Impact of Gagne's Model on L2 Online Environments

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Abstract

Instructional practices that can improve learning outcomes and teaching impact are crucial for instructors. The nine events of instruction in the online language classroom setting (Gagne et al., 2004) is one possible solution to enhance the learning outcomes. The Gagne model is based on understanding how learners process information. The effects of Gagne's nine instructional events in L2 contexts in web-based courses are not well understood, and none of the previous studies has validated this model for delivering an online course on communication. Therefore, this study examines the impact of using Gagne's theoretical model on student performance and course evaluations over a semester. The nine events of instruction could be implemented in synchronous and asynchronous online ESL courses. The participants were 64 (18 female, 47 male). Student test performance and self-perception questionnaires have suggested that they have improved their productivity and motivation. The research used a pretest-posttest methodology. The first group of students received standard instruction using the four-quadrant model, and the intervention group received training using Gagne's framework. The final grades of the students increased after Gange's intervention. The students' feedback also supported the proposed instructional model. The study has pedagogical and policy-level implications for fostering language learning in CALL environments.

Keywords: Gagne's model, instructional design, online learning, pedagogy, technology

Introduction

The curriculum must be interesting to encourage students to master language skills. Furthermore, it must be flexible to aid learning and memory retention. (Jung et al., 2022). Efficient teaching design is crucial and must be included in all e-learning projects. Gagne's models can be effectively implemented in an online context. Instructional design is the systematic process of developing educational and training programs to enhance student engagement, knowledge adoption, and retention. (Mamun et al., 2020). Ideally, the instructional design and the learning process should be sketched out meticulously, and its many stages should be listed before an instructor can implement them in their context. As a result, various instructional methods are currently used in educational institutions. Gagne's model identifies the stages of learning and arranges them in a way that encourages the retention and practical application of new ideas.

Online learning is becoming more prevalent in higher education because of its accessibility and versatility. However, learners' retention and focus have been a concern. (Ahmed et al., 2022). Students may get disengaged from their learning during lectures delivered in online environments by browsing other websites, fiddling with their mobile phones, or having private conversations. Faculty members have noted that as class numbers in distance learning modes have escalated, learners are less equipped for online lectures, fail to finish tasks in the classroom, and usually show less engagement in online language classes. Teaching for several hours using lengthy slide shows or recorded video lectures in the course management systems may not be effective. This kind of instruction has been linked to students being less likely to inquire and participate in discussions. Concern among the researchers in this study prompted them to investigate other strategies that would improve student involvement and the effectiveness of the course as a whole. Therefore, the researchers used Gagne's instructional design philosophy as a potential solution to enhance learning in online language classes. This study aims to demonstrate how Gagne's nine teaching events affect students' performance.

Theoretical Framework

Model and theory are often interchangeable and generally allude to the same concept, as Graham et al.(2013) stated. A model, however, is more typically a matrix that depicts reality or a notion. The terms theory and model will be used synonymously throughout this manuscript. The purpose of a theory or model is to provide answers to fundamental questions about a phenomenon. (Oladipo & Akhigbe, 2022). Instructional design is established, structured, and analysed using learning theories as a guide. Training designs that follow learning theories produce better educational outcomes. Teachers use Gagne's instructional framework to achieve the best learning outcomes (Kulhanek,2022).

Gagne is regarded as one of the leading proponents of the structured approach to instruction, and his theory has given trainers and teachers many beneficial suggestions. Gagne and Briggs (1974) focus on learning strategies to attain the expected results. This theory has its roots in cognitive processing, describing how humans process information when exposed to diverse stimuli. The design of education in various fields, including aviation, engineering, and healthcare, has been influenced by Gagne's beliefs. The

conditions of learning theory, developed by Gagne, served as the project's theoretical foundation. He created a systematic approach to instructional design. His paradigm is focused on understanding how humans process information. Wu et al. (2012) examined prior studies which used learning models that have produced significant findings, but few of these studies have taken into account the significance of learning theory, and there is little coverage of Gagne's instructional framework

Gagne identified certain elements essential to human learning via his research into the psychological processes accompanying a stimulus and learning. Gagne's concepts encompass student and teacher behaviour course's organisational framework was based on these nine paradigms. The authors proposed that using these nine principles for mapping the language learning courses would increase student engagement and improve the learning and conceptual comprehension of the course. Numerous investigations on the effectiveness of an online learning technique in English classrooms have been conducted. The literature review may explain how different instructional methods were employed to help learners become proficient in English, particularly in speaking the target language. No specific study has examined the combined impact of Gagne's design and speaking abilities in CALL environments.

Review of Related Literature

Gagne's Nine Events of Instruction criteria may be used by instructors to develop efficient and successful learning experiences. The steps in Gagne's approach offer a communication tactic that intensifies human learning. The goal is for learners to become intrigued, motivated, and committed to the subject matter as they finish each phase. The nine steps of Gagne's method are to be followed chronologically, beginning with the first and going through them all in the suggested sequence (DeBell, 2019). The sequence is given in Figure 1.

Research has been conducted to test the application of Gagne's model on content-based instruction, generally with positive results. Buscombe (2013) examined how the instructional design developed by Robert Gagne's paradigm imparts content-based and procedural skills in collaborative environments. His research identified nine specific instructional activities designed to maximise learning, boost session flow, and guarantee that the learning goals are fully covered. These activities coincide with critical learning conditions. He created a lesson plan for instructing psychomotor abilities using Gagne's nine steps. Each of Gagne's educational activities is considered, with various exercises outlined to accommodate multiple learning styles. He discovered that Gagne's instructional activities might result in practical learning skills and knowledge, enabling students with different preferred learning methods.

The effectiveness of Gagne's lesson has also been assessed using a qualitative study methodology (Owaidah, 2022). His investigation confirmed the value of Gange's instructional design. An electronic survey was distributed to them after classes to get everyone's feedback on the session. Each question was answered on a metric ranging from one to five. The researchers found that the learners received the training session well. "Applying Gagne's nine-step model is ideal to assure a successful and systematic learning programme. It brings structure to the instructional strategies and a holistic view to the teaching" (Tambi et al., 2018, p.2). They found that the framework was relatively used in

teaching procedural courses. In a similar study, Berger-Estilita and Greif (2020) created a lesson plan for teaching content-based courses using Gagne's matrix. Using a standardised questionnaire to analyse the students' perspectives, they found that implementing Gagne's Instructional Design model directs the strategising of a lesson.

Knowledge gaps

These previous studies suggest that Gagne's model effectively teaches procedural and content-based courses. The researchers argue that Gagne's model will be productive in teaching non-procedural and skill-based courses such as language learning. Therefore, the researchers used this framework for conducting an online course on presentation skills for the students of MBA. The researchers mainly focused on the macro speaking skill in an online context.

Fostering Speaking in a CALL environment

The development of a student's career depends on their ability to interact and effectively deliver information to large groups both in a virtual and face-to-face context. Building the learners' self-confidence and the ability to talk clearly and persuasively in front of an audience are essential skills for corporate and academic life (Pitura, 2022). However, these skills require intensive training. Presentation skills are, therefore, a crucial component of the MBA curriculum at Crescent. According to Indira et al. (2022), Students enrolled in postsecondary learning in non-native-speaking nations where English is the primary language of instruction need to improve their presentation skills while studying. The conditions offered to these students in their university courses are not favourable for speech-communication abilities in formal academic settings.

According to Asoodar et al. (2014), oral proficiency is the ability to vocally express oneself to communicate while adhering to a language's grammatical standards. Speaking, the creative skill, and hearing, the receptive skill, are both communication acts that occur when the presenter and audience connect collectively rather than separately. Even though the value of oral proficiency in a second language cannot be overstated, its pedagogy is one of the most challenging and divisive issues in the TESL community (Shiotsu & Weir, 2007). According to (Burgess et al., 2010), the communicative approach to learning and teaching languages has influenced many language classes and institutions of higher education's present programmes; nonetheless, oral production still appears to be ignored in the CALL environment. According to (Bashori et al., 2020), the usage of conventional methods contributes to the absence of verbal communication. This traditional approach typically compromises the students' oral expression by preventing them from meeting the necessary levels of communicative proficiency. Their proficiency is insufficient to function in a natural communicative setting. This problem is made worse by the shortage of activities and possibilities for oral skill development in online courses, which limits students' capacity for verbal communication in their environment.

Both language learners and researchers are concerned about how native speakers improve their language skills (Ahmad, 2016). Multimedia is a crucial instrument that can be incorporated into today's language classrooms (Chapelle & Erik, 2016). The goal of giving native learners a greater level of language proficiency can be accomplished by giving them access to rich learning environments through various techniques. However,

teachers' methods for teaching and learning determine how well the learners communicate. (Muslem & Abbas, 2017). A multimedia environment is thought to benefit pupils in developing their speaking abilities.

Instead of adhering to conventional paradigms that place the educator entirely in charge, technology-supported and cutting-edge learning strategies should be incorporated. Such methods would enable students to learn independently while also giving the teacher a crucial role as a mentor across the learning process. (Leakey, 2011). Online instruction is a practical procedure that demonstrates the importance of creating a learning environment focused on the needs of individual students to maximise speaking opportunities. It should also include group activities and reflection by the group. Students' proficiency in English highly depends on their ability to talk and communicate in English. One way to overcome the limits and provide opportunities for students to be exposed to language online is the effective implementation of multimedia activities, according to research by (Ismail Al-Oqaily et al., 2022).

For many years, teachers taught speaking skills primarily as memorisation of words, sentences, grammatical structures, and dialogues. It was also believed that oral skills develop naturally over time through exposure to language (Bajrami and Ismaili, 2016). However, the goal of learning a language in this era should be the development of students' communicative skills. Therefore, teachers should choose their teaching techniques and activities based on student interaction and collaboration. Further, they should employ authentic activities to create a meaningful and joyful learning environment and enhance learning.

The concepts of micro and macro speaking skills were introduced by Northwest (2000). The micro-competencies cover the development of smaller linguistic components such as sounds and vowels, words, phrases, small sentences, tempo, discourse function, style, and cohesiveness. The macro skills include non-verbal communication and discourse competence as the broader factors on which the study concentrates. The pedagogical component is crucial in learning and assessing communication abilities in CALL contexts (Rahnavard and Heidar, 2017). Both teachers and students should assume roles that help them attain their learning objectives. Gagne's model appears to be a workable solution for directing the process of speaking toward a fulfilling academic endeavour. The model's use in research studies across disciplines, including EFL and ESL situations. Most applications and research have been conducted in medical universities in the United States and Great Britain, where English is the primary language of instruction. The relationship between Gange's framework and the growth of speaking, particularly in ESL and EFL environments, will be further explored in this study.

When we looked at the literature to examine how oral communication requirements in classroom contexts have been defined, we discovered many areas of research activity that address the communication requirements of students in higher education. The current classroom practices focus on determining the discrepancy between readiness and course requirements, which can assist universities in deciding which pedagogies are best for fostering speaking abilities. Even though research shows that students' communication efficacy is positively related to achievement, little information about frameworks related to teaching oral communication skills is found (Kang, 2022). According to Jin (2022), "There is a positive correlation between students' communication skills and their success in finding a job during their university studies".

p. 2). However, impact testing of effective pedagogical models for enhancing communication abilities has not yet been thoroughly articulated.

Research Questions

After reviewing the related literature, the following research questions were framed.

1)When applying Gagne's model to online learning, how does it impact the oral skills of postgraduate students?
2)How do students evaluate their learning experience according to Gagne's nine layers of instruction?

Data were obtained from the performance tests to examine these two research questions. The breakdown of marks was obtained from the two instructors concerned. When testing the research questions, a p-value is calculated to determine the significance level. Researchers traditionally establish 0.5% as the significance level. Thus'p-value' smaller than 0.5% is considered statistically significant (Cohen et al., 2000).

Methods

The primary objective was to help the learners move from the B2 level (Upper Intermediate) to C1 (Effective Operational Proficiency) as per the CEFR guideline by the Council of Europe(2001). The nine constructs of the model are shown in Figure 1. The theoretical overview assisted the researcher in concentrating on the key elements that needed to be considered for this particular investigation.

Educational activities during a lesson are referred to as instructional events. A practical lesson design depends on choosing the appropriate circumstances and organising them in the proper order and manner. A lesson design is a schedule that outlines the different instructional events, their sequence, and the activities that will occur sequentially. The implementation procedure is shown in Figure 1.

Figure1
Gagne & Briggs model in action

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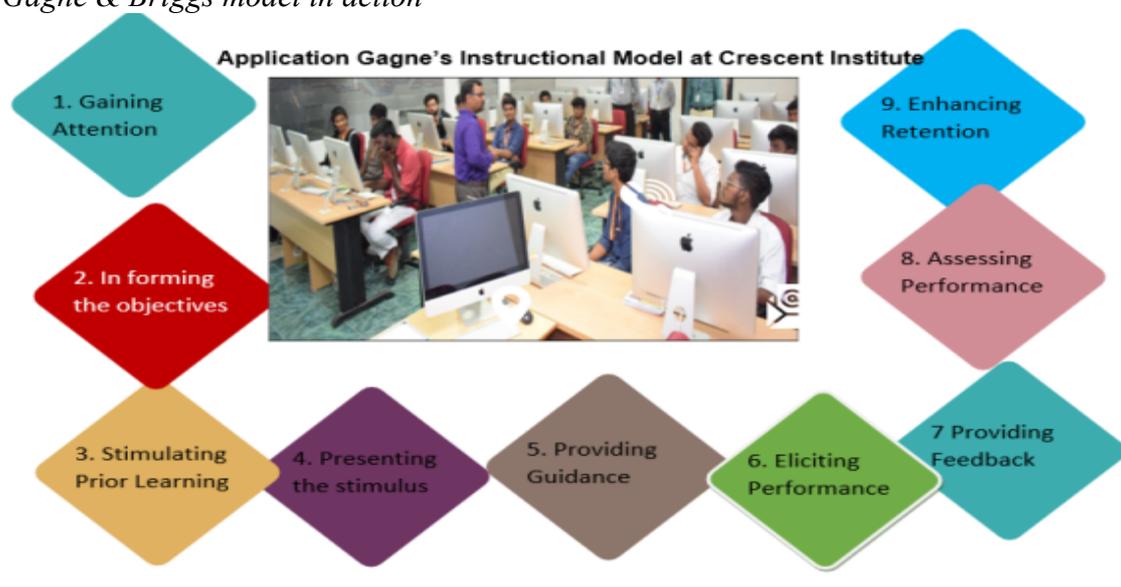
Participants

The study participants were 64 (18 female, 46 male) Tamil and Urdu-speaking postgraduate students (M = 23.7 years old, SD = 1.79) at the B2 level of the English language. After the homogeneity test, they were randomly segregated into the control and experimental groups. The control group had 31 students (M=23.45, SD=1.71), whereas the experimental group had 33 students (M=23.46 and SD=1.63). They were all first-year students enrolled in a distance learning course for MBA. The online lessons were designed for a specific audience. According to the students, flexibility was the primary reason for selecting the online delivery method. Most online students had never taken an accredited online course before. Most of the enrolled students were middle- to senior-level managers with private or public companies who wished to develop their presentation skills to enhance their career prospects. A quantitative design is considered robust to validate the study results (Stahl & Kibbe, 2022). Therefore, a quantitative study was mandated by the research group. The amount of time allotted for assignments is the same for online and in-person students. Both groups spent the same amount of time on the task (24 hours apiece, running for eight weeks).

Impact testing of the Model (Phases)

This impact testing study has five steps. In the first phase, a suitable model (Gagne's model) was chosen after an initial screening of all educational models. In the second phase, the principles were mapped for teaching presentation skills. In the third stage, a lesson plan was designed using the nine principles of Gagne for teaching presentation skills. In the fourth, the model was implemented, and its impact was tested. Eventually, the model was assessed, and its outcomes were documented. The steps employed in the study are given in Figure 2.

Figure 2
Steps employed in the Impact Study
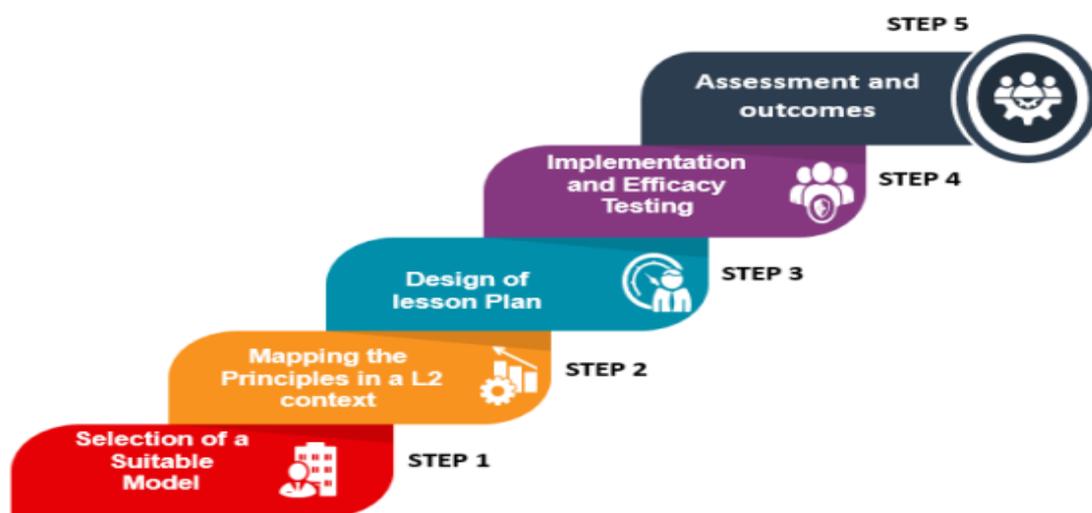
Instruments

Pre-test, post-test, and questionnaires were used as the study's measurement techniques. The purpose of the pre-test was to gauge the students' prior abilities in speaking. Two presentations worth 25 marks constituted the post-test. The post-test cumulative score was 50. In addition to the researchers, two senior language teachers were also invited as part of the research project to ensure that the pre-test and post-test were sufficient to assess the student's learning progress. The two tests' Pearson's correlation was 0.029, indicating a slight variation between them. Additionally, the post-Kuder-Richardson test's formula 20 (KR-20) value of 0.58 showed that the internal consistency was satisfactory.

Experimental procedure

The pre-test was taken by the students from both groups (n=64) during the first week of class. The instructor then gave the students an overview of the curriculum. They were then exposed to units one to five over the next eight weeks. They then participated in classroom presentations as part of the in-class learning activities. Following teaching, the teacher administered post-tests to both groups of pupils.

The students in the intervention group were required to complete a survey on their learning experience. The survey questionnaire was validated before the investigation. The questionnaires underwent expert evaluations following the recommendations made by Groves et al. (2009) to guarantee their validity of the questionnaires. Two ELT experts from SRM University and VIT University assessed the questionnaire's content, cognitive demands, and usability requirements and made minor revisions. The survey was also put through a pilot test to ensure no ambiguities. The questions were direct. Thus, there was no need to conduct a factor analysis.

The application of Gagne's model was the sole distinction between the two groups. With Gagne's framework, the experimental group gained exposure to presentation skills.

However, the control group learnt using the four quadrants technique. The steps in the research are shown in Figure 3.

Figure 3
Experimental procedure

The pedagogical framework

With this backdrop in mind, we look at the students' oral communication abilities throughout the first year of their postgraduate courses and the communication demands placed on them by the many kinds of classroom activities they will be involved in. The steps in the course plan are shown in Table 1.

Table 1
Application of Gagne's concepts to the experimental group

1. The art of gaining attention	As part of the icebreaker activity, the teacher asked challenging questions and guided the class through presentation-related training. A demonstration of how to prepare an effective oral presentation was presented as part of the introductory activity. Ted videos were used to reinforce speech production and audience analysis. Before and during a presentation, participants will self-assess their speech anxiety, and the instructor will provide tips for controlling nerves. An oral presentation will follow the instructional phase by participants.

2. Establishing objectives	The teacher explained what they should learn to accomplish their goals. Learning objectives were communicated to target learners before instruction began. They are as follows: 1. Identify effective presentation strategies. 2. Find out what makes them anxious about public speaking.3. Develop a presentation that meets the target audience's needs. 4. Improve their verbal presentation skills by taking personal action steps.
3. Stimulation of prior knowledge	To help students understand the material, the instructor connected that knowledge to what they already knew. The students were questioned to assess prior experiences and comprehension of earlier concepts. Current activities were based on prior learning. Several aspects of students' previous exposure to presentations were discussed to stimulate their prior knowledge of presentations.
4. Presentation of content	The course material was presented using the following techniques: Different iterations of the same material were delivered by the instructor (e.g. video, lecture, podcast, group work, etc.). A wide range of media was presented to them. Student engagement was enhanced by incorporating active learning strategies. They were also provided access to content on LMS so that they could access it outside of class.
5. Stimulus	The following techniques were employed to guide students' learning: models of various learning tactics, such as mnemonics, virtual concept maps, and online role-playing. Video links and worksheets were provided for the selected TED speeches. Personal narratives and stories are commonly used to explain complex topics.
6. Performance elicitation	The group activities involved simulations and multimedia worksheets related to speaking. In addition to providing feedback, the instructor asked the students to apply their learned skills. The lecturer assisted the students' learning by posing deep-learning questions, fostering peer collaboration, and supervising practical lab tasks. Presentations, written assignments, and group and solo projects were all part of the curriculum.
7. Feedback	The instructor gave immediate comments on their performance to evaluate, assist, and enable students to discover learning gaps. Constructive feedback was given to help the students perform better,
8. Analysis of performance	To evaluate students, the instructor gave detailed comments on their performance. The students received advice, instructions, and information to improve their performance.
9. Retention	Following individual student assessments, the students participated in group discussions. Students were divided into groups of four or five at random. As each group debated the test

|	questions, they drew on each other's resources and explained their answers. Discussing the justification would reinforce relevant information, enhancing recall and knowledge transfer. Connecting course concepts with potentially real-world applications helped learners retain more information.

The four-quadrant model was used as an instructional framework for the control group. In the first stage, the instructor contextualised the learning programmes and built on their existing knowledge and skills related to presentation skills. The interaction on all aspects of the presentation was brainstormed, and extra e-learning resources related to presentations were provided to the learners. In the second stage, there was a focus on new knowledge generation. Some video clips of Ted talks were given to the learners. After the video-based session, the instructor focused on micro-learning. The three aspects of a presentation, namely, the introduction, body and conclusion, were presented in small bytes. In the third stage, the learning instruction was more structured. There was classroom practice on micro presentations. The learners focused on macro presentations in the fourth and final stages and were exposed to enhanced learning experiences.

Technological Infrastructure and Platform used

The Crescent Learning Management System, designed by the Crescent Institute in 2021, was used to enhance the educational process and increase student involvement. In addition to providing multi-format digital material, the Crescent LMS platform enables microlearning, gamified learning, and social learning. According to a given syllabus, students can access instructional information and extra readings through a flip book uploaded to the LMS. Students can access digital content on PCs and mobile devices using simple customisation and scaling options.

Additionally, the Crescent LMS contains a free digital library with instructional materials that facilitated Gagne's instructional framework to improve learner experience and engagement. Offering practical capabilities like online live classrooms, project preparation, and online testing further facilitates users' delivery and management of online education and presentation skills training. It also includes data analytics that further simplifies learning administrators to receive meaningful information like live class attendance and content consumption. A screenshot of the online class is shown in Figure 4.

Figure 4
Screenshot of the Live ODL session using crescent LMS Interface
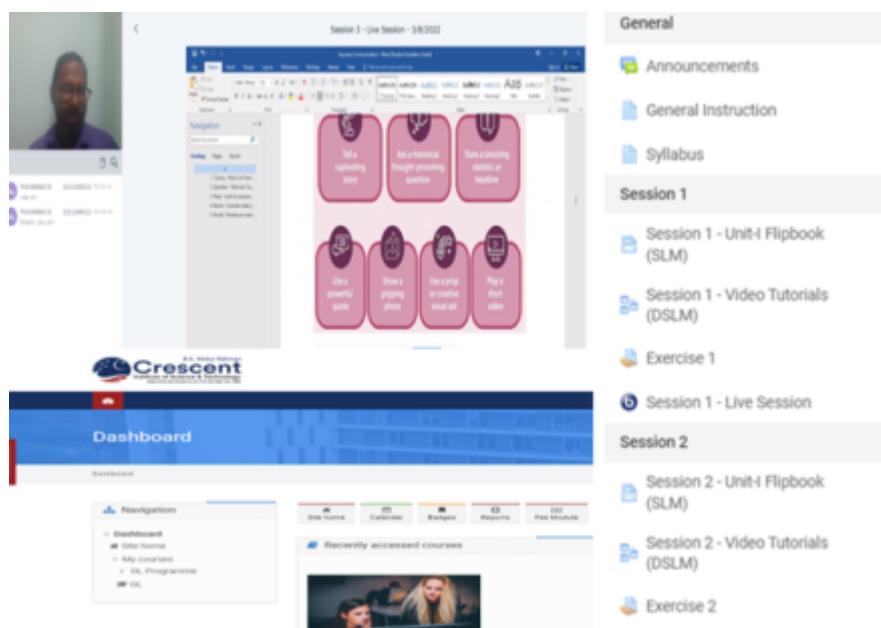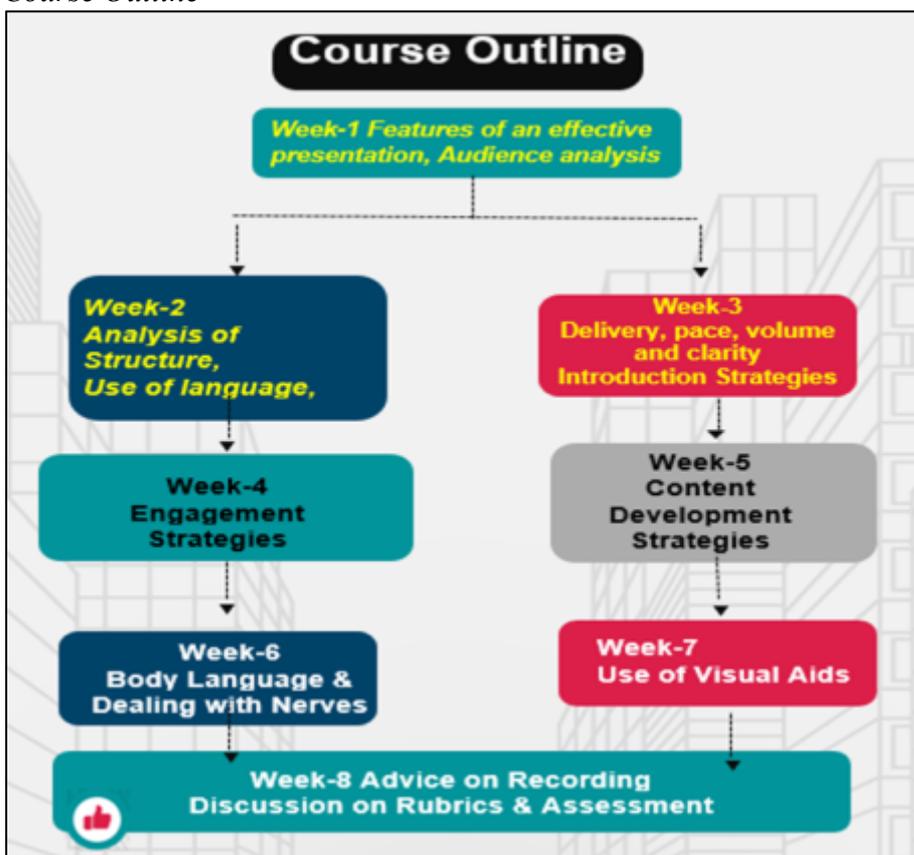

Description of the study

The course for the intervention group followed the format of Gagne's nine events of teaching. Instances of how the activity was incorporated into the educational environment were explained in this study. Comparisons of the result data comprising total summative assessment percentage grades and assessment reports over the semester's conclusion were presented. The students of the control group (N = 31) received the standard online training, and the intervention groups (N = 33) received the online training employing Gagne's framework. Data on the overall course grade were gathered from each class roster.

Outline of the Course

The online presentation course was conducted for eight weeks, encompassing various aspects of presentation skills. The course outline is presented in Figure 5.

Figure 5
Course Outline

Course Outline

Week-1 Features of an effective presentation, Audience analysis

Week-2 Analysis of Structure, Use of language,

Week-3 Delivery, pace, volume and clarity Introduction Strategies

Week-4 Engagement Strategies

Week-5 Content Development Strategies

Week-6 Body Language & Dealing with Nerves

Week-7 Use of Visual Aids

Week-8 Advice on Recording Discussion on Rubrics & Assessment

The presenter's preparation, information, and performance were all included in the learning component. Students usually feel more knowledgeable when taught about a subject and can better learn how to deliver effective presentations. The researchers thought that the students might have a greater chance of succeeding in their presentations if they were well-versed and paid close attention to these variables.

Data Sources

Students were informed of the study's purpose by the researchers in both groups at the beginning of the research, after which they willingly agreed to participate by signing consent forms. The study adhered to all ethical norms the APA set out, including open-source software. The initial data source was a test that included an online presentation. A sample screenshot from the LMS is given in Figure 6.

Figure 6
A sample screenshot of the Presentation Activity

The two raters who assessed the test showed moderate inter-rater reliability (Cronbach's alpha = 0.5). Students in both groups took the post-tests following the intervention in the second stage. The pre-test and post-test were identical. Besides the intervention, the study included a student self-perception questionnaire.

Data Analysis

The first research question

RQ1 "How does the application of Gagne's matrix compare with the existing online learning models concerning its effect on postgraduate students' presentation in a second language"?

This research question was analysed using the one-way ANCOVA results demonstrated in Table 2.

Table 2
The One-way ANCOVA result of the post-test scores of the two groups

Group	N	Mean	SD	Adjusted Mean	Adjusted SD	F	P
Experimental Group	31	41.32	6.33	41.65	3.71	16.14***	p> .001
Control Group	33	30.14	4.12	30.10	2.63		

Analysis of Learning Achievement

To compare the learning outcomes of experimental and control group pupils, a one-way analysis of variance (ANCOVA) was used. ANCOVA was used to assess the

correlations between the students' past knowledge and their learning success in the post-test. The homogeneity of variance is tenable since Levine's test was not violated (F = 16.14, p >.05). The educational achievement outcomes of the two groups are displayed in Table 2. The experimental group's mean and standard errors were 41.65 and 3.71, while the control group's mean values and SD were 30.10 and 2.63. Post-test results were significantly different (F 16.14, p.001). The experimental group scored significantly higher on the post-test than the control group. The result suggests that Gagne's facilitated online classroom model was more advantageous to pupils than the current models of online instruction. The analysis shows that applying Gagne's model is productive compared to the standard instructional practice.

Research question-2

How do students evaluate their learning experience concerning Gagne's nine layers of instruction?

Q-1: This study compared the nine dimensions based on the student questionnaire. Across all nine variables, experimental group students scored significantly higher than control group students. The mean difference, t values and Cohen's D were statistically significant in the experimental group, as indicated in able-3.

Table 3
*The independent t-test results of each question in Gagne's model*

	Gagne's Constructs	Group	N	Mean	SD	t	d	p
1	Attention was high	E*	31	3.99	.65	3.12	0.92	0.001
		C**	33	2.65	.59			
2	The objectives were Clear	E*	31	3.69	.65	3.17	0.66	0.001
		C**	33	3.11	.57			
3	The instructor triggered our prior learning	E*	31	3.99	.59	3.16	0.97	0.000
		C**	33	2.65	.51			
4	A multimedia stimulus was provided during the session.	E*	31	3.97	.63	3.18	0.87	0.002
		C**	33	2.44	.47			
5	We were guided throughout the learning process	E*	31	4.01	.65	3.45	0.81	0.001
		C**	33	2.67	.51			
6	The elicitation strategies are appealing	E*	31	3.66	.64	3.51	0.74	0.001
		C**	33	2.51	.37			
7	We received feedback on our activities	E*	31	3.65	.68	3.65	0.65	0.003
		C**	33	3.52	.43			
8	Our performance was assessed effectively	E*	31	3.87	.69	3.54	0.65	0.001
		C**	33	3.14	.61			
9	Reinforcement activities enhanced retention	E*	31	3.95	.59	3.67	0.57	0.001
		C**	33	2.97	.38			

*E - Experimental **C - Control

This nine-part framework on online courses was productive as the target learners received high marks. The learners in the intervention group thought it was intriguing and fun-filled. The pupils desired a more significant variation in the interactive items. It is evident from the Likert scale questionnaire that the application of Gagne's model is valid. The student's self-perception confirms their preference. For each of the nine constructs, the mean scores of the experimental cohorts were significant. A comparison of the mean scores is given in Figure 7.

Figure 7
Comparison of mean scores in the self-perception questionnaire
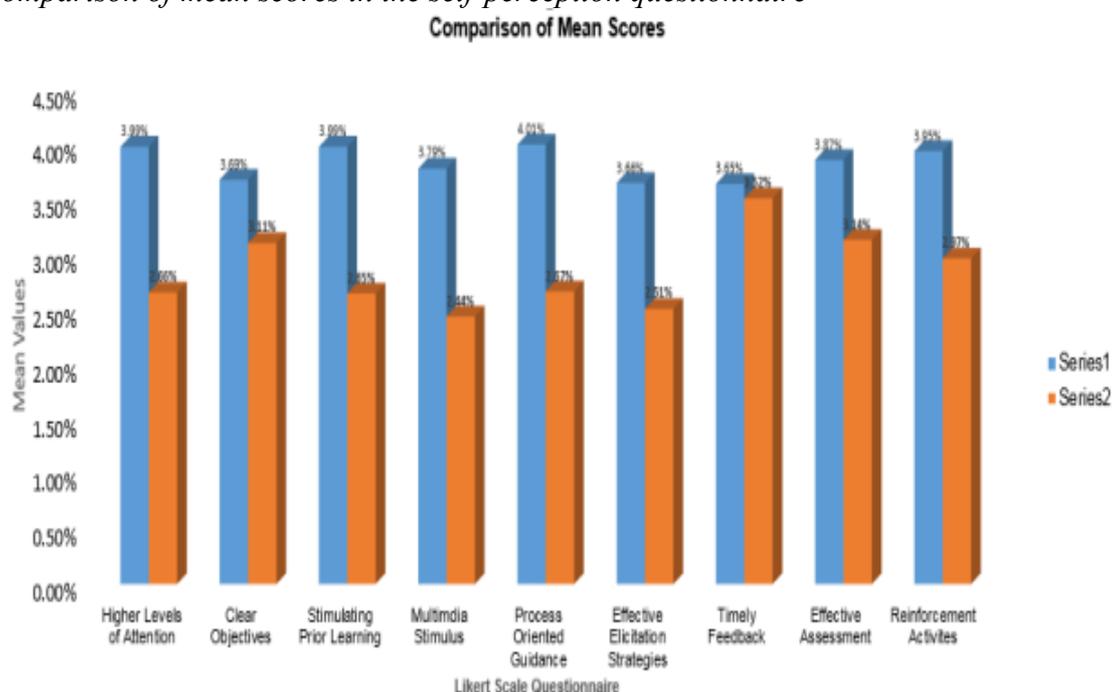
Discussion

Student performance improved after including Gagne's nine teaching events, as indicated by the post-test scores. This finding is similar to an earlier study by Dadashnejhad et al. (2022) and Amos et al. (2022). For students to develop a genuine interest in the subject, capturing their attention early on is crucial. The learners' level of involvement and interest may have been maintained with the stimulus provided by the videos in stage one. Subsequently, the instructors communicated the course's objectives and expected outcomes. This instructional paradigm advocates that new sessions should be linked to existing ones that have already been covered to engage the learners' long-term memory. Some topics are difficult to understand for the learners. The information was organised and placed in the LMS before the lecture. Through mentoring, it was established that the students would not develop a faulty comprehension of the lessons. In this phase, Gagne suggested the stimulation of prior knowledge is a tried-and-true method

for memory retention. Different types of feedback were given by the instructors, such as instant feedback, individualised responses, and peer assessments. These activities have increased the learner's performance.

Their learning experience was also much better, as shown in the self-perception questionnaire. Using this instructional approach, instructors may achieve better learning outcomes. This study's results align with what was previously reported using Gagne's teaching events (Fuchs and Fuchs, 2016). It is critical to find cutting-edge strategies that engage students and improve learning while institutions struggle to teach the target learners communicative competency. Providing knowledge on advanced techniques like Gagne's nine teaching events may be helpful for teachers of large classes. The efficacy of Gagne's theory and classroom strategies might be assessed in diverse educational contexts, such as language classes, online learning environments, and unconventional programs. The instructors developed pedagogical competence in the nine teaching events while maintaining a student-centred approach. The activities gave the students and educators a foundation to build on every week, improving the learning environment. This approach gave students more chances to communicate with one another, the teacher, and others for feedback.

Implications

Our research with ESL students indicates that Gange's instruction in language education can aid in fostering speaking skills. Additionally, our statistical study reveals that progress in presentation skills appears to have a good link with the holistic framework of learning. The consequences of the results challenge us to think about how to encourage ESL instructors to use instructional models in online classrooms. This study offers empirical data that indicate the possible impact of Gagne's Instruction in a technology-based classroom. We recommend more studies on specific ICT-integrated teaching methods to add to the knowledge already known about the numerous factors that influence students' success in technologically enhanced environments for ICT to improve science learning.

We recommend that better instructional software for ESL students may be developed in collaboration with educators knowledgeable about instructional classroom models and integration strategies. For instance, current instructional software is not very interactive. Still, interactivity allows students to change and experiment with factors or creates a community for peer learners from other institutions. We encourage more research on this intricate aspect, even though various factors probably contributed to the results examined in this study. The future effects of Gagne's Instruction on low-achieving students in ESL classrooms are particularly fascinating. Instead of creating the framework, the researchers preferred to use a suggested design as the foundation for the course's logic and organisation.

Since all modules and activities are divided into different learning phases, the systematic approach of instructional design models enables the course design team to change and update modules without too much difficulty. Gagne's framework may be helpful to university professors when learning a productive skill like speaking, according to the findings of this study. The study also suggests that instructors' implementation of the framework will probably result in positive student perceptions regarding their

engagement and performance in second and foreign languages. This model would tend to solve, or at least lessen, the problems commonly found in the online teaching of oral skills.

Limitations

We examined the instructors' learning outcomes in our study. On the one hand, such studies enable testing applicability and efficacy in real-world and practically realistic situations. Such environments do not, however, provide an all-encompassing solution to all levels of learners. Therefore, further investigation must understand how learning occurs during such interventions. Delayed performance tests would have allowed us to evaluate the long-term impacts of our intervention. But they were not also examined due to lack of time. Replication would be preferred, ideally with a more significant number of subjects to judge the efficacy of the modules. It would be helpful to repeat this study in more courses and in other universities to prove the plausibility of this model.

Furthermore, placing more emphasis on enhancing our applied test tools, particularly the self-perception ratings, would help us provide estimates of our results that are more trustworthy. Our study offers critical information on developing treatments that support speaking abilities and successfully incorporate technology into subject-specific learning. As a result, our findings could contribute to better technology-assisted instruction.

Conclusion

The study's experimental results demonstrated how Gagne's approach was a successful instructional model that improved conceptual comprehension of the presentation skills training and affected students' performance. The study also showed that regardless of the student's gender, Gagne's instructional paradigm improved their learning outcomes. The ideas of Gagne offer instructors a wealth of helpful knowledge. Applying Gagne's matrix is an excellent technique for guaranteeing an efficient and organised learning program since it provides a structure of lesson plans and teaching from a holistic perspective. Additionally, Gagne's interactive teaching model considers students' learning capacities as well as the practical techniques used to improve active learning and learner engagement. They can be used to quantify results at every step of an academic course or training program and can be modified to meet the preferences of educators.

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