (2017) observed how an ICT-enriched modular teaching approach using Gagne's framework led to higher achievement scores among biology students than traditional methods.

Buckingham (2023) suggested that Gagne's model can improve learning outcomes and student engagement for online language classes. According to D'Souza and Kasinath (2010), Gagne's instructional strategies also proved more successful at increasing thinking skills compared to traditional teaching methods than below-average and average students; above-average learners outshone both average and below-average peers in performance measures derived by traditional means of assessment. The present study incorporated Gagne's nine events of instruction into the development of an online English course module designed for French speakers.

Satisfaction. Learning satisfaction is an integral component of educational journey, reflecting learners' emotional responses and perceptions to learning tasks they undertake (Yu, 2022). A variety of factors impact learner satisfaction including individual characteristics, teaching attitude and ability, course quality, learning environment, and teaching purpose (Topala & Tomozii, 2014). Gagne's nine events of instruction model has long been used by educational practitioners across a range of learning contexts to boost learner satisfaction levels.

Healthcare Training (Islam & Salam, 2019). According to research published in Bangladesh Journal of Medical Science, an evaluation study evaluated a half-day training session using Gagne's nine instructional events was effective and received positive feedback, with 82% of participants indicating satisfaction while also reporting new skills

acquired as a result of participation. This suggests Gagne's nine events of instruction can enhance learning satisfaction among healthcare professionals.

Hannon et al. (2002) studied Gagne's instructional model as it applies to an internet-based core curriculum in public health. They discovered that it proved an ideal model for online learning environments; students reported meeting course objectives while reporting an overall positive experience during online education sessions; this finding indicates its success at improving satisfaction with online education experiences.

Mofrad et al. (2021) conducted an effective comparison between traditional lecture-based training and mobile-based learning using Gagne's instructional design model for mobile-based training, where over 90% of participants in both groups expressed satisfaction with Gagne's nine events of instruction to enhance learning satisfaction in mobile-based environments.

Relationship between Satisfaction and Academic Achievement. A study by Basith et al. (2020) found a significant relationship between online learning satisfaction and academic achievement during the COVID-19 pandemic. Higher satisfaction with online learning was associated with improved academic achievement among students. While this study does not directly mention Gagne's nine events of instruction, the results highlight the importance of learning satisfaction in online education and its potential impact on academic performance. The measurement of satisfaction for this study was determined based on student's perception of the online course design and delivery.

Online Learning in Africa

Historical Context of Distance Education. The evolution of distance education has undergone numerous transformations since its inception. The earliest roots of this

educational modality can be traced back to 1840, during which Isaac Pitman introduced an innovative teaching approach by leveraging mail and a unique shorthand technique (Farahi & Saidi, 2023). This early form of distance learning, largely based on correspondence, differed significantly from what we recognize as online education today. With the advancement of technology and the digital revolution of the 20th century, the term 'e-learning' emerged in academic discourse, particularly becoming prominent by the mid-1990s (Farahi & Saidi, 2023). E-learning, which is learning through computers and the internet, is still new in Africa. The first big e-learning conference happened in 2006 in Addis Ababa, Ethiopia, and it was called eLearning Africa (eLearning Africa, n.d.).

Online Learning in the African Context. The key obstacles of online learning in Africa include addressing access and affordability issues through laptop subsidies, ensuring reliable infrastructure for electricity and internet connectivity in all areas, and providing ongoing teacher training in eLearning software (Okafor, 2022). An interesting topic to investigate is how people in Africa learn languages online. Not many people have studied this yet, especially in Morocco. The way education is done in Africa has changed quickly, especially because of the COVID-19 pandemic. This made universities use more online ways of teaching, like mixing in-person and online classes (Farahi & Saidi, 2023).

Modalities of Online Learning. Online education can be broadly categorized into three primary instructional modalities: synchronous, asynchronous, and hybrid (Perveen, 2016). Asynchronous Learning: As delineated by Perveen (2016), asynchronous learning emancipates students from the bounds of time, permitting them to peruse educational materials at their discretion. Learning Management Systems (LMS)

often serve as platforms for these interactions. Yet, despite its advantages in flexibility, educators are tasked with the challenge of sustaining student engagement and promoting active participation. The decentralized nature of this modality often leads to learners feeling isolated, necessitating more effort from their end to foster connections and collaborations. Synchronous Learning: Contrary to its asynchronous counterpart, synchronous e-learning revolves around real-time educational exchanges (Perveen, 2016). Platforms ranging from simple chat rooms to sophisticated videoconferencing tools help to bridge the distance between educators and learners. This mode is particularly resonant in the realm of language learning. A study by Perveen (2016) elucidated that a substantial majority of students (82%) displayed a preference for synchronous English courses, likely due to the direct and instantaneous nature of the interactions they facilitate. Bin Dahmash (2021) further classified synchronous English courses as those happening live on LMS platforms, while asynchronous sessions are archived renditions of these real-time classes. However, it's imperative to understand that while synchronous modes replicate traditional classroom environments to an extent, they aren't devoid of challenges. Students are mandated to be present at specific times and require consistent internet connectivity (Perveen, 2016). Hybrid Learning: The hybrid approach amalgamates components of both synchronous and asynchronous methods, offering a versatile learning ecosystem (Perveen, 2016). This mode strives to balance the immediacy of live sessions with the flexibility of self-paced learning.

Comparative Analysis of Learning Modalities. Despite the surge in digital learning, its multiple facets come with their own sets of benefits and challenges. Зоряна Дзюбата (2020) summarized these effectively: while traditional learning thrives on

direct, face-to-face engagements, it's restricted by spatial boundaries. Synchronous online platforms break these barriers but grapple with accommodating diverse schedules and learner preferences. Asynchronous modalities, although flexible, require sophisticated IT infrastructure and can lead to diminished real-time interactions. Combined methodologies, or the hybrid models, offer the most versatility but come with their own set of prerequisites including complex course designs and elevated student motivation.

Digital Tools in Online Language Instruction

During the COVID-19 pandemic, an investigative study at Qassim University in Saudi Arabia demonstrated that a majority of female undergraduates found value in online English phonology lessons delivered via the Learning Management System (LMS), Blackboard. Students resonated with the system's flexibility and its propensity to elevate receptive language skills. However, they also aired concerns about the attainment of specific learning goals and contended the irreplaceability of face-to-face instruction (Alkhalaf, 2021).

The Use of Instructional Videos. Merfeld-Langston (2021) posits the substantial benefits of using how-to videos in language learning, indicating that such tools can significantly enhance students' comprehension and retention. The structured, step-by-step approach ingrained within these videos offers a systematic pathway, potentially augmenting learning outcomes when they're integrated as supplementary homework resources.

Prevalence of Recorded Lectures. Recorded lectures emerge as a dominant methodological tool in online English instruction (Hamad et al., 2021). Such lectures,

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often housed within LMSs, present a synchronous mode of delivery, allowing students the convenience of access at their preferred timings.

Diversity in Tech Tools and Platforms. During instances when learners encountered accessibility issues with LMSs, alternative platforms such as WhatsApp, Zoom, Google Classroom, Microsoft Teams, and even emails came to the rescue (Bin Dahmash, 2021; Mahyoob, 2020). This adaptability underscores the versatility and expansive ecosystem of digital tools available for online learning. Similarly, governments in Africa, like those of Ghana and Ivory Coast, exemplified resilience by leveraging television broadcasting to sustain educational delivery during the pandemic (Tabiri et al., 2022).

The LMS Landscape. LMSs, described as integrated toolkits that facilitate the hosting of educational content and foster communication between educators and learners, have become pivotal in online education (Perveen, 2016). Blackboard and Moodle stand out as prominent LMSs on the African continent, with Moodle representing a "Modular Object-Oriented Dynamic Learning Environment" (Gluchmanova, 2018). These platforms have transitioned into primary conduits for numerous course activities, spanning discussions, content management, and assessments (Alturki et al., 2016). Acar & Kayaoglu (2020) emphasize the interactive, learner-centric environment that tech tools can cultivate. Furthermore, the utilization of platforms like MOODLE can stimulate active student engagement and potentiate language mastery.

Challenges and Benefits of Tech Tools in Language Learning. Maican & Cocoradă (2021) caution that while tech tools can boost language skills and maintain student engagement, they are not devoid of challenges. Technical glitches and personal

hindrances can curtail the optimal benefits of these platforms. Despite the plethora of tools available, learner autonomy remains crucial. Effective online learning is contingent on students assuming responsibility for their educational trajectories. Those refraining from this proactive stance may fail to maximize the benefits of online platforms (Şahin & Yurdugül, 2022).

Challenges Faced by French Speakers When Learning English Online

The global prominence of English as the lingua franca, particularly in domains like science, technology, and innovation, necessitates its acquisition for individuals across different linguistic backgrounds. For French speakers, the journey of online English acquisition encounters multifaceted challenges, ranging from technical difficulties to the intricacies of learning modalities.

The Imperative of English Mastery and its Online Challenges. Acquiring proficiency in English, especially oral competence, stands as a pivotal milestone in mastering the language (Al Mahmud, 2022). However, the transition to online teaching, particularly in the absence of a physical instructor, ushers in a spectrum of unique challenges that can impede this mastery (Hamad et al., 2021).

Technical Impediments in Learning Management Systems (LMSs). LMSs are at the forefront of online language instruction. Yet, a myriad of technical challenges abounds. Mahyoob (2020) delineates specific technical issues encountered by learners, encompassing difficulties accessing online classes, downloading materials, and glitches in audio-video playback. Further, Alturki et al. (2016) underscore concerns related to the usability and accessibility of LMSs, while Gluchmanova (2018) emphasizes the issues of

platform reliability, especially in areas bereft of stable internet connectivity or requisite technological infrastructure.

Such connectivity challenges gain traction in the work of Odekeye et al. (2023), who highlight the detrimental impact of inconsistent internet and intermittent power supply on effective LMS utilization. Odekeye and colleagues also argue for bolstering digital literacy among students and educators, tailoring LMSs for blended learning, and incorporating LMSs within tertiary curricula as strategies to optimize online learning in Africa.

Students' Perceptions and Challenges in E-Learning. Alizadeh (2019) underscores that while students largely appreciate e-learning's convenience and flexibility, they remain skeptical about specific dimensions. This skepticism pertains to the quality and robustness of LMSs and the perceived dearth of interactive opportunities intrinsic to these platforms.

Modalities of Online Education and Accompanying Obstacles. Delving into the methodologies employed by learners, Nurdevi Bte Abdul & Maharida (2022) indicate the integration of synchronous and asynchronous strategies. The synchronous mode encapsulates real-time interactions, facilitated by platforms like Zoom and Google Meet, alongside chat dialogues and attendance monitoring. On the other hand, the asynchronous mode draws on tools like Google Classroom and email. However, the adoption of these modalities isn't devoid of challenges. Learners frequently grapple with unstable network connections, data limitations, a nascent proficiency in utilizing ed-tech tools, and the inflexibility of instructional materials. The compounded effect of these barriers can significantly impede a smooth and productive learning experience.

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Summary

Empirical research has consistently showcased the efficacy of Gagne's nine events of instruction across diverse educational settings. Each event has been identified in literature as pivotal in engaging learners, motivating them, ensuring efficient comprehension, and promoting long-term retention. Furthermore, these nine events present a systematic and structured approach to instructional design that resonates with diverse learners across various contexts. Despite its enduring relevance, it's imperative for researchers and practitioners to continually explore innovative methods and technologies to further leverage Gagne's model in a rapidly evolving educational landscape.

Integrating Gagne's nine events of instruction into Learning Management Systems (LMSs) offers promising avenues. Such integration can potentially lead to more effective course design, boosting learning experiences and retention rates.

Parallelly, online learning in Africa tells a tale of both opportunity and challenges. The myriad of digital tools available, from traditional LMSs to platforms like Zoom and WhatsApp, highlight the expansive digital toolkit for instruction today. However, the true measure of their success rests not just on technological features but on their capacity to foster learner engagement and autonomy. This is especially salient for French speakers venturing into online English acquisition, where the interplay of digital tools introduces both opportunities and challenges.

The research presented in this chapter suggests that Gagne's nine events of instruction may help increase student achievement and satisfaction. Yet, there is a need for further exploration to discern whether an LMS-based course, specifically tailored for

French speakers, can replicate these outcomes. A deeper dive is also warranted to appreciate the full impact of using Gagne's instructional model in this unique learning context.

CHAPTER III

METHOD

This research explored the effect of Gagne's nine events of instruction on student academic achievement and satisfaction during an online English class for French speakers. A group of 30 Facebook users looking to acquire English as a second language were randomly split into two groups. The control group received traditional instruction through an asynchronous online lecture with PowerPoint presentation. Treatment group participants received instruction utilizing Gagne's nine events of instruction integrated with an LMS designed for this purpose.

This chapter outlines the participants, the independent and dependent variables, the development of materials, and the research design. The chapter also provides an overview of the instruments used and procedures used to investigate the research hypotheses and questions. Lastly, this chapter delves into the processes of data collection and analysis.

Research Hypotheses

Based on the information from the literature review, the following hypotheses were explored in the study:

Hypothesis 1. The academic achievement of students in the online language course using Gagne's nine events of instruction will be greater than the academic achievement of students in the control group.

The literature review on Gagne's nine events of instruction suggests that the use of Gagne's nine events of instruction positively influences students' academic achievement

(Agboghoroma et al., 2022; Buckingham, 2023; D'Souza & Kasinath, 2010; Shaheen & Khatoon, 2017). Gagne's nine events of instruction theory as cited in Neo et al. (2010) has been utilized in various educational settings to enhance student performance.

Hypothesis 2. The learning satisfaction of students in the online language course using Gagne's nine events of instruction will be greater than the learning satisfaction of students in the control group. Gagne's nine events of instruction has been applied in various learning contexts to improve learning satisfaction such as healthcare training (Islam & Salam, 2019), online learning (Hannon et al., 2002), and mobile-based training (Mofrad et al., 2021).

Hypothesis 3. Students' performance in the online language course using Gagne's nine events of instruction positively affects their satisfaction. A study by Basith et al. (2020) found a significant relationship between online learning satisfaction and academic performance.

Hypothesis 4. There is a difference in student average satisfaction scores between the group of French-speaking students who received instruction with Gagne's nine events of instruction in an online English course and the group that did not receive such instruction. Several factors influence learning satisfaction, including individual characteristics, teaching attitude and ability, course quality, learning environment, and teaching purpose (Topala & Tomozii, 2014).

Hypothesis 5. The percentages of positive ('Yes') responses for each of Gagne's nine events of instruction will significantly differ between the control group and the treatment group, with the treatment group exhibiting higher positive response rates due to the implementation of the teaching approach. Incorporating Gagné's nine events of

instruction into online course design can promote instruction that is both engaging and meaningful (Jeffery, 2018). This approach also contributes to increased student success, long-lasting learning, and more positive attitudes towards the course (Donmus Kaya & Akpinar, 2021).

Research Design

The design of the study was a mixed-methods research design with both quantitative and qualitative data in order to gain a comprehensive understanding of the research questions (Johnson & Onwuegbuzie, 2004). Quantitative data consist of scores in the pretest (administered before the course) and scores in the posttest (administered upon completion of the courses). Qualitative data were collected on students' experiences and perspectives to examine the impact of Gagne's nine events of instruction on academic achievement and satisfaction. Participants were asked to respond to questions addressing their most enjoyable aspects, least favorite elements, suggested improvements, and additional comments on their experiences on the course design and delivery. These questions were part of an online survey which was developed by the researcher.

Random assignment was used as a control technique for any potentially extraneous variables. Participants were randomly assigned to one of two groups. The control group received traditional instruction through an asynchronous online lecture with PowerPoint presentation. Treatment group participants received instruction utilizing Gagne's nine events of instruction integrated with an LMS designed for this purpose. Table 2 presents an overview of the research design.

Table 2

Pretest-Posttest Control Group Design Evaluating the Effectiveness of Gagne's Nine Events of Instruction.

Group	Pretest	Instruction using Gagne's Nine Events of Instruction	Posttest	Online Survey
R1	O		O	O
R2	O	X	O	O

Note. O = measurable occasions; X= treatment received; R1= randomly assigned to control group; R2= randomly assigned to treatment group.

Participants

Participants of this research consisted of 30 Facebook users residing in French-speaking countries of North and Sub-Saharan Africa who agreed to provide accurate responses on a screening survey (Appendix F). Out of 140 participants who signed up, 30 were selected based on accurate answers provided on said screening survey; sign-up links for participating were distributed through targeted Facebook ads that targeted potential French-speakers from across North and Sub-Saharan Africa. Participants took voluntarily without expecting incentives or rewards in return. Eventually all were randomly allocated into either treatment group or control using a random number generator.

Table 3 offers an overview of the demographic information of participants, such as age, gender, education level, as well as duration of English language study and nationality. Data shows that there were more male participants than female participants, with 80% of the control group and 86.67% of the treatment group being male. Most participants in both groups were in the 18-24 age range, with 66.67% in the control group and 73.33% in the treatment group. Most participants had a bachelor's degree, with 40%

in the control group and 33.33% in the treatment group. Most participants had studied

English for 2+ years, with 46.67% in the control group and 40% in the treatment group.

Participants came from various African countries, with Senegal being their top country of

origin; individual percentages varied depending on control or treatment groups.

Table 3

Demographic Profiles and Descriptive Statistics of Control and Treatment Group Participants.

Item		Control		Treatment	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Female	3	20	2	13.33
	Male	12	80	13	86.67
Age	18-24	10	66.67	11	73.33
	25+	5	33.33	4	26.67
Level of education	Some high school, no diploma	1	6.67	3	20
	High school diploma	5	33.33	3	20
	Associate degree	1	6.67	3	20
	Bachelor	6	40	5	33.33
	Master	2	13.33	1	6.67

(Table 3 continued)

Item		Control		Treatment	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Duration of English language study	Less than one year	6	40	6	40
	1-2 year(s)	2	13.33	3	20
	2+ years	7	46.67	6	40
Nationality	Algeria	1	6.67	1	6.67
	Senegal	6	40	1	6.67
	Mali	3	20	3	20
	Niger	1	6.67	2	13.33
	Ivory Coast	3	20	1	6.67
	Guinea	1	6.67	3	20
	Chad	0	0	4	26.67

Variables

The dependent variables in the current study were academic achievement and satisfaction. Academic achievement was measured by the participant's scores in the posttest administered upon completion of the online courses. Satisfaction with the online learning course design and delivery was measured using the online survey.

The independent variable in the study was the teaching approach based on Gagne's nine events of instruction. Gagne's nine events of instruction were integrated into a learning management system for an online English course (Appendix A). The online English course was based on the Nine Events LMS Integration (Appendix B) which is a course template that incorporates Gagne's nine events of instruction model into

a Learning Management System (LMS). This course guided participants in discovering the English alphabet using captivating multimedia lessons and hands-on dictation exercises. Dictation, a valuable method for improving students' writing and listening skills, involves students carefully writing down words spoken by their teachers. This process not only improves their spelling but also sharpens their ability to pick up on sounds, as pointed out by Jesness (2014). The course was designed with beginners in mind, it helped them gain a solid understanding of the English alphabet and set the stage for more advanced language studies. According to Jones et al. (2013), when you have a solid understanding of the alphabet, it's like having a dependable foundation that often leads to greater achievements in reading and writing. The effects of the independent variable on the dependent variables of academic achievement and satisfaction with the online learning course design and delivery were measured.

Development of Materials

The researcher created two distinct online courses: one specifically designed for the treatment group, and another for the control group.

The online course for the treatment group was built within the Learning Management System (LMS) using the Nine Events LMS Integration (Appendix B) based on Gagne's theoretical framework, which focuses on the cognitive aspect of learning and highlights the importance of well-designed instruction. Gagne's theory connects his nine events of instruction with corresponding mental processes, and these events serve as essential components for an effective lesson that fosters successful learning (Gagné & Medsker, 1996). Consequently, the development and creation of the online course for the

32

treatment group incorporated Gagne's nine events of instruction, which can be found in

Table 4.

Table 4

Online Course for the Treatment Group Based on Gagne's Nive Events of Instruction

Events of Instruction	Features of the online course
1. Gaining attention	A concise and captivating 20-second video, developed by the researcher using CreateStudio video animation software, presented a persuasive explanation of the English alphabet's importance, highlighting its role in preventing misunderstandings when spelling names, email addresses, and more. The narration in the video was done in French (see Figures 1).
2. Informing learners of the objective	A 9-second video, created by the researcher using CreateStudio video animation software, introduced the learning objectives: "By the end of this course, you will be able to spell names using the English alphabet and identify similarities between the French and English alphabets." (refer to Figure 2)
3. Stimulating recall of prior learning	"Tell me more 1 & 2" from the Nine Events LMS Integration (Appendix B) were used to stimulate recall of prior learning. "Tell me more 1" activity encouraged students to recall how many letters are in the French alphabet (see Figure 3) and "Tell me more 2" activity prompted learners to identify English letters that are similar to French letters (see Figure 4).

(Table 4 continued)

Events of Instruction	Features of the online course
4. Presenting the stimulus	"Introduce topic 1 &2" from the Nine Events LMS Integration (Appendix B) was used to present the stimulus. "Introduce topic 1" was about what the learner needs to know about the 26 letters of the English alphabet and Introduce topic 2 was about similarities and differences between the French and English alphabet (see Figure 5 and Figure 6). Audio narrations were produced by an AI text to voice tool called Speechelo.
5. Providing learning guidance	The use of real-world examples was used to help learners understand complex concepts. This was integrated into Event 6 to 9.
6. Eliciting performance	"Practice 1 &2" from the Nine Events LMS Integration (Appendix B) was used to encourage learners to practice their newly acquired knowledge and skills through online activities ("Appliquez-le dans votre monde 1 & 2", see Appendix A)
7. Providing feedback	Feedback on learners' performance in quizzes and online activities was constructive and offered timely. This was integrated into Event 8 to 9.
8. Assessing performance	The quiz and exam featured identical questions to evaluate the learners' performance before and after the course. Both assessments included five dictation questions where learners listened to an audio clip and wrote down the name they heard in the provided space (refer to figure 7). Audio narrations for the assessment were produced by an AI text to voice tool called Speechelo.
9. Enhancing retention and transfer	Earlier in the instruction, activities were incorporated to encourage retention and transfer, such as applying the alphabet to various real-life situations (see Figure 8).

Figure 1.

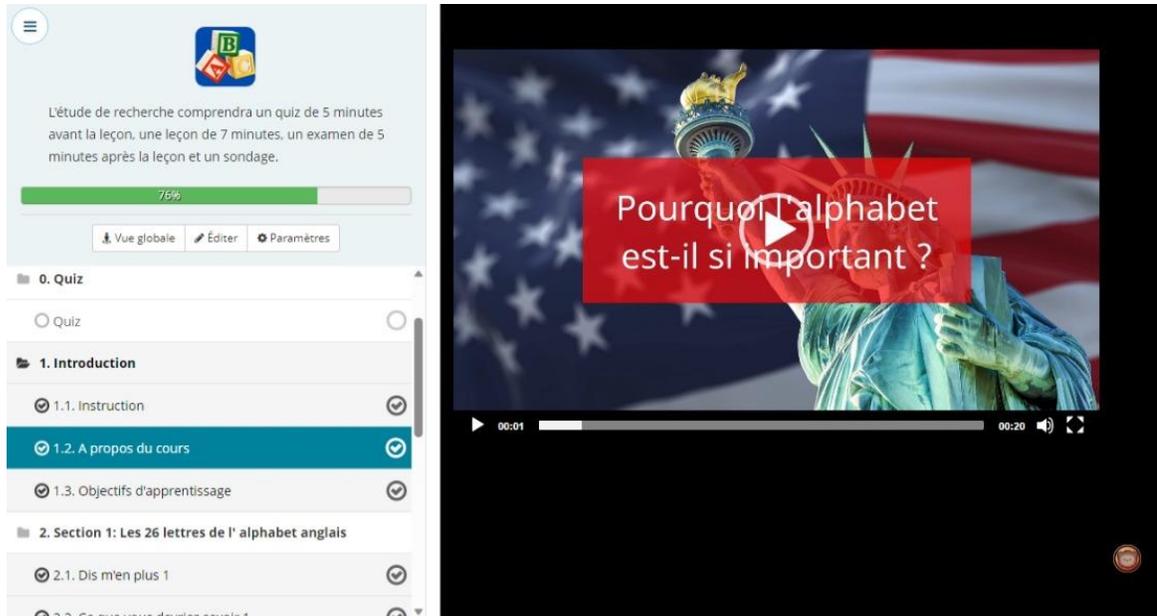*A 20-second video about the importance of the English alphabet was used to gain learners' attention.*

Figure 2.

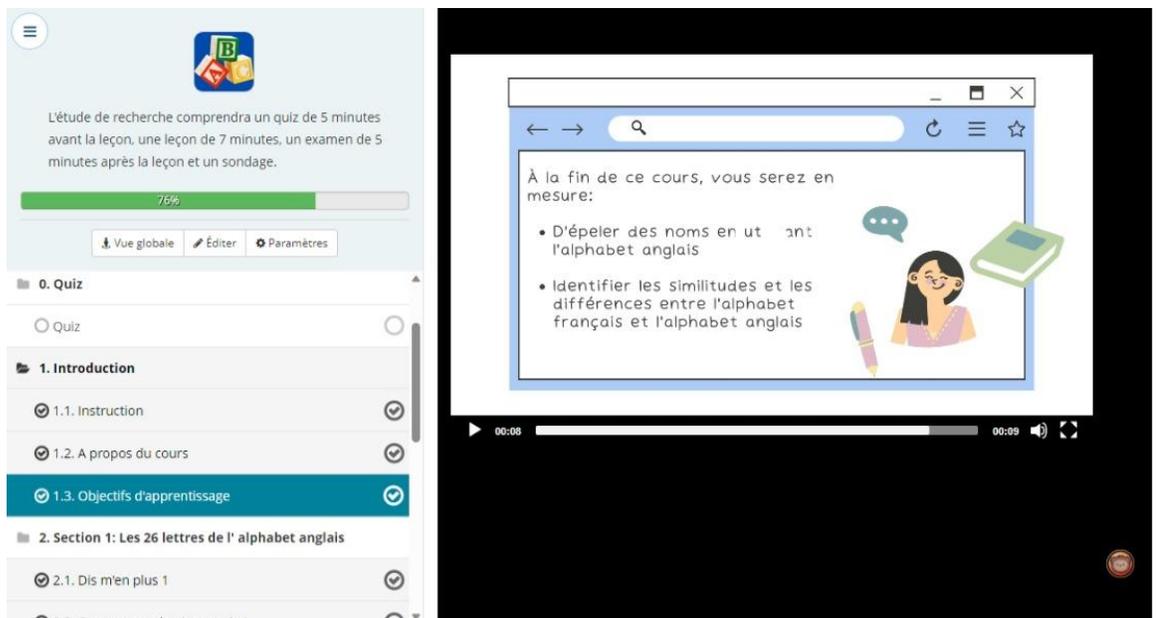*A 9-second video of learning objectives was used to inform learners of the objective.*

Figure 3.

"Tell me more 1" activity prompted learners to stimulate recall of prior learning.

Figure 4.

"Tell me more 2" activity prompted learners to stimulate recall of prior learning.

Figure 5.

Introduce topic 1 (what you need to know) of the Nine Events LMS Integration was used to present the stimulus.

Figure 6.

Introduce topic 2 (what you need to know) of the Nine Events LMS Integration was used to present the stimulus.

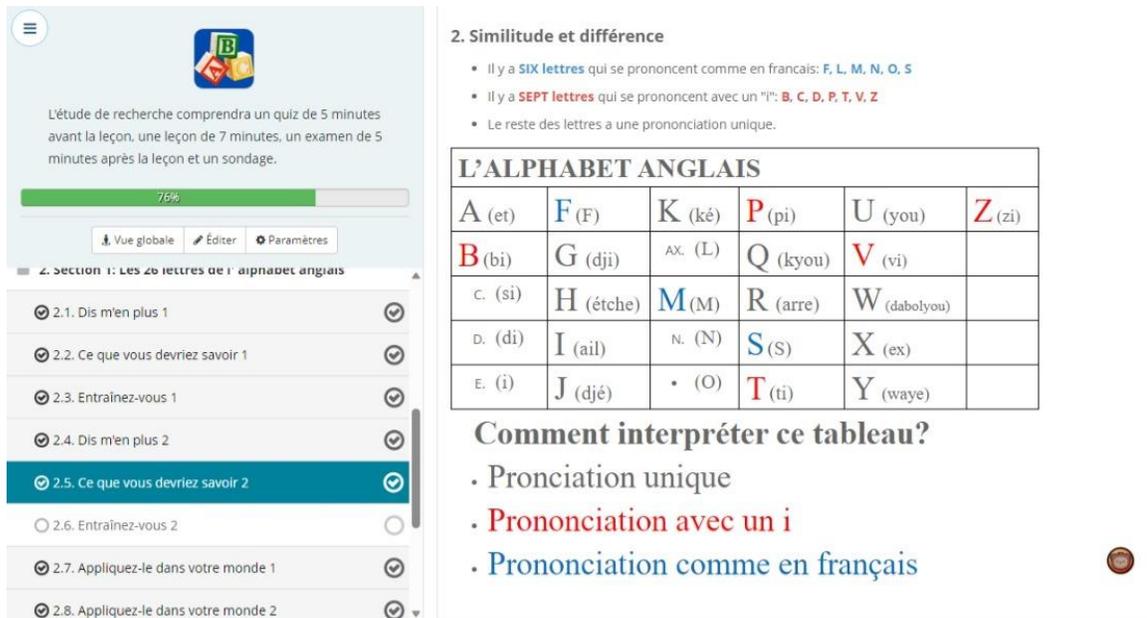**Figure 7.**

Audio-assisted name spelling exercise.

Figure 8.

What's your favorite car brand Real-world Activity.
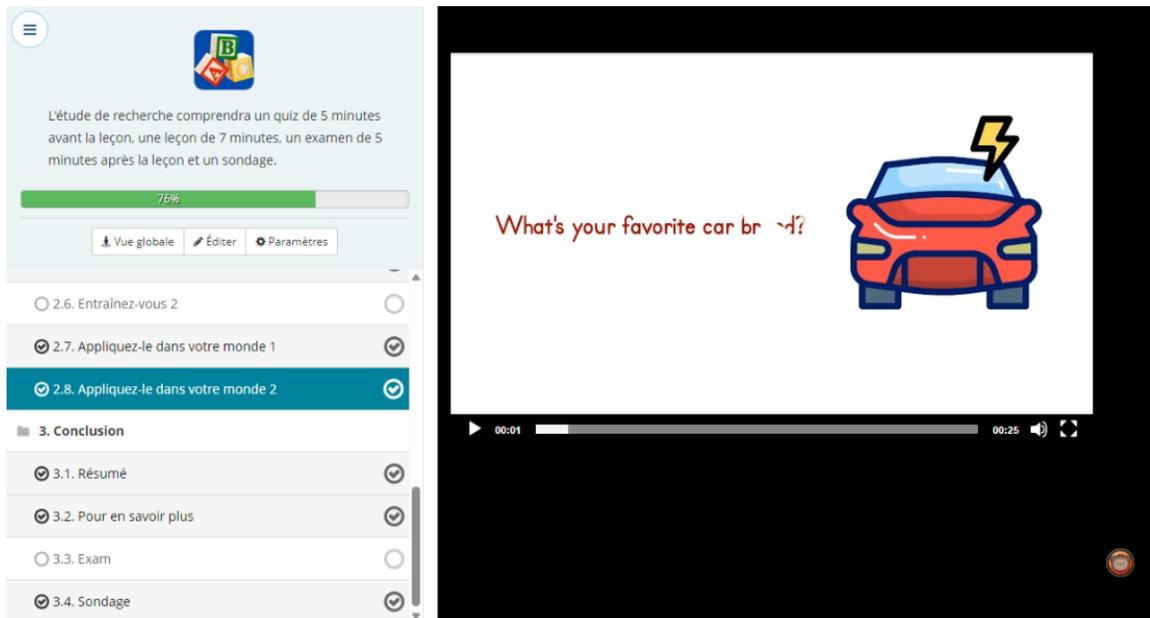
The control group's online course employed an asynchronous online lecture format (refer to Appendix E), featuring an animated video created by the researcher using CreateStudio video animation software, with a duration of 3 minutes and 32 seconds. This format mimicked a typical asynchronous online lecture, with an avatar presenting the instructional content (see figure 9).

Figure 9.

An avatar giving lecture on the English alphabet.
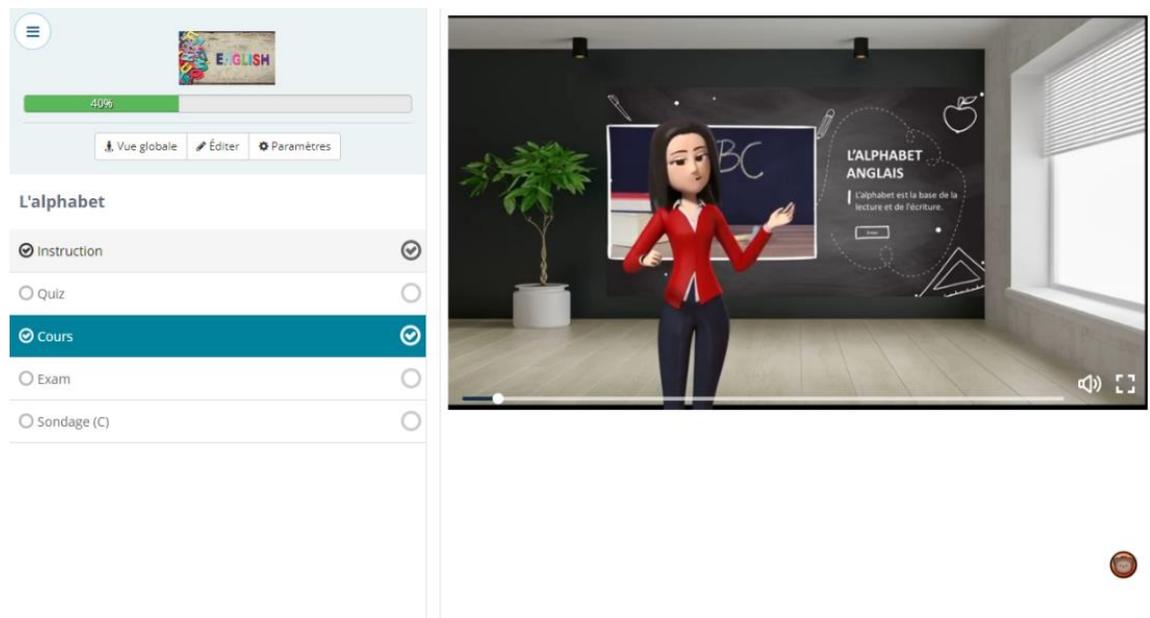
Even though the main focus of creating this educational video wasn't specifically on

Gagne's nine events of instruction, it does include some aspects from Gagne's approach.

The video starts by capturing the viewer's attention through the introduction of the avatar

and how it will assist in learning the alphabet. Throughout the video, the avatar

emphasizes the significance of the alphabet as the foundation of reading and writing,

clarifying the learning objective for the viewer. To stimulate recall of prior knowledge,

the video highlights the similarities between the French and English alphabets. The video

includes a one-minute practice session, where the viewer is encouraged to read the

transliteration of the English alphabet, actively engaging the learner in the learning

process. It's important to note that while the video includes several components of

Gagne's nine events of instruction, such as gaining attention, informing the learner of

objectives, stimulating recall of prior learning, presenting the stimulus, providing guidance, and eliciting performance, it does not specifically focus on providing feedback.

Instrumentation

Online survey. To determine if using Gagne's nine events of instruction increase satisfaction, the online survey (Appendix C) was used. The online survey is a 24-item self-report questionnaire that addressed only one factor in the online environment – online course design and delivery. Item 17 of the online survey was the only item measuring satisfaction and consisted of the following 5 sub-items: 17.a. Indicate your level of satisfaction for using videos in the course; 17.b. Indicate your level of satisfaction for course content; 17.c. Indicate your level of satisfaction for overall quality of the course; 17.d. Indicate your level of satisfaction for course navigation; and 17.e. Indicate your level of satisfaction for eLearning portal. To eliminate neutral responses, the instrument required participants to indicate their level of satisfaction on a 5-point scale ranging from Very dissatisfied = 1 to Very satisfied =5. A statistical analysis, including the examination of internal consistency and factor loadings, of the sub-items of item 17 of the online survey demonstrated that it was an effective measure of online course satisfaction. Confirmatory factor analysis, using varimax rotation, indicated only one component existed – online course design and delivery. This component accounted for 86.002% of the variance. Cronbach's alpha reliability analysis was performed to determine the internal consistency of the online survey. Coefficient alpha reliability estimates for the online survey were .95 for online course design and delivery which shows strong internal consistency reliability. Questions 1 to 9 of the online survey were used to determine the percentages of positive ('Yes') responses for each of Gagne's nine

events of instruction. To gather insights about the course evaluation, four open-ended questions were asked as part of the online survey. In addition to these questions, some basic demographic information was also collected. This online survey was conveniently placed at the end of the course for participants to complete.

Exam. The examination employed a fill-in-the-blank format and was assessed utilizing automated systems integrated within the learning management systems. These automated systems have undergone training to discern specific correct answers. Upon receiving a student's response, the system conducts a comparative analysis against a repository of accurate responses, determining the score based on the degree of concordance with the established correct answers. The online course included a final quiz (Appendix D) made up of 5 dictation questions. Each dictation question was worth 20 points, giving the quiz a total possible score of 100 points. The quiz involved listening to an audio recording and typing in the names heard (five names used in the quiz included "arnold schwarzenegger", "emmanuel macron", "christine lagarde", "angela merkel", and "vladimir putin"), using all lowercase letters (fill-in-the-blank format). In the event of the student's response aligning with the correct answer in the database, a score of 20 points is awarded; however, should the response fail to correspond with the correct answer, the student receives zero points. The final quiz scores were used in the study to compare students 'academic achievement.

Treatment

After participants completed the screening survey (Appendix F), they were randomly assigned to the treatment group (using the online course based on Gagne's nine events of instruction) or the control group. The screening survey (Appendix F) had four

questions (1) Where do you live? (2) Do you speak French fluently? (3) What is your English language proficiency? And (4) Are you ready to participate in a study that will take about 30 minutes of your time and that will include a survey?

The treatment group took a quiz or pretest before starting the lesson. They then embarked on an interactive lesson centered on Gagne's nine events of instruction (Appendix A), which aimed to teach the fundamentals of the English alphabet. During the lesson, participants listened to each letter of the alphabet, practiced pronunciation, and engaged with each of Gagne's instructional events incorporated into the session. Upon completing the lesson, they took a final quiz and filled out the online survey (Appendix C).

On the other hand, the control group participants were given an asynchronous online lecture featuring an animated video. This video was designed to mimic the format of a typical asynchronous lecture, with an avatar presenting the instructional content (see Appendix E). Like the treatment group, the control group also took a quiz or pretest before diving into the lesson, which covered all 26 letters of the English alphabet. At the end of the lesson, they took a final quiz and filled out the online survey (Appendix C).

Procedure

This study took place online from August to October 2021 using Teachermerit.com's Learning Management System (LMS). Targeting prospective participants from French-speaking nations of North and Sub-Saharan Africa via Facebook ads was done, along with sharing an invite link on this social media platform for registration purposes. After completing the screening survey (Appendix F),

participants were randomly allocated into either a treatment or control group using research randomizer (Appendix G). The treatment group participated in an interactive course based on Gagne's nine events of instruction that lasted 15 minutes; for comparison purposes, control participants received another 10-minute course that covered similar content but differed in format and duration. The researcher created and installed both courses onto an LMS. Both the control and treatment groups took a pretest before the online course, and a posttest after the course ended. Additionally, an online survey was conducted at the end of each posttest session for both groups.

Statistical Analyses

A *Mann-Whitney U* test was conducted to compare the mean ranks of students in the online language course using Gagne's nine events of instruction and students participating in the asynchronous online lecture. To compare the satisfaction of students in the online language course using Gagne's nine events of instruction and students participating in the asynchronous online lecture, an independent-samples t test was conducted. A Pearson product-moment correlation coefficient was used to investigate the relationship between students' performance in the online language course using Gagne's nine events of instruction and their satisfaction. To determine whether there were any statistically significance differences in students' satisfaction scores between the treatment and control group, an independent-samples t test was conducted. A Fischer's exact test was conducted to determine whether there were any statistically significant differences in the distribution of "Yes" and "No" responses between the treatment and control groups for each event.

The open-ended questions generated qualitative data. The researcher compiled and summarized the results of the perceived satisfaction questionnaire to detect and recognize trends. This process involved iterative coding, categorizing, reviewing, and analyzing the data.

Summary

This chapter presented the methods and procedures used for data collection and analysis for the current study. The primary objective was to measure the impact of using Gagne's nine events of instruction on student's academic achievement and satisfaction in an online English course for French speakers, using mixed methods collection of both quantitative and qualitative information.

The study involved 30 Facebook users living in French-speaking nations of North and Sub-Saharan Africa who completed an initial screening survey before being randomly allocated to either treatment group or control group. The treatment group participants experienced an online course centered on Gagne's nine events of instruction, beginning with a pretest or quiz followed by an interactive lesson focused on teaching basic elements of English alphabet (please refer to Appendix A for details). Participants in the control group received an asynchronous online lecture that featured an animated video. This animated video emulated the format of a typical asynchronous lecture, with an avatar presenting the instructional content.

To measure satisfaction, an online survey was administered, with quantitative data being analyzed using SPSS software and qualitative information being explored to detect emerging themes or gain deeper insight into study's outcomes.

CHAPTER IV

RESULTS

The purpose of the current study was to examine how using Gagne's nine events of instruction impacted the academic achievement and satisfaction of French-speaking students enrolled in an online English course. The study employed a mixed-methods research design and randomly assigned participants to either the nine-events condition or the no-nine event condition. The control group was given traditional instruction through an asynchronous online lecture with a PowerPoint presentation, while the treatment group received instruction incorporating Gagne's nine events of instruction through a learning management system specifically designed for this purpose. In order to ascertain the equivalence of the group prior to administering the treatment, a pretest assessment comprising dictation was administered. An independent-samples t test was conducted, with equal variances assumed, to determine if there were any statistically significant differences in the pretest scores of the language assessment between the two groups before the treatment. The results of that analysis revealed that there was no difference between the control and treatment groups on the pretest ($t(28) = .22, p = .83$).

The results of both quantitative and qualitative data analyses are presented based on the research questions. The quantitative data were analyzed using SPSS and an alpha level of .05 was used to determine statistical significance for all inferential statistical tests.

Statistical Analyses

The independent variable in the study was the teaching approach based on Gagne's nine events of instruction. The dependent variables were academic achievement and satisfaction. Academic achievement was measured by the participant's scores in the posttest administered upon completion of the online courses. Satisfaction with the online learning course design and delivery was measured using the online survey. The following research questions were addressed in this study.

Research question 1. Research question 1 - Do students in the online language course using Gagne's nine events of instruction report higher scores than students participating in an online lecture?

Hypothesis 1 – The academic achievement of students in the online language course using Gagne's nine events of instruction will be greater than the academic achievement of students in the control group.

Question 1 was examined using quantitative data collected from posttest scores for each group. An independent-samples Mann-Whitney U test was conducted to compare the mean ranks of academic achievement between the Control group and the Treatment group. Due to the study's limited sample size and the presence of numerous zero scores in the assessment data, the Mann-Whitney U test was chosen as the appropriate statistical analysis. Table 5 lists the mean ranks of academic achievement by group.

Table 5

Mean ranks of academic achievement by group

Group	*n*	*Mean Rank*
Control	15	15.20
Treatment	15	15.80

Note. The continuous field data pertaining to the posttest scores exhibits a range between 0 and 100, with a mean of 26 and a standard deviation of 32.44.

The Mann-Whitney *U* test was conducted to compare the mean ranks of academic achievement between the Control group and the Treatment group. The analysis revealed no statistically significant difference in academic achievement between the two groups ($U = 117$, $p = .87$).

Research question 2. Research question 2 - Do students in the online language course using Gagne's nine events of instruction report greater learning satisfaction than students in an online lecture?

Hypothesis 2 – The learning satisfaction of students in the online language course using Gagne's nine events of instruction will be greater than the learning satisfaction of students in the control group.

Question 2 was examined using quantitative data collected from satisfaction posttest scores for each group. An independent-samples t test was conducted to compare the satisfaction of students in the online language course using Gagne's nine events of instruction and students participating in the asynchronous online lecture. In addition, the

means and standard deviations for the learning satisfaction are reported in Table 6

showing the posttest data by group.

Table 6

Comparison of Satisfaction Levels Between Control and Treatment Groups for Various Course Aspects

	Control Group		Treatment Group		*t*
					Equal
Item	*M*	*SD*	*M*	*SD*	*variances*
					assumed
17.a. Indicate your level of satisfaction for using videos in the course	4.33	.90	3.93	1.49	.89
17.b. Indicate your level of satisfaction for course content	4.47	.52	4.21	1.25	.72
17.c. Indicate your level of satisfaction for overall quality of the course	4.47	.52	4.33	1.23	.39
17.d. Indicate your level of satisfaction for course navigation	4.53	.52	4.00	.93	1.95
17.e. Indicate your level of satisfaction for eLearning portal	4.43	.65	4.07	1.39	.89

Note. Highest available score was 5 for each question.

Independent t-tests were conducted to compare the learning satisfaction posttest

scores between the treatment and control groups, and there was no statistically significant

difference in the responses to all five posttest questions.

The mean satisfaction score for the control group was approximately 4.45 (SD = 0.50), while the mean satisfaction score for the treatment group was approximately 4.11 (SD = 1.18). A Cronbach's alpha reliability analysis was conducted to determine the internal consistency of the online survey. The coefficient alpha reliability estimate for the online survey was .95 for online course design and delivery, indicating strong internal consistency reliability. An independent t-test was conducted to compare the means between groups. The difference was not statistically significant, $t(28) = 1.02$, p = .16.

Research question 3. Research question 3 - Is there a relationship between performance and satisfaction of students in the online language course using Gagne's nine events of instruction?

Hypothesis 3 – Students' performance in the online language course using Gagne's nine events of instruction positively affects their satisfaction.

Question 3 was examined using quantitative data collected from average satisfaction scores for each individual in the treatment group and the academic achievement posttest scores in the treatment group. A Pearson product-moment correlation coefficient was used to investigate the relationship between students' performance in the online language course using Gagne's nine events of instruction and their satisfaction. Preliminary analyses were conducted to ensure that the assumptions of normality, linearity, and homoscedasticity were not violated. Results revealed a non-significant correlation between the two variables, $r(13) = .20$, $p = .49$. The correlation was small and positive, but the sample size was too small to find a significant correlation. Therefore, the results are inconclusive regarding any association between students'

performance in the online language course using Gagne's nine events of instruction and their learning satisfaction.

Research question 4. Research question 4 - Is there a difference in student average satisfaction scores between the group that received instruction with Gagne's nine events of instruction and the group that did not receive such instruction in an online English course for French speakers?

Hypothesis 4 – There is a difference in student average satisfaction scores between the group of French-speaking students who received instruction with Gagne's nine events of instruction in an online English course and the group that did not receive such instruction.

Question 4 was examined using quantitative data collected from individual satisfaction scores in both the treatment and control groups, and the average scores for each group were compared. An independent-samples t test was conducted to determine whether there were any statistically significance differences in students' satisfaction scores between the treatment and control group. Preliminary analyses were performed to ensure no violation of the assumptions for outliers, homogeneity of variance and normality. Table 7 lists the means and standard deviations of average satisfaction scores by group.

Table 7

Summary of Average Satisfaction Scores for Control and Treatment Groups

Group	*n*	*M*	*SD*
Control	15	4.39	1.19
Treatment	15	4.05	0.54

An independent *t* test was conducted to compare the average satisfaction scores of the control and treatment group. There was not a statistically significant difference in the average satisfaction score for the control group and treatment group, $t(28) = -.99$, $p = .33$.

Research question 5. Research question 5 - Do the percentages of positive ('Yes') responses differ significantly between the control and treatment groups for each of Gagne's nine events of instruction in the online course?

Hypothesis 5 – The percentages of positive ('Yes') responses for each of Gagne's nine events of instruction will significantly differ between the control group and the treatment group, with the treatment group exhibiting higher positive response rates due to the implementation of the teaching approach.

Question 5 was examined using categorical data collected from individual responses to Gagne's nine events of instruction in both the treatment and control groups. A Fisher's Exact Test was conducted to determine whether there were any statistically significant differences in the distribution of "Yes" and "No" responses between the treatment and control groups for each event. Given the small sample size inherent in this study, the adoption of the Fisher's Exact Test emerged as the most fitting alternative to the chi-square test for analyzing the differences between our categorical variables. Table

8 lists the observed and expected frequencies of "Yes" and "No" responses for each of

Gagne's nine events, separated by group.

Table 8

Observed and Expected Frequencies of Responses for Each of Gagne's Nine Events

Event	Group	Response	Observed	Expected
1. Gaining the attention of the students	Treatment	Yes	15	15
	Treatment	No	0	0
	Control	Yes	15	15
	Control	No	0	0
2. Informing the learner of the objective	Treatment	Yes	14	14
	Treatment	No	1	1
	Control	Yes	13	13
	Control	No	1	1
3. Stimulating recall of prior learning	Treatment	Yes	9	9
	Treatment	No	6	6
	Control	Yes	9	9
	Control	No	6	6
4. Presenting the content	Treatment	Yes	12	13
	Treatment	No	2	2
	Control	Yes	14	13
	Control	No	1	2

(Table 8 continued)

Event	Group	Response	Observed	Expected
5. Providing learning guidance	Treatment	Yes	14	13.4
	Treatment	No	1	1.6
	Control	Yes	12	12.6
	Control	No	2	1.4
6. Eliciting the performance	Treatment	Yes	14	14
	Treatment	No	1	1
	Control	Yes	14	14
	Control	No	1	1
7. Providing feedback	Treatment	Yes	15	10.5
	Treatment	No	0	4.5
	Control	Yes	6	10.5
	Control	No	9	4.5
8. Assessing the performance	Treatment	Yes	15	15
	Treatment	No	0	0
	Control	Yes	14	14
	Control	No	0	0
9. Enhancing retention and transfer	Treatment	Yes	13	13
	Treatment	No	2	2
	Control	Yes	13	13
	Control	No	2	2

The Fisher's Exact Test was conducted to compare the distribution of 'Yes' and 'No' responses between the control and treatment groups for each of Gagne's nine events. Due to the nature of the data, the test yielded an empty value, indicating that the computation of the exact p-value was not feasible. However, based on the available information, the test demonstrated a highly significant difference ($p < .001$) for Event 7 (providing feedback), indicating that feedback was mentioned more often in the treatment group.

Based on quantitative analyses, support for each of the five hypotheses contained within this research remains inconsistent. Hypothesis 1, which suggested that academic achievement of students enrolled in an online language course utilizing Gagne's nine events of instruction would surpass that in a control group, was not supported by Mann-Whitney U test results. Hypothesis 2, which asserted that students' learning satisfaction would be higher with Gagne's nine events of instruction in an online language course compared to control group students, was unsupported by t-test comparisons. Hypothesis 3, which proposed that student performance in an online language course using Gagne's nine events of instruction would significantly impact satisfaction levels, did not demonstrate any statistically significant correlation. Hypothesis 4 was also not supported by independent t-test results: there was no significant variance in student average satisfaction scores between groups of French-speaking students who received instruction using Gagne's nine events of instruction online English course and those who did not. Hypothesis 5, which claimed that positive ('Yes') responses between control group and treatment group for each of Gagne's nine instructional events differ significantly between groups was only supported for Event 7 (providing feedback). Further examination of

qualitative data could shed further insight and clarify relationships among variables within this research project.

Qualitative Analyses

Qualitative data were collected on students' experiences and perspectives in both the control group and the treatment group to examine the impact of Gagne's nine events of instruction on academic achievement and satisfaction in an online English course designed for French speakers. Students were asked to respond to questions addressing their most enjoyable aspects (question 13), least favorite elements (question 14), suggested improvements (question 15), and additional comments (question 16) on their experiences on the course. These questions were part of the survey and corresponded to numbers 13, 14, 15, and 16, respectively. The data gathered from these questions aimed to uncover patterns and trends in student responses that could be linked to the effectiveness of Gagne's nine events of instruction.

When comparing the data from the treatment and control groups in terms of what participants enjoyed most about the online course, several similarities and differences can be observed.

Similarities. Both groups appreciated the course organization and structure, which suggests that the course was well-designed in terms of its layout and flow. Clarity and ease of understanding were important for both groups, indicating that the course effectively communicated its content. Alphabet learning was a key aspect for both groups, emphasizing the importance of this element in the course. Assessment and feedback were valued by both groups, highlighting the importance of providing

opportunities for participants to gauge their progress and receive input on their performance.

Differences. Interest and engagement were specifically mentioned by the treatment group, suggesting that this aspect might have been more prominent or effective in the treatment version of the course. Practical application was a theme that emerged from the treatment group responses, indicating that this group may have found the course content more directly applicable to real-life situations. Explanations and examples were valued by the control group, suggesting that this aspect was particularly helpful in the control version of the course. Personal growth and discovery were themes present in the control group responses, implying that the control version may have facilitated more opportunities for personal development and learning new things. Enjoyment and engagement were mentioned by the control group, although the treatment group also mentioned interest and engagement, suggesting that both groups found the course engaging but used slightly different terminology to describe their experience. The qualitative data are shown in Table 9 for the Control group responses from survey question 13. Table 10 illustrates the Treatment group responses for that same question.

Table 9

Highlighted Feedback from Control Group on Online Course Enjoyment.

Question	Theme	Responses
What did you enjoy most about this online course?	Course Organization and Structure	"This course was well organized and easy to understand"
	Clarity and Ease of Understanding	"the ease and simplicity of the course"
	Alphabet Learning	"alphabet"
		"the English alphabet"
		"The course on the Alphabet"
	Explanations and Examples	"Explanations and examples"
	Assessment and Feedback	"quiz"
	Personal Growth and Discovery	"It allows me to know what I didn't know"
	Enjoyment and Engagement	"yes I enjoyed a lot"

Table 10

Highlighted Feedback from Treatment Group on Online Course Enjoyment.

Question	Theme	Responses
What did you enjoy most about this online course?	Course Organization and Structure	"the way the course is organized"
	Clarity and Ease of Understanding	"ease of understanding"
		"easy to understand and simple"
		"the course is easy"
	Alphabet Learning	"mainly the spelling of the 26 letters of the alphabet"
		"the alphabets"
	Interest and Engagement	"it was interesting for me"
	Practical Application	"Direct applications of what we learnt"
	Assessment and feedback	"quiz"

In summary, both the treatment and control versions of the course seem to have been well-received by participants, with some shared positive aspects. However, the treatment group appeared to appreciate the practical application and overall engagement of the course more, while the control group valued the explanations, examples, and opportunities for personal growth and discovery. These differences could inform potential improvements or modifications to the course design in the future.

When comparing the data from the treatment and control groups in terms of what participants liked least about the online course, several similarities and differences can be observed.

Similarities. Satisfaction and enjoyment. Both groups had participants who enjoyed the course and were satisfied with it, indicating that the overall course design and content were effective for the learners in both groups. Technical issues. Participants from both groups experienced technical issues, although the nature of the issues varied. Addressing these technical issues could improve the overall user experience for both groups. No suggestions or neutral feedback. Some participants in both groups provided no suggestions for improvement, neutral feedback, or did not provide any feedback. This could indicate that a portion of the learners may have found the course satisfactory or may not have had strong opinions about the course.

Differences. Pronunciation and speed vs. Clarity and ease of understanding. Participants in the Treatment group reported issues with pronunciation and speed, while the Control group found the course easy to understand, and the names of political figures were clear. This suggests that the Treatment group might benefit from adjustments to the audio content or pacing to enhance comprehension. Practices and Repetition. In the Treatment group, one participant mentioned practices, but it is unclear whether they found them useful or saw room for improvement. In the Control group, some participants noted repetitive questions or names, which could be addressed by diversifying the content and question types. Course improvements and additions. The Control group provided more specific suggestions for course improvement, such as adding more questions, offering more educational content, activating the microphone, offering other exercises, and providing links to attract more learners. These suggestions could be considered for both groups to enhance the course's effectiveness and reach. The qualitative data are

shown in Table 11 for the Control group responses from survey question 14. Table 12

illustrates the Treatment group responses for that same question.

Table 11

Highlighted Feedback from Control Group on least preferred aspects of the Online Course.

Question	Theme	Responses
What did you like least about this online course?	Satisfaction and Enjoyment	"Nothing, on the opposite I enjoyed everything."
	Clarity and Ease of Understanding	"Names of political figures. Very easy to understand."
	Repetition	"The same types of questions came up"
	Technical Issues	"The speed of quizzes"
	Course Improvements and Additions	"the names to be spelled came back again"
	No Suggestions or Neutral Feedback	"nothing"
		"nothing"

Table 12

Highlighted Feedback from Treatment Group on least preferred aspects of the Online Course.

Question	Theme	Responses
What did you like least about this online course?	Satisfaction and Enjoyment	"I enjoyed the way so I understood the course"
		"Nothing to add I am satisfied."
	Pronunciation and Speed	"a little bit fast"
	Technical Issues	"I wasn't able to send my voice recording"
	Practices	"Practices"
	No Suggestions or Neutral Feedback	"nothing to say."

In summary, the similarities in the data suggest that both the Treatment and Control groups found the course enjoyable and satisfactory overall. However, there are notable differences in the issues faced by each group, such as pronunciation and speed concerns for the Treatment group and repetitive content for the Control group. Implementing the suggested improvements from the Control group and addressing the specific issues faced by the Treatment group could further enhance the learning experience for both groups.

When comparing the data from the treatment and control groups in terms of how the online course can be improved, several similarities and differences can be observed.

Similarities. More content and questions. Participants from both groups suggested adding more questions and educational content to the course. This indicates that learners

from both groups are looking for a more comprehensive learning experience. No suggestions or satisfaction. Participants from both groups provided responses such as "nothing" or "nothing to add," suggesting satisfaction with the course or a lack of strong opinions for improvements.

Differences. Pronunciation and spelling. The Control group suggested spelling words slower for better listening, while the Treatment group did not mention this issue. This indicates that the Control group may have faced difficulties in understanding the audio content. Names of public figures. The Control group suggested using common names dissociated from the names of public figures and changing the names of famous people. The Treatment group did not raise this concern. Technical enhancements and accessibility. The Treatment group proposed creating a mobile application, making it easier to go back to the course homepage, and offering a course certificate. These suggestions focus on improving the course's accessibility and perceived value, while the Control group did not mention such improvements. Interactive features. The Control group suggested activating the microphone for learners and offering other exercises, such as listening to audio and writing down what they hear. These suggestions indicate a desire for more interactive and varied learning experiences in the Control group. Encouragement and promotion. The Control group mentioned encouraging learners and providing links to get more learners, emphasizing learner motivation and course promotion. The Treatment group did not mention these aspects. Expansion of course offerings. The Treatment group recommended adding other courses, especially vocabulary and conjugation, and developing more courses. This indicates that the Treatment group is interested in a wider range of language learning content. The

qualitative data are shown in Table 13 for the Control group responses from survey

question 15. Table 14 illustrates the Treatment group responses for that same question.

Table 13

Highlighted Feedback from Control Group on Online Course Improvement.

Question	Theme	Responses
How can we improve this online course?	Course Improvements and Additions	"In tests, spell a little slower for better listening"
		"Use common names dissociated from the names of public figures."
		"need to add more questions"
		"By adding new lessons"
	Satisfaction with the Course	"everything is perfect"
		"It's good like that"
	No suggestions or Neutral Feedback	"nothing"

Table 14

Highlighted Feedback from Treatment Group on Online Course Improvement.

Question	Theme	Responses
How can we improve this online course?	Course Improvements and Additions	"add more practices"
		"add more lessons in the course"
		"Offer a course certificate."
		"Develop more courses"
		"Make it easier to go back to the course homepage"
	No suggestions or Neutral Feedback	"nothing to add"
		"nothing"

In summary, both groups share some common suggestions, such as adding more content and questions to the course. However, there are notable differences in the feedback provided by each group, with the Control group focusing on pronunciation, spelling, and interactivity, while the Treatment group emphasizes accessibility, technical enhancements, and course expansion. Addressing these specific concerns and suggestions could further enhance the learning experience for both groups.

When comparing the data from the Treatment and Control groups in terms of additional comments, several similarities and differences can be observed.

Similarities. Enjoyment and satisfaction. Participants from both groups expressed their enjoyment of the course and satisfaction with the learning experience. This indicates that the course was effective in engaging learners in both groups. Improvement in English skills. Both groups mentioned improvements in their English skills, whether it was

mastering the alphabet or improving their overall level of knowledge. No suggestions or

satisfaction. Participants from both groups provided responses such as "nothing" or

"nothing to add," suggesting satisfaction with the course or a lack of strong opinions for

improvements.

Differences. Expanding content. The Control group suggested adding certain

notions of learning and not stopping only at alphabets and names. In contrast, the

Treatment group did not specifically mention expanding the content beyond the alphabet

but expressed a desire to learn more and continue with the course. Self-assessment and

motivation. The Treatment group mentioned that the course helped them understand their

current English level and gave them the courage to learn more. This feedback highlights

the course's role in motivating and assessing learners in the Treatment group. The Control

group did not explicitly mention these aspects. Course organization. The Treatment group

praised the course for being well organized and an excellent learning experience. The

first Control did not mention the organization of the course, although they expressed

overall satisfaction with the course. The qualitative data are shown in Table 15 for the

Control group responses from survey question 15. Table 16 illustrates the Treatment

group responses for that same question.

Table 15

Highlighted Feedback from Control Group on additional comments regarding their experience with the online course.

Question	Theme	Responses
Please provide additional comment regarding your experience with this online course.	Satisfaction and Enjoyment	"I enjoyed this course."
		"I was satisfied with this online course"
	Improvement in Knowledge and Skills	"I improved my level of knowledge on the English alphabet."
		"I have learned a lot and I feel like I have improved my English"
	Evaluation and Assessment	"It helped me assess my experience in English"
		"this application allowed me to practice my required knowledge"
	Course improvements and additions	"need not to stop only at alphabets and names, but we must add certain notions of learning."
	No suggestions or neutral feedback	"nothing to add"
		"nothing"

Table 16

Highlighted Feedback from Treatment Group on additional comments regarding their experience with the online course.

Question	Theme	Responses
Please provide additional comment regarding your experience with this online course.	Interest in Learning and improving English	"My level of English is academic, and I would like to learn more."
	Personal Growth and Discovery	"It was a great learning experience that helped me to understand many things."
		"It allowed me to understand that I had a bad level in English and it also gave me the courage to go and learn English."
	Course Organization and Structure	"excellent course that is well organized"
	Improvement in Knowledge and Skills	"I just mastered the English alphabet thanks to the online course."
		"This course is useful because it helps to improve English and it can also help in class."
	No Suggestions or Neutral Feedback	"nothing to say"

In summary, both groups share common positive feedback, such as enjoyment and satisfaction with the course and improvements in their English skills. However, there are notable differences in the feedback provided by each group. The Control group focuses on expanding the course content beyond the alphabet, while the Treatment group

emphasizes self-assessment, motivation, and course organization. Addressing the specific concerns and suggestions, such as expanding the content and maintaining course organization, could further enhance the learning experience for both groups.

Summary

This chapter presented the results of the study. The quantitative analysis findings did not corroborate the hypotheses regarding the effects of using Gagne's nine events of instruction on French-speaking students' academic success and satisfaction in an online course. Although the quantitative data did not show statistically significant differences in the dependent variables due to the limited number of participants resulting in low statistical power, a highly significant difference was noted in Event 7 (providing feedback) indicating that feedback was mentioned more frequently in the treatment group. Qualitative responses indicated that both the treatment and control groups enjoyed the course and were satisfied, experiencing enhancements in their English abilities. The findings from this qualitative analysis may contribute to refining future course designs and aiding educators in comprehending the requirements and preferences of their students in online English courses designed for French speakers.

CHAPTER V

DISCUSSION

In our rapidly changing world, depending solely on conventional in-person education is no longer enough. By integrating Gagne's nine instructional events into online learning, we can enhance the educational experience, as it encourages students to actively participate in their own learning process (Neo et al., 2010). The purpose of the current study was to investigate the impact of using Gagne's nine events of instruction on student's academic achievement and satisfaction in an online English course for French speakers. Studies have shown that incorporating Gagne's nine events of instruction into online learning can increase academic achievement. In various subjects like math, science, and language arts, studies show that using this teaching model leads to better student performance (Agboghoroma et al., 2022; Buckingham, 2023; D'Souza & Kasinath, 2010; Shaheen & Khatoon, 2017). Gagne's nine instructional events have been used in various learning situations to boost satisfaction such as healthcare training (Islam & Salam, 2019), online learning (Hannon et al., 2002), and mobile-based training (Mofrad et al., 2021). This study aimed to discover whether using Gagne's nine instructional events in an online English course designed for French speakers, built on a Learning Management System, would yield similar positive outcomes.

Summary of Results

A discussion of the results for each research question, along with some possible reasons for the findings is presented below.

Summary of academic achievement. For the current study, academic achievement was assessed in terms of the participants 'scores in the posttest administered upon completion of the courses. Posttest quizzes consisted of 5 dictation questions worth 20 points each for a total of 100 points. Each quiz consisted of 5 fill-in-the blanks questions, which required the participant to listen to an audio clip and write down the name they heard in the provided space in lowercase letters. The five names used in the quiz included "arnold schwarzenegger", "emmanuel macron", "christine lagarde", "angela merkel", and "vladimir putin". Participants had 10 minutes to complete the quiz. The quiz was incorporated at the end of each course. While the participants in the online course using Gagne's nine event of instruction had a slightly higher mean ranks on the posttest score than the participants in the control group, there was not a statistically significant difference in the posttest score for the participants in the online language course using Gagne's nine events of instruction and those participating in the asynchronous online lecture.

A possible reason for the results could be that the asynchronous online lecture included a substantial portion of Gagne's nine events of instruction, with the notable exception of the event of providing feedback. This similarity may have contributed to minimizing the difference in academic achievement between the two groups. It is worth noting that both courses afforded limited opportunities for practical application, and it is conceivable that the persisting difficulty in English pronunciation for French-speaking individuals accounts for the prevalence of zero scores in their performance. Certain students may encounter challenges with dictation as an instructional method. It is

imperative to acknowledge that dictation's efficacy is not universally applicable across all subjects or individuals (Lightfoot, n.d.).

Summary of satisfaction. For the current study, satisfaction was assessed in terms of the participants' perception of the online course design and delivery in an online English course for French speakers using the online survey. While the participants in the online course using Gagne's nine event of instruction had a slightly lower mean on the satisfaction posttest scores than the participants in the control group, there was not a statistically significant difference in the satisfaction posttest scores between the group that received instruction with Gagne's nine events of instruction (treatment group) and the group that did not receive such instruction (control group) in an online English course for French speakers.

A possible reason for the results could be that the online course using Gagne's nine events of instruction was impacted by technical issues such as slow internet connections. The survey showed that both the treatment and control groups found the course enjoyable and satisfactory overall. However, participants in the treatment group reported issues with pronunciation and speed, while the control group found the course easy to understand, and the names of political figures were clear. So, the technical issue could have impacted the learning satisfaction scores along with the duration of the course. The treatment group received an interactive course based on Gagne's nine events of instruction that lasted for 15 minutes, while the control group received a different course lasting for 10 minutes.

Conclusion of Results

As indicated by the statistical analyses, there were not any significant differences in the online course using Gagne's nine events of instruction and control groups in academic achievement or satisfaction. The study also examined the relationship between performance and satisfaction and found no association between the two variables. Finally, the study investigated the differences in the distribution of "Yes" and "No" responses between the treatment and control groups for each of Gagne's nine events of instruction and found no significant differences except for event 7 (providing feedback).

Qualitative analysis showed similarities and differences in what participants enjoyed about the course, with the treatment group emphasizing interest and engagement and practical application, while the control group valued explanations and examples.

Implications for Instructional Design

This research offers invaluable insight for instructional designers. Gagne's nine events of instruction may not significantly contribute to French-speakers enrolled in online English classes; nonetheless it could still serve as an effective teaching strategy for some learners. To create an all-encompassing learning experience that meets diverse needs effectively and comprehensively, course developers should employ multifaceted strategies.

Resolving technical problems is critical in providing learners with an enjoyable user experience, supporting learner engagement and satisfaction over time. A trouble-free platform enables students to focus their studies without interruption from technical issues; and helps minimize frustration or potential distractions from studying.

Tailoring content specifically to individual learner preferences is vitally important. By including various activities, practical examples, and clear explanations in their courses, instructional designers can meet students' diverse learning preferences more efficiently, creating more engaging courses with wider appeal for all audiences.

Motivating students is vital to keeping them engaged with a course. Offering incentives like course certificates or mobile app support can increase accessibility, convenience, and motivation; self-assessment tools, feedback and encouragement also create an inspiring learning atmosphere conducive to student growth and engagement. Interaction plays an essential part in language acquisition, helping improve retention and increasing interest. Instructional designers should include interactive activities like pronunciation exercises or tasks which promote active participation into their courses to maintain learners' attention while accommodating all skill levels in class.

Assessment is an integral component of learning, providing both learners and instructors a means of tracking progress and pinpointing any areas needing improvement. Implementing regular evaluations and providing constructive feedback to guide learning can assist students more quickly towards meeting their language learning objectives more successfully.

Overall, this research underscores the significance of considering multiple factors when creating instructional materials for French-speaking individuals enrolled in online English courses. Although Gagne's nine events of instruction may not be considered the optimal approach, instructional designers can still create effective and engaging learning experiences by taking into account technical considerations, customizing content

accordingly and prioritizing motivation, interaction and assessment in their designs for these learners.

Limitations of the Study

Considerations must be given when interpreting study results; some of its limitations were the validation phase prior to implementation, relatively small sample size, and test instrument used for academic achievement assessment.

One such obstacle to course implementation was its validation stage before full roll out, where content or teaching methods may have undergone minor refinements during study, possibly leading to inconsistent learning experiences for participants.

Another limitation lies with the small participant pool, comprising only 30 individuals. Such an insufficient sample size limits statistical power for meaningful differences or correlations to be detected, raising concerns over generalization as it might not accurately represent larger populations.

Finally, the assessment tool used in this study, which only measured academic achievement in listening and writing skills, could limit its results from providing an all-inclusive view of participants' language proficiency since evaluation didn't encompass reading or speaking skills; meaning its findings might not fully demonstrate its efficacy as a course that improves all aspects of language acquisition.

So, when considering this study's outcomes, it's essential to keep in mind how the course's validation phase, limited sample size and narrow focus of its assessment tool might have had an effect on its results and take these limitations into account when judging its efficacy and its applicability to a wider population.

Recommendations for Further Research

Gagne's nine events of instruction should be used more extensively to improve academic achievement and satisfaction in online English classes, which calls for further exploration. Here are a few possible areas for such study:

- Expand and diversify participant demographics: To maximize generalizability of findings from future studies, future endeavors should involve an inclusive group that includes people across various age ranges, educational levels and language skill levels. This would give more people access to findings.

- Explore Gagne's Nine Instructional Events: Further research should look into the long-term ramifications of using Gagne's nine events within online language courses with emphasis placed upon retention, proficiency acquisition and communication skill acquisition.

- Assess Gagne's nine events' effect on all aspects of language learning: In order to gain a comprehensive view of his teaching model's effectiveness, future investigations must examine its influence on listening, speaking, reading and writing skills - listening being given priority over any one language skill being assessed at once.

- Examine Individual Differences: Further research should explore how personal factors, including learning preferences, motivation and cognitive capabilities impact Gagne's nine instructional events used in online language courses.

- Analyze Alternative Instructional Design Models: Future research must assess and compare various teaching models such as Merrill's First Principles of

Instruction or the ADDIE model when applied in online language learning settings.

- Explore cutting-edge technologies: Researchers should explore how cutting-edge technologies like artificial intelligence, virtual reality and adaptive learning systems could enhance online language learning experiences through Gagne's nine events.

- Assess Gagne's nine events as applicable in other online learning scenarios: Further investigations should focus on understanding its applicability across a range of educational environments and subjects including corporate training, vocational education and Massive Open Online Courses (MOOCs) to name just some examples.

Summary

This chapter discussed the results of the present study, which focused on using Gagne's nine events of instruction as an approach to online language learning for French speakers. Even though no statistically significant differences were identified between participants utilizing Gagne's nine events of instruction and control groups with regard to academic achievement or satisfaction, it remains important to examine its potential value for certain learners. Numerous variables could have had an effect on this study's results, such as its validation phase of course design, its limited sample size, or its limited focus of assessment tool. Though this study had its limitations, its findings offer invaluable insight that may improve learning experiences and outcomes for online language classes for French speakers. Furthermore, educators could use what they learn from this study to

make more informed decisions regarding course design and teaching methods that

ultimately increase effectiveness of instruction via online education for French speakers.

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Appendix A – L'Alphabet (Online English Course on Alphabet)

Figure 40.

Course cover page of the treatment group.

Figure 51.

Quiz section of the treatment group.

Figure 62.

Introduction section of the treatment group.
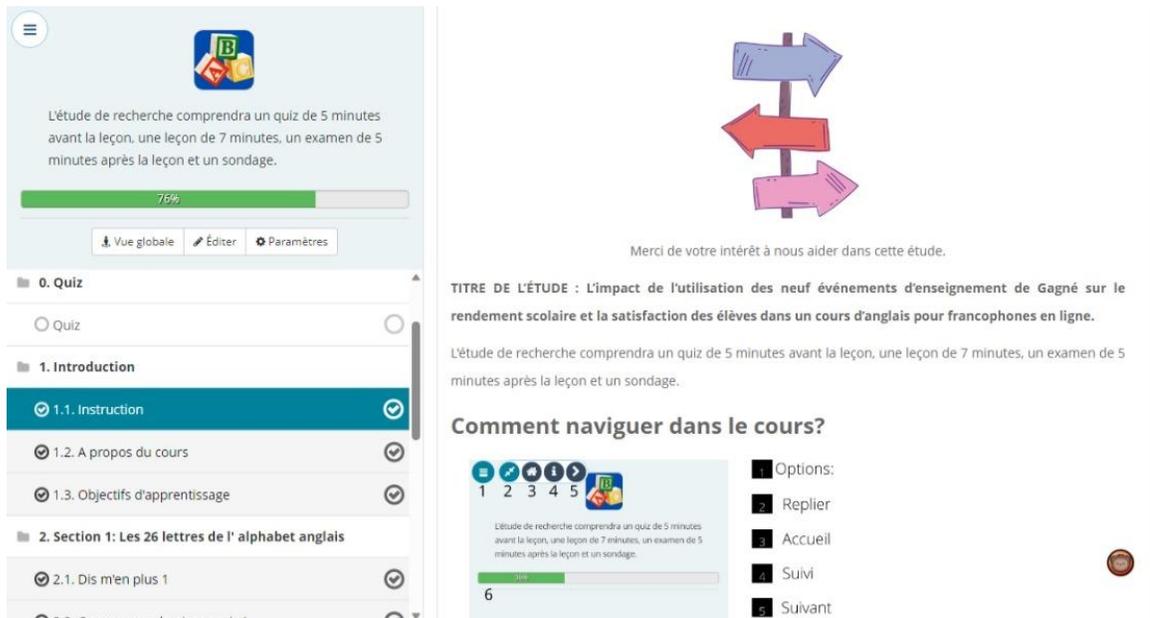
Figure 73.

About the course section of the treatment group.
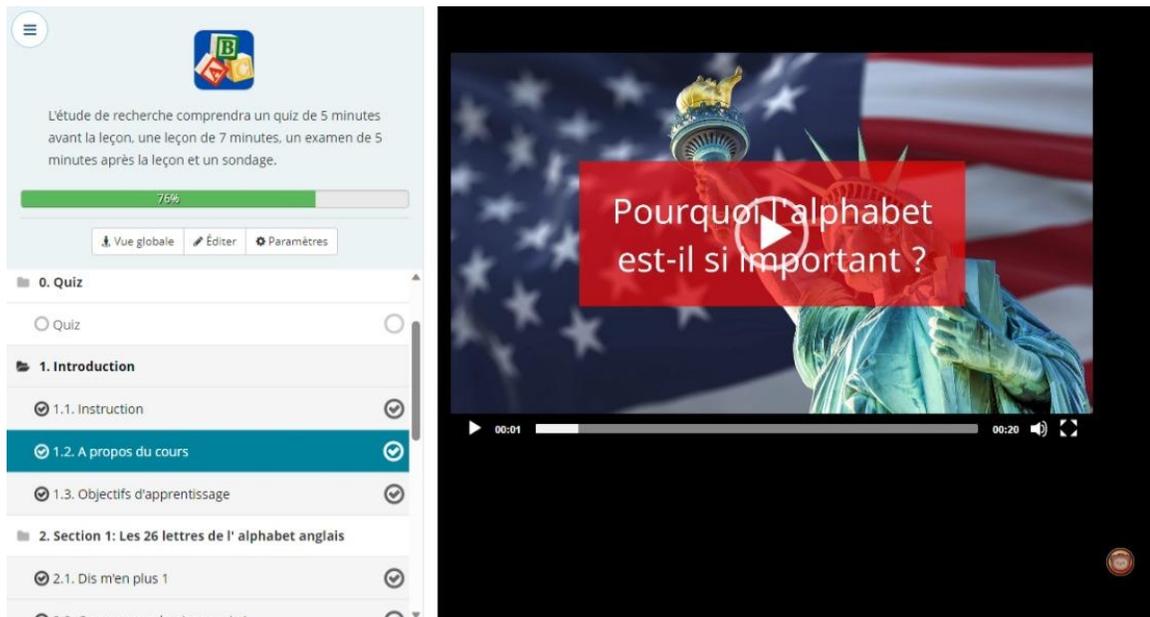
Figure 84.

Learning objectives section of the treatment group.
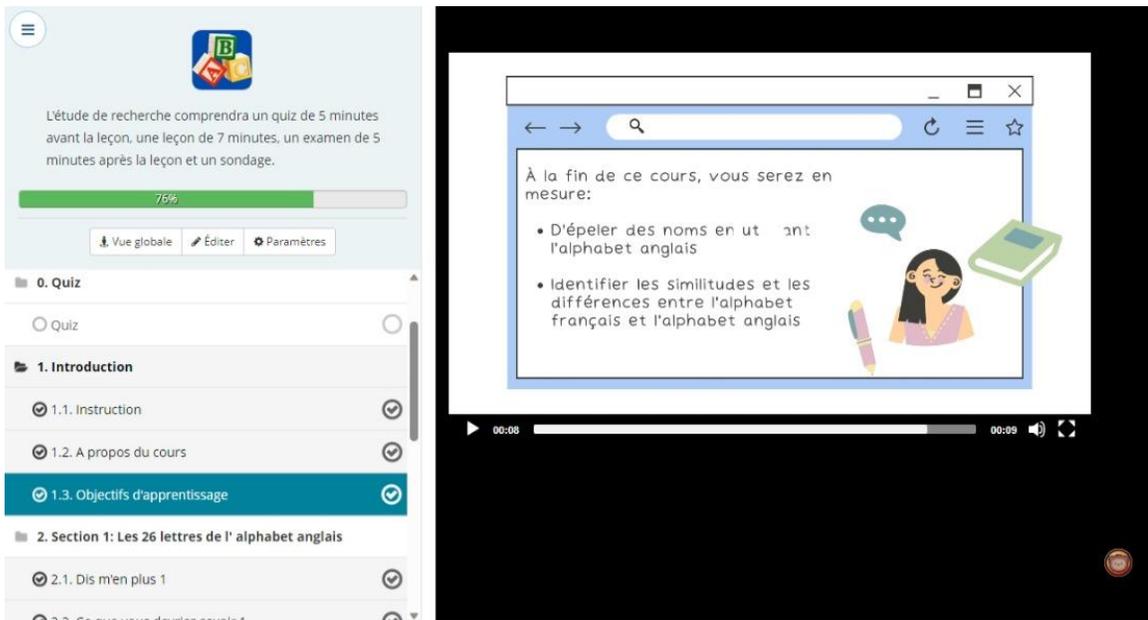
Figure 95.

"Tell me more 1" section of the treatment group.
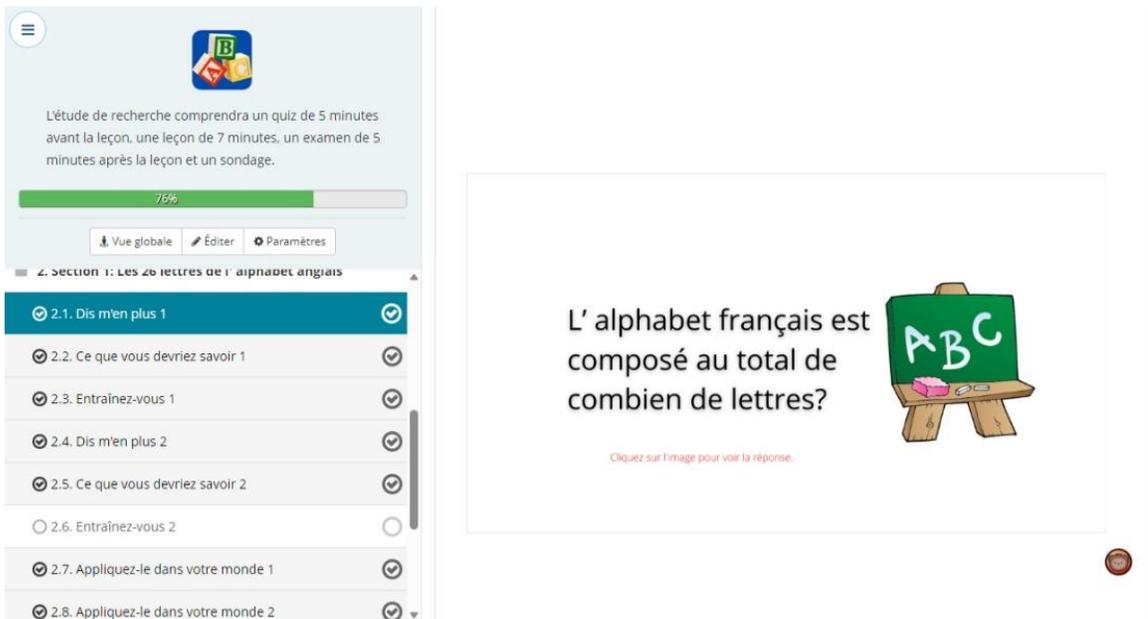
Figure 106.

"What you need to know 1" section of the treatment group.

Figure 117.

Practice 1 section of the treatment group.

Figure 128.

"Tell me more 2" section of the treatment group.

Figure 139.

"What you need to know 2" section of the treatment group.

Figure 20.

Practice 2 section of the treatment group.

Figure 21.

"Real world application 1" section of the treatment group.
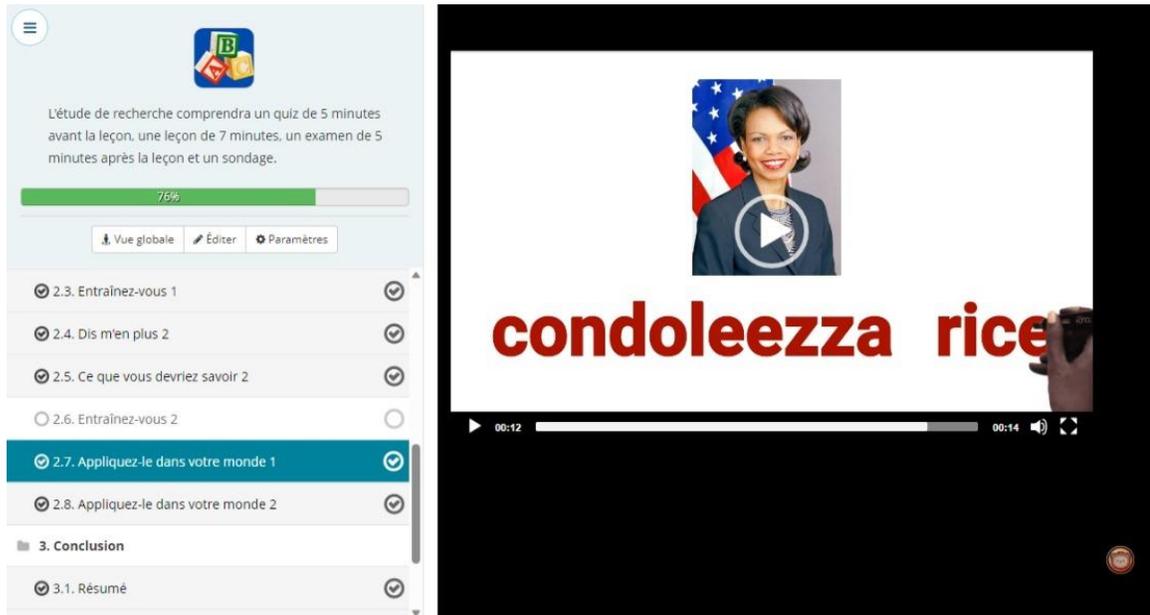
Figure 22.

"Real world application 2" section of the treatment group.
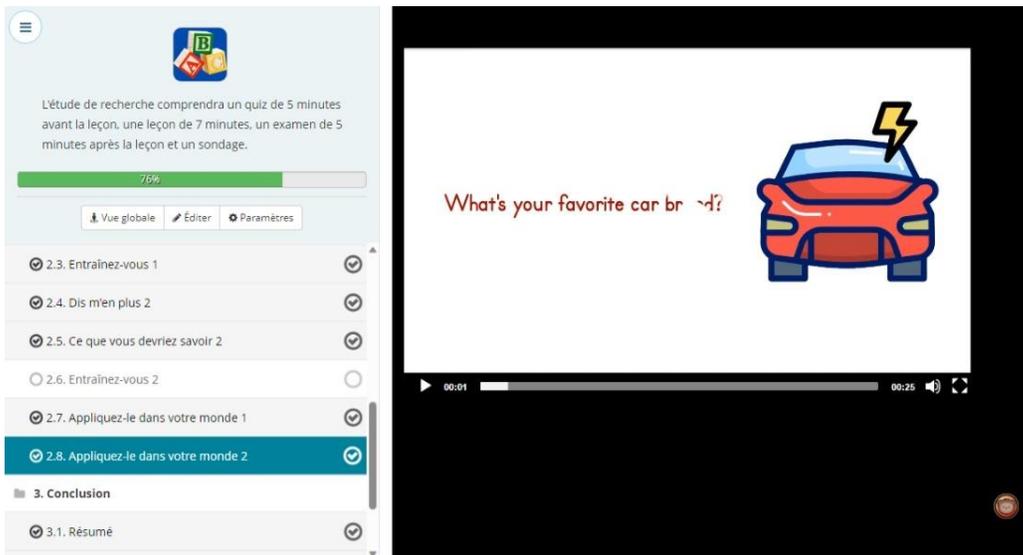
Figure 23.

Summary section of the treatment group.
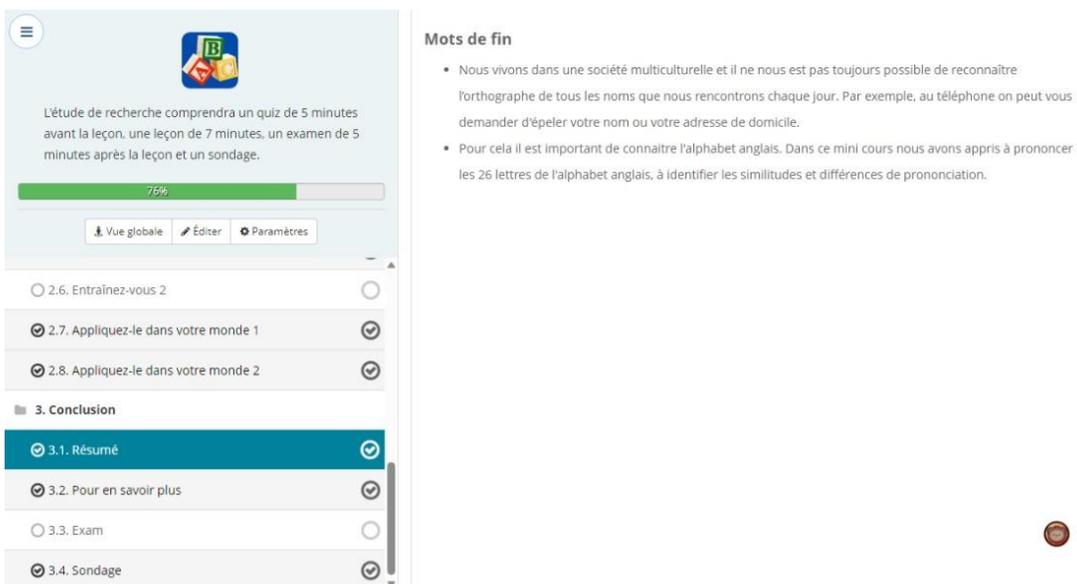
Figure 24.

Additional resources section of the treatment group.

Figure 25.

Exam section of the treatment group.

Figure 26.

Satisfaction survey section of the treatment group.

Appendix B – Nine Events LMS Integration

Figure 27.

Components of the Nine Events LMS Integration.

Nine events LMS Integration

Introduction

- Why is this course important?

Learning Objectives

- Objective 1
- Objective 2
- Objective 3

Topic 1

- o Tell me more (Prior Knowledge)
- o Introduce topic 1.
- o Practice
- o Real-world applications (Good & Bad examples)
- o Resources

Topic 2

- o Tell me more (Prior Knowledge)
- o Introduce topic 2.
- o Practice
- o Real-world applications (Good & Bad examples)
- o Resources

Topic 3

- o Tell me more (Prior Knowledge)
- o Introduce topic 2.
- o Practice
- o Real-world applications (Good & Bad examples)
- o Resources

Conclusion

- o Highlight and review key points.

Exam

- o Final assessment.

Figure 28.

*Interpretation of the Nine Events LMS Integration.*

Interpretation

The design of this course template was based on Gagne's nine events of instruction which includes gaining attention of the students, informing students of the learning objectives, stimulating recall of prior learning, presenting the content, providing learning guidance, eliciting performance, providing feedback, assessing performance, and enhancing retention and transfer.

- **The introduction** explains the importance of the course. Learning objectives state what learners will be able to do at the end of the course. The number of topics is determined by the number of course objectives. Thus, if you have 3 learning objectives, you will have 3 topics.
- Each topic includes **Tell me more (Prior Knowledge), Introduce topic 2, Practice, and Real-world applications (Good & Bad examples).**
- **Tell me more** establishes the link between learner's prior knowledge and learner's new knowledge (or knowledge you want your learner to know at the end of the course).
- **Introduce topic** is where you present the content of the topic to your learners.
- **Practice** enables learners to apply what they have learned.
- **Real-world applications** provide more applications but this time in different situations including good and bad examples.
- **Resources** provide good to know content or additional resources.
- **Conclusion** highlights and reviews key points.
- **Exam** addresses the fina l assessment.

Figure 29.

French translation of the satisfaction survey.
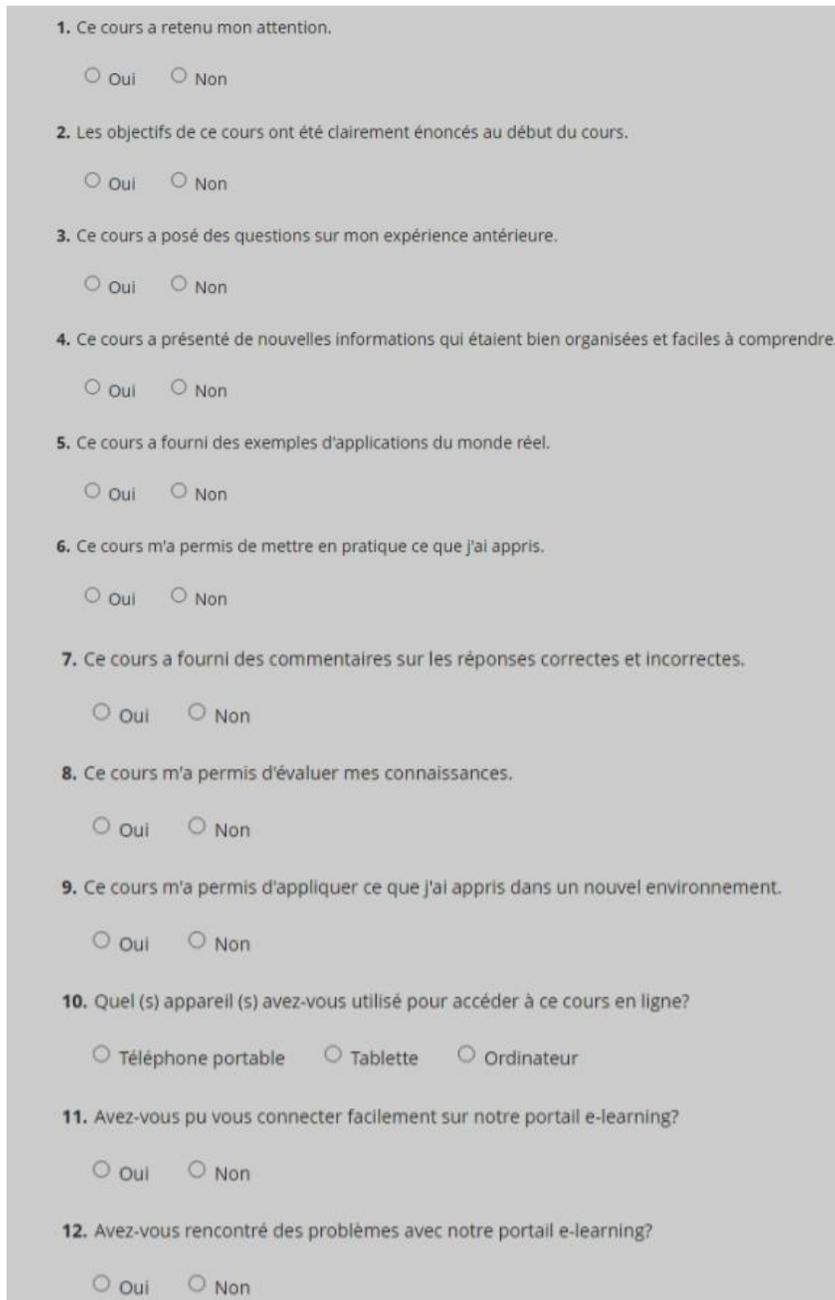
1. Ce cours a retenu mon attention.

   ○ Oui   ○ Non

2. Les objectifs de ce cours ont été clairement énoncés au début du cours.

   ○ Oui   ○ Non

3. Ce cours a posé des questions sur mon expérience antérieure.

   ○ Oui   ○ Non

4. Ce cours a présenté de nouvelles informations qui étaient bien organisées et faciles à comprendre.

   ○ Oui   ○ Non

5. Ce cours a fourni des exemples d'applications du monde réel.

   ○ Oui   ○ Non

6. Ce cours m'a permis de mettre en pratique ce que j'ai appris.

   ○ Oui   ○ Non

7. Ce cours a fourni des commentaires sur les réponses correctes et incorrectes.

   ○ Oui   ○ Non

8. Ce cours m'a permis d'évaluer mes connaissances.

   ○ Oui   ○ Non

9. Ce cours m'a permis d'appliquer ce que j'ai appris dans un nouvel environnement.

   ○ Oui   ○ Non

10. Quel (s) appareil (s) avez-vous utilisé pour accéder à ce cours en ligne?

    ○ Téléphone portable   ○ Tablette   ○ Ordinateur

11. Avez-vous pu vous connecter facilement sur notre portail e-learning?

    ○ Oui   ○ Non

12. Avez-vous rencontré des problèmes avec notre portail e-learning?

    ○ Oui   ○ Non

13. Qu'avez-vous le plus apprécié dans ce cours en ligne?

14. Qu'avez-vous le moins aimé dans ce cours en ligne?

15. Comment pouvons-nous améliorer ce cours en ligne?

16. Veuillez fournir des commentaires supplémentaires concernant votre expérience avec ce cours en ligne.

17. Pour chaque élément listé ci-dessous, veuillez indiquer votre niveau de satisfaction:

Niveau de satisfaction: Très satisfait = 5; Satisfait = 4; Neutre = 3; Insatisfait = 2; Très insatisfait = 1

Utilisation de vidéos dans le cours

--

Contenu du cours

--

Qualité générale des cours

--

Navigation dans le cours

--

Portail e-learning

--

18. Quel est votre sexe ?

--

19. Quel est votre âge?

--

20. Quel est votre niveau d'éducation?

--

21. Depuis combien de temps étudiez-vous l'anglais?

--

22. Quelle est votre langue maternelle?
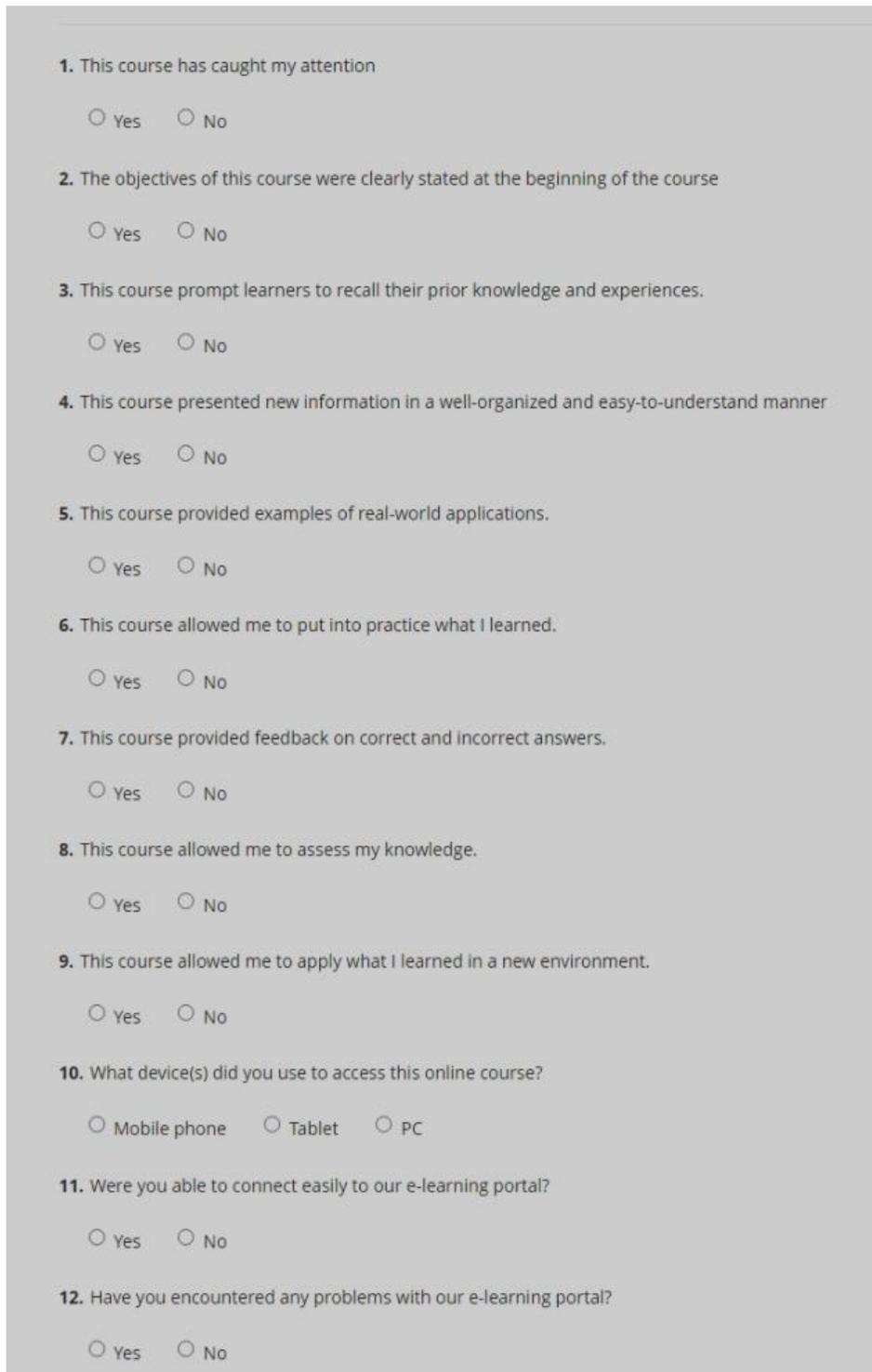
23. Quelle est votre nationalité?

24. Quel est votre pays de résidence?

→ Clôturer enquête

⌂ Retour à la page d'accueil

Figure 30.

English translation of the satisfaction survey.

1. This course has caught my attention

   ○ Yes   ○ No

2. The objectives of this course were clearly stated at the beginning of the course

   ○ Yes   ○ No

3. This course prompt learners to recall their prior knowledge and experiences.

   ○ Yes   ○ No

4. This course presented new information in a well-organized and easy-to-understand manner

   ○ Yes   ○ No

5. This course provided examples of real-world applications.

   ○ Yes   ○ No

6. This course allowed me to put into practice what I learned.

   ○ Yes   ○ No

7. This course provided feedback on correct and incorrect answers.

   ○ Yes   ○ No

8. This course allowed me to assess my knowledge.

   ○ Yes   ○ No

9. This course allowed me to apply what I learned in a new environment.

   ○ Yes   ○ No

10. What device(s) did you use to access this online course?

   ○ Mobile phone   ○ Tablet   ○ PC

11. Were you able to connect easily to our e-learning portal?

   ○ Yes   ○ No

12. Have you encountered any problems with our e-learning portal?

   ○ Yes   ○ No

101

13. What did you enjoy most about this online course?

14. What did you like least about this online course?

15. How can we improve this online course?

16. Please provide additional comment regarding your experience with this online course.

17. For each item listed below, please indicate your level of satisfaction:

Level of satisfaction: Very satisfied = 5; Satisfied = 4; Neutral = 3; Dissatisfied = 2; Very dissatisfied = 1

Using Videos in the Course

--

Course content

--

Overall quality of the course

--

Course navigation

--

eLearning Portal

--

18. What is your gender?

--

19. What is your age?

--

20. What is your level of education?

--

21. How long have you been studying English?

--

22. What is your native language?

23. What is your nationality?

24. What is your country of residence?

➔ Finish survey

⌂ Return to Course Homepage

Appendix D – Final Quiz (Exam)

Figure 31.

Questions of the final quiz.

1. Question 1

► 00:00 ▮▮▮▮▮▮▮▮▮▮ 00:19 🔊 ▮▮▮

My name is [   ] and it is spelled...

Enregistrer et continuer

2. Question 2

► 00:00 ▮▮▮▮▮▮▮▮▮▮ 00:14 🔊 ▮▮▮

My name is [   ] and it is spelled.

Enregistrer et continuer

3. Question 3

► 00:00 ▮▮▮▮▮▮▮▮▮▮ 00:14 🔊 ▮▮▮

My name is [   ] and it's spelled.

Enregistrer et continuer

4. Question 4

`▶ 00:01 ▬▬▬▬▬▬▬ 00:12 🔊 ▬▬▬`

My name is [____] and it's spelled...

Enregistrer et continuer

5. Question 5

`⏸ 00:08 ▬▬▬▬▬▬▬ 00:14 🔊 ▬▬▬`

My name is [____] and it's spelled...

Enregistrer et continuer

Fin du test

Figure 32.
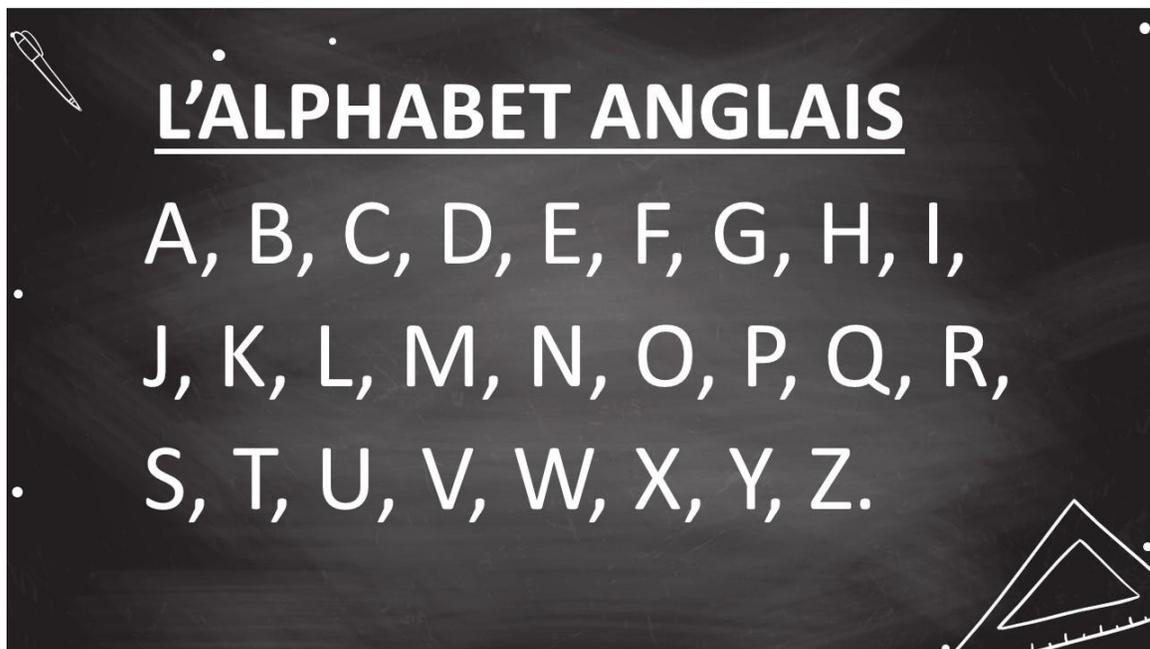
Course content of the control group.
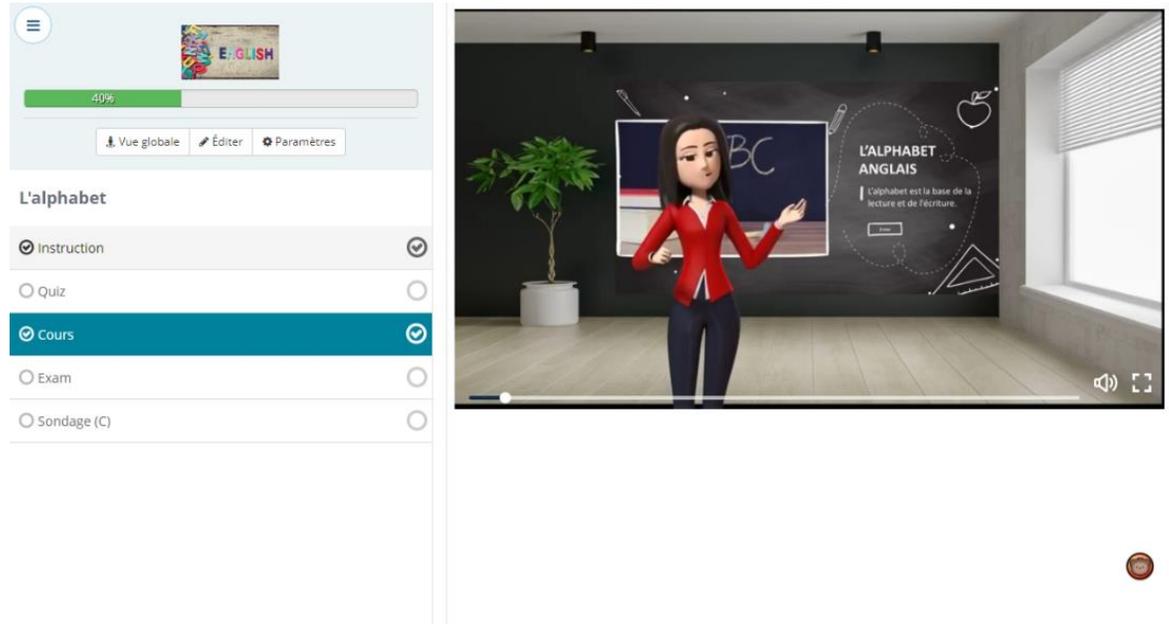
Figure 33.

Screen 1 of the asynchronous online lecture.

Figure 34.

Screen 2 of the asynchronous online lecture.
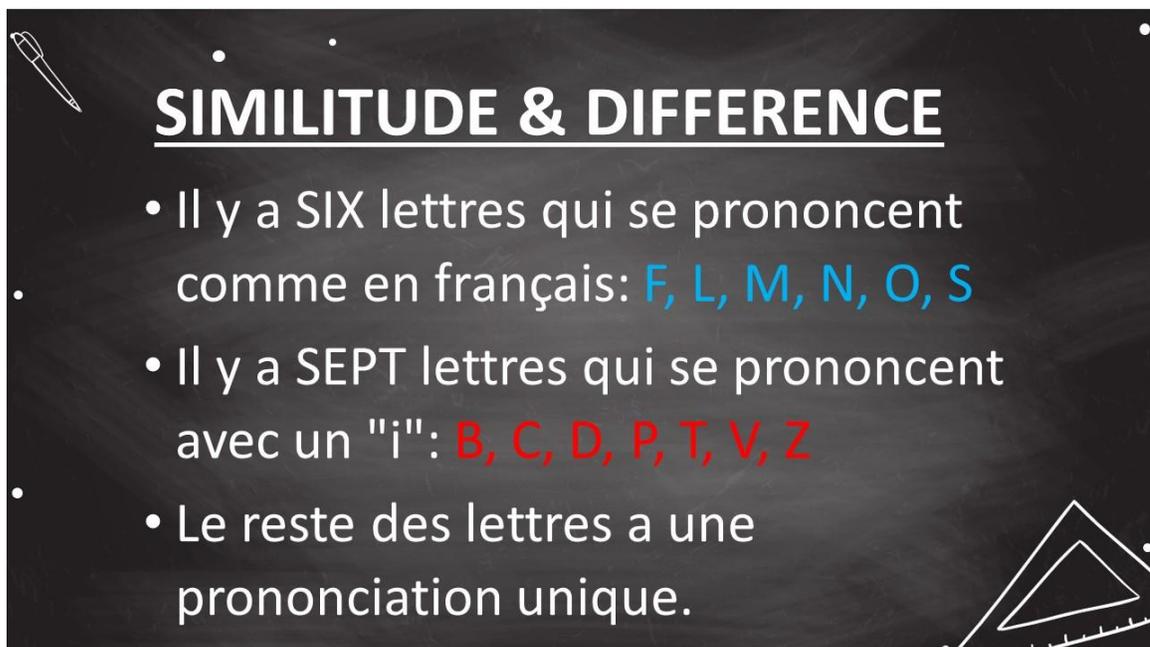

Figure 35.

Screen 3 of the asynchronous online lecture.
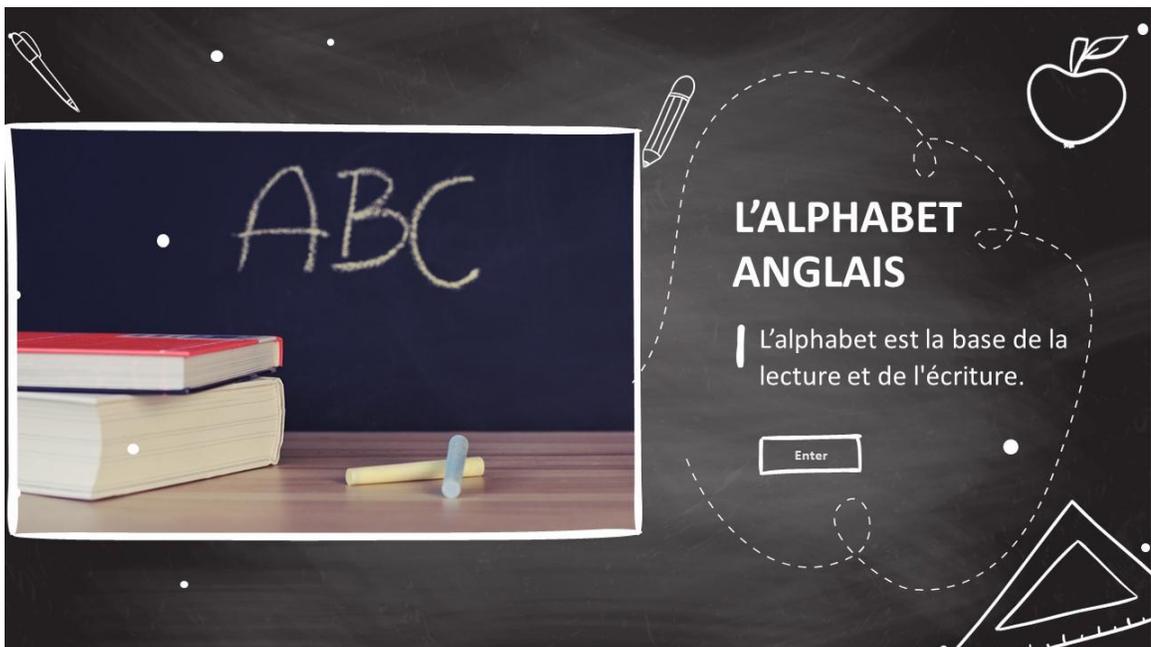
Figure 36.

Screen 4 of the asynchronous online lecture.

Figure 37.

Screen 5 of the asynchronous online lecture.

Figure 38.

Screen 6 of the asynchronous online lecture.

Figure 39.

Screen 7 of the asynchronous online lecture.
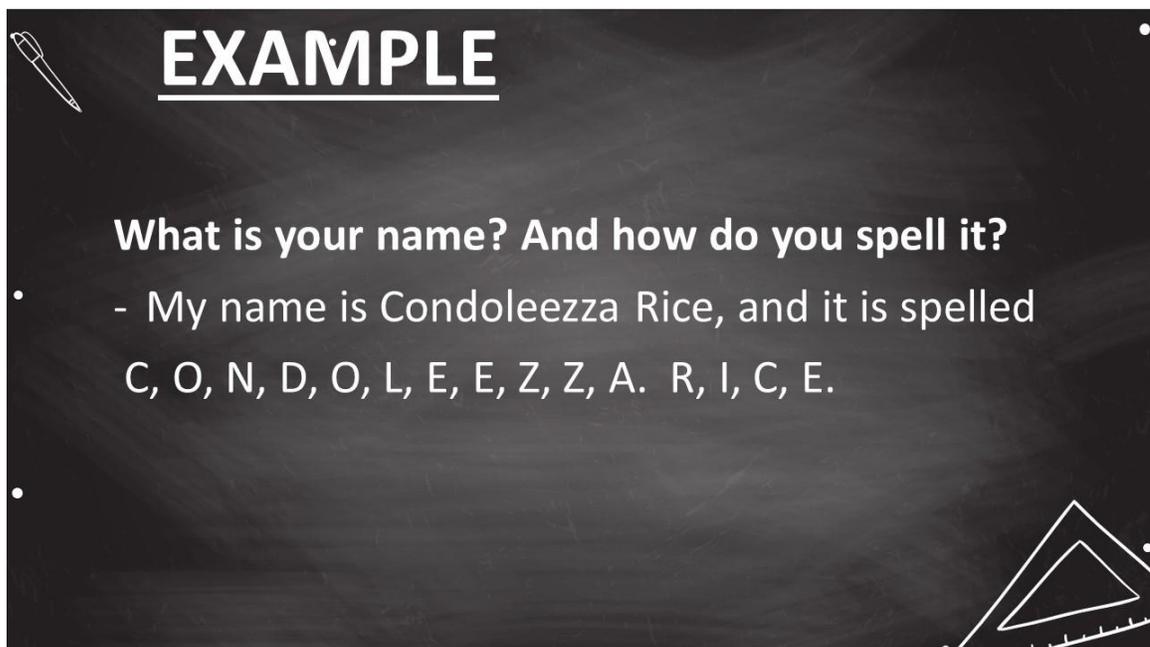
Figure 40.

Screen 8 of the asynchronous online lecture.

Figure 41.

Screen 9 of the asynchronous online lecture.

Appendix F – Enquête de selection (Screening Survey)

Figure 42.

Questions of the screening survey.

Enquête de sélection

1. Où résidez vous?

    ○ Afrique du Nord   ○ Afrique Subsaharienne

2. Parlez-vous couramment le français?

    ○ Oui   ○ Non

3. Quelle est votre maîtrise de la langue anglaise ?

    ○ Débutant   ○ Intermédiaire   ○ Avancé

4. Êtes-vous prêt à participer à une étude qui prendra environ 30 minutes de votre temps et qui comprendra un sondage ?

    ○ Oui   ○ Non

→ Clôturer enquête

⌂ Retour à la page d'accueil

Appendix G – Research Randomizer

Figure 43.

Results of research randomizer.

RESULTS

PRINT   DOWNLOAD   CLOSE

2 Sets of 15 Unique Numbers Per Set
Range: From 1 to 30

Set #1

p1=10, p2=30, p3=20, p4=11, p5=2, p6=21, p7=12, p8=25, p9=29, p10=9, p11=4, p12=26, p13=16, p14=1, p15=22

Set #2

p16=5, p17=2, p18=21, p19=30, p20=14, p21=9, p22=6, p23=17, p24=15, p25=24, p26=18, p27=12, p28=1, p29=10, p30=22

This layout allows you to know that 20 is the third number in the sequence, and 2 is the seventeenth number over both sets. This option is especially helpful for doing random assignment by blocks. Research randomizer is available at https://www.randomizer.org/

BIOGRAPHICAL SKETCH

Yara Olive Paterne Loua was born in Ivory Coast (West Africa) to Dosso Loua and Diomande Gouely. In 2008, he received his Bachelor of Arts in Business Studies with a concentration in Banking and Finance from the University of Cape Coast, Ghana. Yara went on to receive his Executive Master of Business Administration in 2015 from Amity University, India. In 2017, upon retiring from the U.S. Army, he chose to embark on a journey to obtain a Doctor of Philosophy in Instructional Design and Development at the University of South Alabama. Yara currently resides in Mobile, Alabama with his wife Houda and children (Khalila, Khalid, and Bilal). He is employed as an online school architect at Teachermerit.com.