【Research Article】

Incorporating Instructional Design Theory Into Presentation Slides to Improve Learner Engagement

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Abstract

With the increased popularity of technology-assisted learning in second language classrooms, English as a foreign language (EFL) teachers are looking for new and effective ways to provide instruction in various teaching environments. The focus of this study is in the area of instructional design theory (IDT) and blended learning (i.e., the use of technology in educational environments). This study aims to a) examine whether existing instructional design models can be used to design, develop, and implement more effective, personalized, and efficient instruction using presentation software (e.g., Microsoft PowerPoint, Google Slides) and b) investigate whether instructional design methods should replace traditional teaching methods such as teacher-fronted instruction or the use of coursebooks/textbooks. After the discussion of existing instructional design models, instructional presentation slides are designed using IDT principles, and then tested on second language learners. Qualitative and quantitative data were collected and analyzed through interviews and questionnaires. The findings from the study provide evidence that an instructional design model can be used to design technology-assisted materials that provide learners with more personalized and meaningful instruction, and based on the evidence presented in this study, it is recommended that more attention should be given to design principles when creating instructional materials for L2 learners.

Keywords: *Instructional Design Theory, Blended Learning, IDT, Motivation*

Introduction

Over the past few years, restrictions caused by the COVID-19 pandemic have forced teachers in all fields to consider new ways of conducting their lessons and providing instruction to learners. This has caused many teachers to turn to technologies and online platforms that give them the ability to present information in new and effective ways (Turan & Akdag-Cimen, 2020). In an earlier study (Hart, 2022), I looked at how online platforms could be used to provide learners with a "flipped classroom," where the presentation of course content takes place outside the classroom. For this to be achieved, PowerPoint slides were used to provide asynchronous instruction. While the focus of that study was on out-of-class learning and production, positive reactions to the PowerPoint slides were observed by the learners, other teachers who the slides were shared with, and course leaders. This led to an analysis of the effectiveness of well-designed slide presentations for English as a foreign language (EFL) instruction.

As a qualified product designer, I felt that my experience and knowledge helped me when designing teaching and learning materials for my second language learners. Design thinking is about the creator putting themselves in the shoes of the person who will be interacting with the design. With this belief echoing similar principles set by a student-centered approach to teaching, existing design theories that could be used to design and facilitate effective and student-centered instruction were investigated. While learners in a language classroom may come from similar educational backgrounds, they all have individual behaviors, values, interests, and goals. Therefore, this study focuses on instruction that is both learner-centered and customizable. One design approach that has

received increased attention in recent years is instructional design theory (IDT). Reigeluth (1999) describes IDT as a "theory that offers explicit guidance on how to better help learn and develop" (p. 5). Other definitions include IDT as being "prescriptive in nature" and offering "proven guidelines for creating optimal learning environments for intended learning content and the target audience" (Huang, 2013, p. 19). Like design theories in other fields, IDT puts emphasis on individuals with a learner-centered paradigm at its core. The role of an instructional designer is "translating principles of learning and instruction into specifications for instructional materials and activities" (Smith & Ragan, 1993, p. 12). By performing a needs analysis of the subjects (i.e., learners), more personalized and meaningful instruction can be designed and developed using instructional design models. While early instructional design theories took a behavioral approach to design, more up-to-date models take a constructivist approach, with constructivism receiving increased attention in several different disciplines, including language teaching/learning and instructional design (Bednar, Cunningham, Duffy, & Perry, 1991). In this study, existing instructional design models will be discussed and subsequently considered for the design of instructional materials in a second-language classroom.

In addition to the use of IDT, this study explores the use of instructional technology, such as presentation software, to help make the learner-centered paradigm more efficient and effective. With many English language courses being standardized with set learning materials, making instruction personalized to individual learners is challenging. However, Reigeluth (2014) explains that by using technology, the learners' individual needs and expectations can be accommodated, and more relevant and personalized learning experiences can be provided through the customization of instructional materials. This use of technology in an educational environment is known as "blended learning" (Vaughan, 2007), which is defined as being both a student-centered and flexible approach to learning. Focus is put on the design and use of Microsoft PowerPoint presentation software, due to its popularity, and with supporting research regarding the use of slide presentations to provide more interesting and motivational instruction (Szaboa & Hastings, 2000; Catherina, 2006; Wanner, 2015).

Finally, a research study was conducted. Instructional design models were used to design and evaluate instructional PowerPoint slides for two types of content and language integrated learning classes. Pre-study research was conducted through teacher interviews and questionnaires, and data were collected to provide a needs analysis in order to support the design and development of the specially designed slides. The slides were tested on second language university students at Rikkyo University, and post-study research was conducted regarding the effectiveness of the instruction to conclude whether IDT is effective in improving learner attitudes.

Literature Review

What is Instructional Design Theory?

Reigeluth and An (2021) describe IDT as a "deliberate and orderly, but flexible, process for planning, analyzing, designing, developing, implementing, and evaluating instruction in education" (p. 1). In education, IDT refers to a knowledge base that provides guidance on how to facilitate learning under different conditions (Reigeluth, 1999a). Reigeluth states that IDT is distinguished from learning theories. Rather than describing how learning occurs through descriptive explanations, IDT is prescriptive and design oriented (Reigeluth, 1999a). While it is not easy to apply the knowledge of learning theories to educational problems, IDT can identify methods for specific situations by offering detailed guidelines to design instruction. An early instructional design theory, called

"Theory One," was presented by Perkins (1992) that provided guidelines for what instruction should include to foster cognitive learning:

1. *Clear information:* Descriptions and examples of the goals, knowledge needed, and the performance expected.
2. *Thoughtful practice:* Opportunity for learners to engage actively and reflectively with whatever is to be learned – adding numbers, solving word problems, writing essays.
3. *Informative feedback:* Clear, thorough counsel to learners about their performance, helping them to proceed more efficiently.
4. *Strong intrinsic or extrinsic motivation:* Activities that are amply rewarded, either because they are very interesting and engaging in themselves or because they feed into other achievements that concern the learner.

(Perkins, 1992, p. 45, as cited by Reigeluth, 1999a)

To build on the above guidelines, Reigeluth (1999b) discusses the major characteristics that all instructional design theories have in common. The four major components of IDT are listed by Reigeluth as being:

1. *Instructional values:* To maximize the effectiveness of instruction, the values of the design theory should match those of the users. Therefore, IDT is only relevant to teachers who see the value in a learner-centered approach.
2. *Instructional outcomes:* These are the outcomes expected by the instructors, including expectations related to effectiveness, motivation, efficiency, and appeal. The focus of the outcome depends on the values of theories.
3. *Instructional conditions:* This includes factors that influence the selection of different instructional methods. Reigeluth (1999b) lists these as a) the nature of what is to be learned, b) the nature of the learner, c) the nature of the learning environment, and d) the nature of the instructional development constraints. These conditions "may influence which methods will work best to attain your desired outcomes"(p. 8).
4. *Instructional methods:* With instructional design theories being design oriented, they have methods that are situational and componential (i.e., can be done if different ways and made of different components). In addition, there are different ways in which these methods can be performed, depending on the way in which problems are presented or each scenario's characteristics. Therefore, some methods are "better than others (better for a given set of conditions and desired outcomes), but sometimes they're equally efficacious" (p. 10). When selecting methods, it is important to consider the values, outcomes, and conditions. It is also important to remember that these methods are probalistic, therefore, they "do not guarantee the desired instructional and learning outcomes" (p. 11). However, the goal is to attain the highest possible probability of the learners achieving their goals.

To sum up, instructional design theories offer methods that are situational, componential, and probabilistic. They help identify situations for which the method can be applied and identify the values of the goals they pursue to successfully attain them.

This has led to the creation of a variety of methods or models that can be used depending on the situation and requirements of the instructor. To find an appropriate model for this study, this paper

will consider two existing instructional design models.

Instructional Design Models

The most well-known ID model is the analysis, design, development, implementation and evaluation (ADDIE) model (Gustafson & Branch, 2002). Another more recent model is Reigeluth and An's (2021) holistic 4D model. The ADDIE model uses a systems approach in designing instruction, which begins with an analysis process that breaks down what should be taught into pieces, leading to the design of instruction for each of those pieces. The 4D model provides a more holistic approach that begins with a less clear vision of the instructional design, and then proceeds to work out progressively more details in additional cycles.

The ADDIE Model

The ADDIE model is the most widely used and simple approach to instructional design. It is generally agreed that it provides the most essential steps to the instructional design process (Molenda, 2003; Reiser & Dempsey, 2002). *Figure.1* shows an adaptation of the ADDIE model.

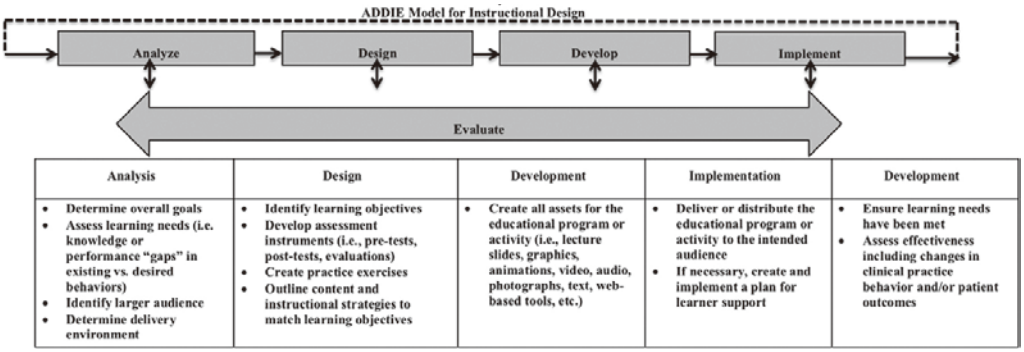


Figure.1: The ADDIE Model (Patel et al, 2018, p. 3)

The process begins with an analysis of the learner, instructional materials, and context to determine the overall goals. This includes identifying characteristics of the target learner, which may include their existing knowledge, values, motivations, and interests. After identifying the learning objectives, the design stage is used to create exercises, and outline content and instructional strategies to match the learning objectives. Instructional strategies include pre-instructional activities, content presentation, and pre-tests and/or evaluations with possible learner participation (Molenda, 2003). In addition, the types of media and delivery methods that will be used in the development stage are decided. The development stage includes the creation of all the assets for instruction. Regarding this study, this would include the development of presentation slides (e.g., Microsoft PowerPoint, Google Slides), containing media such as graphics, videos, photographs, audio, and animations. The implementation stage is where the developed materials is delivered or distributed to the learners. Learner support can be created, if necessary. Formative evaluation takes place throughout the entire process, allowing for changes and improvements to be made before implementation. In addition to the ongoing formative evaluation, summative evaluation takes place after the implementation stage to assess overall effectiveness.

The Holistic 4D Model

A more recent instructional design model is Reigeluth and An's (2021) holistic 4D model. They explain that the holistic approach "begins the design process by creating a fuzzy vision of the instructional system (top-level design) and proceeds to work out progressively more details for each part of it in two more cycles (mid-level and lower-level design) so that each part is designed with the other parts in mind" (p. 13). The benefit of this process is such that a) designers do not get mired in the details during the initial envisioning process, b) information obtained from the analysis is used immediately so it is still fresh, and c) all of the most important information is analyzed (Reigeluth & An, 2021). The cycles can be seen in *Figure.2*.

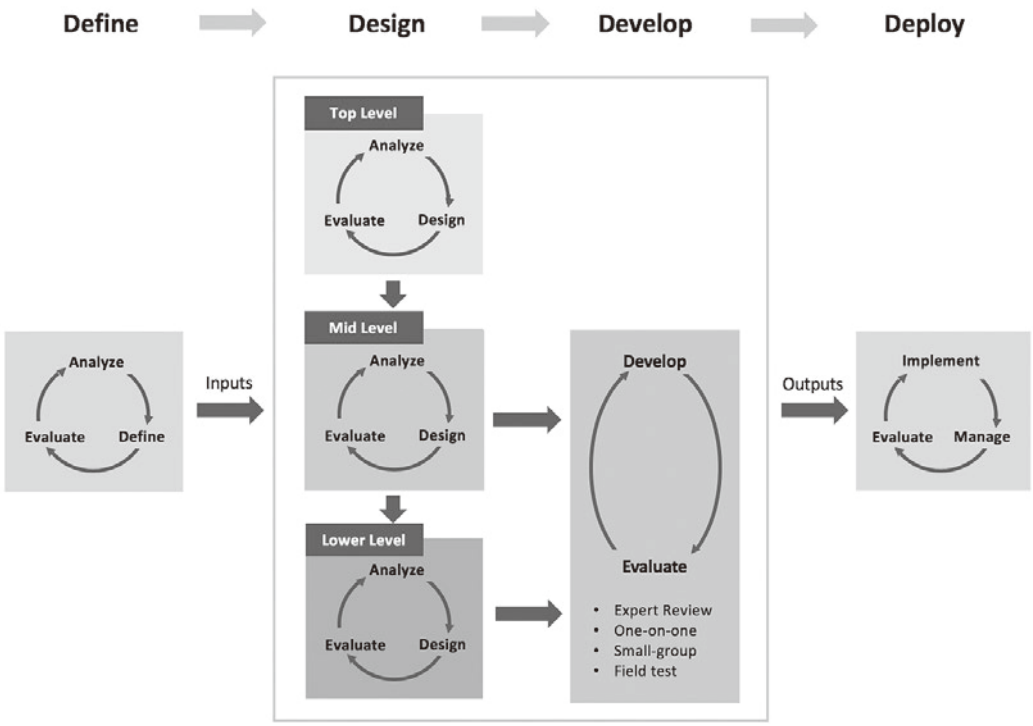


Figure.2: The Holistic 4D Model (Reigeluth & An, 2021, p. 22)

Within each design stage, analysis is required. At the top level (strategic), analysis is used to begin to determine what and how to teach. General content is identified that is later examined in the mid-level (operational) analysis and gives a "fuzzy vision" of what instruction should be like. The next level of clarity is provided in the mid-level, the general information gathered from the top level provides a meaningful context allowing for more detailed information to be gathered about what to teach and how to teach it. The lower-level design (tactical) is where a detailed blueprint for instruction is created for both "task focus" and "topic focus." As stated by Reigeluth and An (2021), "different kinds of learning require different kinds of mental processing for learning to occur, which in turn require different methods of instruction to foster the cognitive processes" (p. 14). The center box displayed in *Figure.2* represents the instructional design functions with "just-in-time analysis" and "ongoing evaluation" (p. 15). The 4 Ds in this design represent define, design, develop, and deploy, which are summarized here:

Define: The left box represents exercises that take place before the design process. They include "the

analysis of the need for instruction, carried out in a holistic and integrated manner that considers other forms of intervention" (p. 15). As the need for instruction is evaluated, project goals and objectives are defined.

Design: In the box, on the left side are three design levels. Within each level is an iterative process of analysis, design, and evaluation. Here, the analysis of learners, materials, and context is conducted, leading to decisions on both what and how to teach. The decision whether to conduct all kinds of analysis depends on the nature and scope of the project.

Develop: In the box, on the right side, the development process can be seen. The diagram also shows that careful evaluation takes place at each stage of development. However, evaluation at this stage differs to that of the design stage, as it involves testing the instruction on learners to make changes or improve it.

Deploy: The right side of the diagram represents the output, where activities are conducted following design and development. The system is used for regular, full-scale instruction (e.g., in schools, workplaces, and training workshops). The system is delivered by instructors, who manage and evaluate it. In addition, summative evaluation takes place at this stage.

Why use Instructional Design Theory?

EFL instructors often use a content perspective when approaching instruction, with a focus on *what to teach* their students. While instructional designers approach instruction from a problem-solving perspective that also includes what to teach, they also pay considerable attention on how to teach in a way that is effective, efficient, and motivational (Reigeluth & An, 2021). Many second language learners may lack the experience or knowledge to understand the content that is being presented to them; therefore, deciding the best way to teach it can be a complex problem that does not have a single solution. This means that instruction must "change from standardization to customization, from a focus on putting things into learners' heads to a focus on helping learners understand what their heads are into" (Reigeluth, 1999b, p. 19). Reigeluth (1999b) highlights the following three requirements:

- It requires a shift from passive to active learning and from teacher-directed to student-directed learning.
- It requires a shift from teacher initiative, control, and responsibility to shared initiative, control, and responsibility.
- It requires a shift from decontextualized learning to authentic, meaningful tasks.
- Most importantly, it requires a shift from holding time constrants and allowing achievement to vary, allowing each learner the time needed to reach the desired achievements.

(p. 19)

By defining the problem; determining what knowledge, skills, and attitudes are needed; focusing on what the learner need to learn and can achieve, and finally determining the methods that will best help the learner to master the content, instruction can be more effective, efficient, and motivating: a learner-focused paradigm.

Over the last decade, IDT has increased in popularity in the EFL/ESL industry, with comparisons being made to existing theories on second language acquisition. Examples can be found in the *Table.1*.

Second Language Acquisition	Instructional Design
Task-based language teaching (Nunan, 2004)	Backward design (Wiggins & McTighe, 2005)
Schema-based learning (Plaget via Wadsworth, 2004)	Generative learning (Osborne & Wittrock, 1983)
Student-centered pedagogy (Kumaravadivelu, 2003); Scaffolding (Vygotsky, 1980)	Learner-centered teaching (Weimer, 2013); Universal design for learning (Hall, Meyer, & Rose, 2012)
Sheltered instruction observation protocol (Echevarria, Vogt, & Short, 2013)	ARCs: Motivational theory (Keller, 2010)

Table.1: Second Language Acquisition and Instructional Design Relations

Instruction through Presentation Software

With technological tools becoming very common in the classroom, teachers have been looking at new ways to provide classroom instruction and keep learners engaged (Hart, 2022). This includes the use of a blended approach to learning (i.e., the intersection of human interactions with technology-assisted learning situations) as benefits include a) insights into students' learning styles, b) ongoing customization to meet learners' needs, c) use of technology to boost learning, d) increased learner engagement, and e) support for students who are absent from class (Fulton, 2012, as cited by Hart, 2022). Presentation software such as Microsoft PowerPoint and Google Slides are easy-to-use tools that have become the most popular method to provide such an approach. Szaboa and Hastings (2000) suggest that the use of PowerPoint can help learners enhance attention and reduce distraction, which is a belief supported by Catherina (2006) and Wanner (2015), whose research suggests that PowerPoint presentations are more engaging for learners than traditional lectures. This was the result of research conducted by Wanner, which tested the effectiveness of PowerPoint presentations on instructing university students. The research concluded that the presentations improved comprehension of the course content and provided content more efficiently (Wanner, 2015). Similar findings were recorded in Oommen's (2012) study that found that out of a class of 50 university students, 94% of them responded positively toward the use of PowerPoint, saying it was easy to follow, stimulated thinking, helped make better use of class time, and held their attention.

A key benefit of using presentation software for instruction is the ability to customize content to suit individual learners or learning environments. Information can be added or omitted in real time, providing just-in-time teaching. Feedback can be given visually and also synchronously, and the utilization of media such as videos, audio, and images can be made to provide instruction that is efficient, interactive, and visually pleasing. The presentations appeal to varying learning styles, such as the use of visual, auditory, kinesthetic, and creative instruction (Hart, 2022). Cashman and Shelly's (2002) research found that students learn most effectively when using their five senses, highlighting the effectiveness of using mixed media during instruction. The use of visuals to support instruction has been extensively researched, reaching conclusions such as retention being increased by as much as 80 percent (Burrow, 1986) and the belief that visual aids stimulate thinking, improve the learning environment, increase personal understanding, provide more relevant course content, and promote more consistent performance (Mohanty, 2001; Rather, 2004; Kunari, 2006). In addition, presentation software is continuously advancing, with new functions being added to provide new methods of

information presentation. One example is the use of timed animations to control when information is presented, allowing them to not only be a communication aid but also simulate the timed-instruction of a teacher (Levy, 1997). Now, presentation software can act as a surrogate teacher or manager of tasks (Hart, 2022). However, Chiquito, Meskill, and Renjilian-Burgy (1997) highlight the difficulties of making decisions between aesthetics and functionality. Instruction cannot only be about conveying information to the learner, but must also include a constructivist approach that helps learners build their own knowledge through purposeful learning.

With the learner-centered paradigm being an important part of instructional design theory, technological tools can be used to accommodate individual learner needs by providing personlized instruction through customization, and presentation software like PowerPoint provides teachers with the ability to do so.

Research Study

Aims of Study

The aim of this study is to a) determine whether existing instructional design models can be used to design, develop, and implement more effective, personalized, and efficient instruction using presentation software and b) draw conclusions regarding whether instructional design methods should replace traditional teaching methods such as teacher-fronted instruction (i.e., lecture style) or the use of coursebooks/textbooks.

Theoretical Framework

A blended approach to ADDIE instructional design model was chosen for the study, however, Reigeluth and An's (2021) holistic 4D model was also used during the design stage of the process. This allowed for a three-tier design system to be used before the initial development of the presentation slides. In addition, the 4D model allowed for evaluation to take place during the development stage, meaning the presentation slide design could be improved after being tested on the learners. Evaluation was carried out through observations by the instructor and feedback from the learners.

Other theoretical frameworks included the beliefs put forward by Levy and Stockwell (2006) and Fulton (2012) that include the need for the use of multiple types of media (e.g., videos, images, animations) and continuous customization to adapt to the needs of the learners.

Based on the success of my previous study (Hart, 2022), a "flipped approach" was considered. A flipped classroom allows learners to review the content of the course prior to the class session and complete exercises that would usually be conducted together in a face-to-face environment (Bishop & Vergleger, 2013). While computer-mediated communication (CMC) software could have been used to present the slide presentations to the learners prior to each class for asynchronous learning (Liu & Chen, 2007), it would have been impossible to monitor learner input in real-time. Therefore, while the slides were provided before and after each class, instruction was still provided using the slides during each lesson.

Test Subjects

The subjects of this study were 216 English language learners enrolled at Rikkyo University. The students were spread over 11 classes and 2 different subjects: academic debate class (93 students) and presentation class (123 students). The students' English language skills varied between classes, with learners being leveled based on standardized testing prior to the start of the courses. In addition, 10 EFL lecturers who taught the same classes completed an online survey with 5 of them taking part in a pre-study interview.

Research Methods

For this study, a needs analysis (i.e., a study of the language learning and teaching needs of students in a language program) was conducted using mixed methods research. Johnson, Onwuegbuzie & Turner (2007) define mixed methods research as "an intellectual and practical synthesis based on qualitative and quantitative research" that "recognizes the importance of traditional quantitative and qualitative research but also offers a power third paradigm choice that often will provide the most informative, complete, balanced and useful research results" (p. 129). They explain that "the research should strategically combine qualitative and quantitative methods, approaches, and concepts in a way that produces complementary strengths and nonoverlapping weaknesses" and "generates research questions and provides answers to those questions, as appropriate" (p. 127). A mixed method was chosen to provide more accurate data for both the design and evaluation phases of the instructional design and to answer the questions stated in the study's aims. In addition, Brown (2014) states that "any researcher that can do both quantitative and qualitative research in TESOL will have considerable advantages over those who can only do one or the other" (p. 6).

Research Design

Participants

A total number of 223 (n = 223) participants were involved in the study. This included 10 university teachers (n = 10) who had taught the same subjects (i.e., English debate and presentation) as the researcher, 93 first-grade university students (n = 93) who were enrolled in the researcher's English presentation classes, and 120 first-grade university students (n = 120) who were enrolled in the researcher's English debate classes. All the students were in their second semester and had taken mandatory English language classes in the previous semester.

Procedures

Pre-study research was conducting via an online questionnaire that was given to the university teachers (n = 10). Also, half of the teachers (n = 5) were interviewed. After the completing the study, a post-study questionnaire was given to the 213 university students (n = 213) who had participated in the study. In addition, one of the students (n = 1) was interviewed about his experience with the researcher's in-class instruction.

Pre-Study Research Questions

To *analyze* (Molenda, 2003) and *define* (Reigeluth & An, 2021) the need for different forms of instruction, a pre-study survey was conducted. A questionnaire was given to 10 university EFL teachers (n = 10) that belonged to the same department as the researcher. All 10 teachers had taught the university courses before in the previous fall semester; therefore, they had sufficient insight into the courses, the learning/teaching content, and possible student behaviors. The questionnaire included 23 question items (Appendix 1.1). Questions 1–8 focused on the teachers' experience with using presentation slides. Questions 9–17 focused on the teachers' perceptions of the use of slide presentations. Questions 18–22 asked about the impact of slide presentations on learners. At the end of the survey, the participants were given the opportunity to add additional comments (Item. 23).

In addition to the survey, five teachers (n = 5) from the survey study were interviewed. Questions were asked about their instructional methods and teaching styles, use of technology in language classrooms, and their thoughts on a learner-focused approach. The interviewees' responses were recorded and notes were taken by the interviewer.

Research Design, Development, and Evaluation

In the design phase, the learning objectives, lesson planning, media selection, and a "fuzzy vision" of the instructional system (top-level design) were established. Based on the data collected from the analysis phase (i.e., pre-research survey and interviews and the researcher's previous experience teaching the courses), PowerPoint presentations were designed and developed using a mixed media approach and existing course content from the assigned coursebooks. The focus of the study was on providing effective instruction and support, rather than the teaching of content such as target language and skills, as this was done through active learning and task-based learning, and the use of existing learning materials that were incorporated into the presentations. Instructional presentations were created for the first two lessons for initial implementation and evaluation. Evaluation included a) the reaction of the learners, b) the learners' resulting learning and any noticeable increase in knowledge from the new instruction, c) the learners' behavioral change, and d) the effects on performance during in-class exercises. As relevant visual media was required, videos were recorded by the researcher and other teachers from the same faculty.

After Lesson 1 (course introduction) and Lesson 2 (content-based lesson), an analysis of the learners, materials, and context was conducted. Observations by the researcher were made, and a group of learners were asked to give their opinions on the instructional presentations. This analysis and evaluation led to decisions on both what and how to design and develop the next set of instructional slides (mid-level design).

For the next set of instructional presentation slides, changes and improvements were made (e.g., designing more personalized presentations based on the learners' interests and lesson topics, reduced reading, the use of timed animations to present information more effectively and to reduce on-screen text, and the use of more attractive slide templates to make them more visually appealing). The mid-level design was continuously evaluated through observations and by monitoring the learners' behaviors and performance.

After an evaluation of the mid-level design, minor changes were made (e.g., allowing learners to add information to the PowerPoint slides, making them more personal and interactive) leading to the final lower-level design. This design was used to provide instruction for the remainder of the course.

All the instructional PowerPoint slides were uploaded on the university's CMC software called Blackboard. Therefore, the learners had access to the slides in advance and after the lessons for reflection and revision. The slides were also shared on the faculty's shared Google Drive, allowing other teachers to use them in their classes.

Post-Study Research Questions

After completing the courses, a survey was conducted with a focus on learner perceptions (Appendix 2.1 & 2.2). An online questionnaire was given to the learners (n = 213) during the final two weeks of the course. A simple 5-point Likert scale was used for most of the questions, ranging from *Strongly Agree* to *Strongly Disagree*. A 5-point Likert scale was chosen as it is easy to draw conclusions, reports, results, and graphs and make comparisons from the responses, and it provides a construct-centered approach to collecting relevant data (Messik, 1989). In addition, four or five points are desirable for young learners or learners with low motivation to complete the questionnaire because 5-point scales are easy to understand, and they require less effort to answer (Smith, Wakely, DeKruif, & Swartz, 2003). While some of the question items were the same between the two different courses, there were also additional questions that were relevant to the individual courses.

The online questionnaire for the presentation class contained 27 question items (Appendix 2.1). Questions 1–10 (Part 1) provided and evaluation of the researcher's instructional slides. Questions 11–18 (Part 2) provided an evaluation of the learners' own slides. Questions 19–21 (Part 3) focused on course content and 22–27 (Part 4) provided the opportunity for the learners to express any final thoughts through written comments.

The online questionnaire for the debate course contained 19 question items (Appendix 2.2). Questions 1–2 (Part 1) asked the learners about preferred teaching styles. Questions 3–12 (Part 2) asked the learners to evaluate the researcher's instructional slides. In Part 3, questions 13–15 asked about course content, and Part 4 (questions 16–19) allowed for more detailed explanations to be given through final comments.

Issues Encountered

Most of the planned data collection was completed successfully; however, some issues caused by the COVID-19 pandemic affected data collection:

1. The first two weeks of the courses were conducted online due to restrictions implemented by the university. This made it more difficult to observe the learners in a regular classroom environment.
2. Many of the subjects were absent from the classes during the last two weeks of the study because of COVID-19-related situations. Out of the eight students who had agreed to be interviewed, only one was able to attend class.

Results

Pre-study Interviews: Teachers

During the teacher interviews (n = 5), notes were recorded regarding effective methods of providing instruction, different approaches to content presentation, and the use of technology in a

language classroom. It was interesting to hear that some of the teachers had reverted to using only the coursebooks after returning to face-to-face classes having taught online due to the recent pandemic. One teacher explained this was mainly due to convenience, where he did not have to carry a computer or set up a projector in his classroom. Another teacher explained how he pasted screenshots of the coursebooks content and instructions onto PowerPoint slides to help him remember the "flow of the lesson." In most cases, the learners were not considered, and choices were made for the convenience of the instructor or because of time restraints.

Most teachers used online learning platforms such as Google Classroom or Blackboard to administer tests or homework, with only one of the teachers using these platforms to provide instruction using a "flipped classroom" approach. His reasoning for this was that he believed students felt "less pressure" when working asynchronously, and it allowed them to "study at their own pace." This belief has been supported by other researchers whose research has shown that CMC provides learners with a safe environment to practice what they have learned and evaluate themselves (Fitze, 2006; Satar & Özdener, 2008).

In one interview, issues were highlighted regarding the students' lack of understanding during online classes. When instruction was given verbally, his students would sometimes go to breakout rooms and not notify the teacher of their lack of understanding. This meant that the students would wait in the breakout rooms in silence. He felt that PowerPoint slides would have helped provide clearer instruction, as he usually used a whiteboard in face-to-face classes. In another interview, similar points were made, as the teacher explained how he used the internet (e.g., YouTube, information websites, online articles) to provide examples, but admitted that time was sometimes wasted moving between sources.

In all the interviews, the teachers answered that they thought their students preferred classes with no textbooks or instructional materials. However, this belief was challenged in the learner questionnaire where 70.7% of students preferred classes with a mix of both "lecture style" and student-led "active learning."

Question	Answer	N	Question	Answer	N
1. Do you create slide presentations?	Always	4	13. I am able to deliver material easily by using slide presentations.	Strongly Agree	5
	Often	3		Agree	4
	Sometimes	3		Neutral	1
	Seldom	0		Disagree	0
	Never	0		Strongly Disagree	0
2. Do you use existing templates when creating slide presentations?	Always	1	14. I think students prefer the use of slide presentations over conventional methods.	Strongly Agree	1
	Often	2		Agree	3
	Sometimes	3		Neutral	5
	Seldom	3		Disagree	1
	Never	1		Strongly Disagree	0
3. Do you use pictures in your slide presentations?	Always	4	15. I think the use of media (e.g., pictures, videos, audio) helps students retain information.	Strongly Agree	4
	Often	2		Agree	6
	Sometimes	4		Neutral	0
	Seldom	0		Disagree	0
	Never	0		Strongly Disagree	0
4. Do you use videos in your slide presentations?	Always	0	16. I find it easy to create interesting or engaging slide presentations.	Strongly Agree	1
	Often	1		Agree	6
	Sometimes	3		Neutral	2
	Seldom	3		Disagree	1
	Never	3		Strongly Disagree	0

Question	Answer	N	Question	Answer	N
5. Do you use audio (e.g., music, sound clips) in your slide presentations?	Always	0	17. The facilities at the university support the use of slide presentations.	Strongly Agree	3
	Often	0		Agree	6
	Sometimes	3		Neutral	0
	Seldom	1		Disagree	0
	Never	6		Strongly Disagree	1
6. Do you use hyperlinks in your slide presentations?	Always	0	18. I put emphasis on the importance of slides when teaching presentation skills.	Strongly Agree	4
	Often	3		Agree	6
	Sometimes	3		Neutral	0
	Seldom	3		Disagree	0
	Never	1		Strongly Disagree	0
7. Do you usually use the same design for your slide presentations?	Always	2	19. I feel the use of slide presentations helps support the learners' speaking during their presentations.	Strongly Agree	4
	Often	4		Agree	5
	Sometimes	3		Neutral	1
	Seldom	1		Disagree	0
	Never	0		Strongly Disagree	0
8. Do you design your slide presentations based on the students' interests?	Always	0	20. I feel the use of slide presentations helps reduce learner anxiety during their presentations.	Strongly Agree	2
	Often	0		Agree	6
	Sometimes	5		Neutral	2
	Seldom	2		Disagree	0
	Never	3		Strongly Disagree	0
9. Slide presentations engage students in learning.	Strongly Agree	1	21. I feel good slides or visuals are important for a strong presentation.	Strongly Agree	5
	Agree	5		Agree	5
	Neutral	4		Neutral	0
	Disagree	0		Disagree	0
	Strongly Disagree	0		Strongly Disagree	0
10. Slide presentations help present learning materials more clearly.	Strongly Agree	7	22. The use of slides or visuals has an influence on how I grade my students.	Strongly Agree	2
	Agree	3		Agree	5
	Neutral	0		Neutral	1
	Disagree	0		Disagree	1
	Strongly Disagree	0		Strongly Disagree	1
11. Slide presentations provide inspiration to the learners when making their own presentations.	Strongly Agree	2	23. If you have any additional comments or observations regarding the use of slide presentations, please write them below.	N/A	N/A
	Agree	3			
	Neutral	5			
	Disagree	0			
	Strongly Disagree	0			
12. I prefer using slide presentations over conventional methods.	Strongly Agree	5			
	Agree	0			
	Neutral	4			
	Disagree	0			
	Strongly Disagree	1			

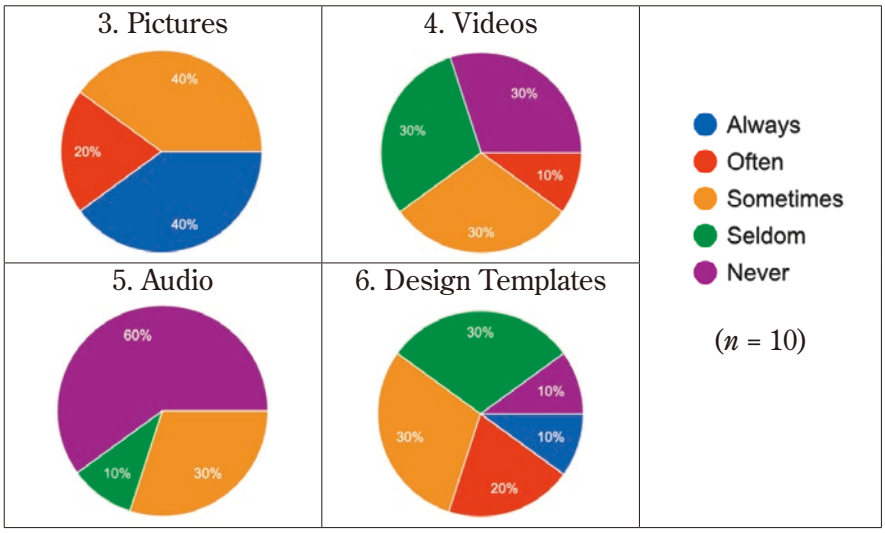
Table.2: Using Slide Presentations – Teacher Perceptions (n = 10)

Teacher Perceptions vs. Learner Perceptions

Almost all the teachers (n = 10) answered that they use slide presentations during their classes, with 40% always doing so. However, it was noted by a few of the participants that this was mainly due to their classes being moved back and forth from face-to-face to online. One of them stated that slides were "extremely important when teaching online," but "not so much in face-to-face classes" as he preferred using a whiteboard. Another participant said that he only used slides for "giving feedback" or "giving examples," with little use for them otherwise. One teacher saw slides as a distraction, while another felt that he lacked the skills to create effective PowerPoint presentations. Furthermore, 40% of the teachers preferred conventional methods of instruction (i.e., using a textbook and whiteboard),

which contrasts with a total of 86% of the students believing that the slides from the study were more useful than the textbook. Also, 50% of the teachers were neutral when asked if they thought students preferred slides, with only one teacher strongly agreeing that they do. When the students were asked if they preferred the use of slide presentations over conventional methods, 98.2% agreed that they did. In the debate course, a student wrote that "the flow of the debate" was "easier to understand than the textbook." During the student interview (n = 1), a learner was asked about his need for a textbook, and he replied by saying that he preferred the use of slides and felt that he had no need for a textbook in the class. However, while the slides were available online, the student asked for a digital PDF to be used for after-class review. This belief was not held by all students, with one student writing "I think using a textbook is important" and that they appreciated that page references had been added to the slides. The decision to do this was mainly because it was compulsory for all students to buy assigned textbooks from the university.

Data from the study supported Cashman and Shelly's (2002) belief that the use of mixed media promotes more effective learning as 90.2% of the students between the two courses agreed that the use of various media helped them understand the information more clearly. The students mentioned that the use of media helped them be more attentive and made the slides "interesting and fun to look at". This provides added support to the belief that PowerPoint slides help learners focus attention and reduce distraction (Szaboa & Hastings, 2000; Catherina, 2006; Wanner, 2015). Various students highlighted the use of animations and videos that made instruction "not boring" and "very clear than textbook," with one student saying that the slides "helped us understand what the teacher said" and made it "easy for us to understood important things." In the written comments from both questionnaires, when asked what the learners thought about the instructional slides, many of the comments put emphasis on the slide "design," with references to the "photos," "pictures," "videos," and "animations." Descriptive words such as "dynamic," "motivational," "fun" and "easy-understand" were used.



Figures.3-6: Teachers' use of mixed media

In contrast to the learners' perceptions, the use of mixed media by the teachers was not consistent (*Figures.3-6*): 30% of the teachers never used videos, 60% never used audio, and only 30% tended to use attractive design templates. The use of pictures was the only type of media that was consistently used by the teachers. It could be argued that the instructor themselves provide the

auditory and kinesthetic aspects of instruction; however, these aspects can be more varied and made more creative and appealing through the use of presentation slides.

A clear difference that was noticed between the teachers' slides and the ones used in this study is the focus on the learners' interests or the lesson topics: 50% of the teachers seldom or never consider the interests of their learners when designing slide presentations, with the other 50% only sometimes doing so. During this study's design process, changes were made after the top-tier design to utilize the learners' interests to make them more learner-focused and relatable. The learners' interests were discussed, shared, and listed in the Lesson 1 slides. Throughout the rest of the course, related media was used in the slides to provide instruction, demonstrations, or examples. In addition, to provide inspiration, the slides were often designed around the lesson topic or current events. By observing the students, and by evaluating instructional design in the initial phases, it became clear that the students responded better to slides that contained media that they could relate to. Examples included characters, famous people, places, or objects that they were familiar with. Visual aids also provided ideas that the students could draw from, reducing their cognitive load and allowing them to focus on the skills being taught. As suggested by Reigeluth (2014), the flexibilty and customabilty of technology provides the instructor with the ability to accommodate learners' individual needs and expectations and provide relevant and personalized learning experiences can be provided to the learners.

Question	Answer	N	Question	Answer	N
1. The teacher's slides were interesting.	Strongly Agree Agree Neutral Disagree Strongly Disagree	72 21 0 0 0	15. Using slides helped me feel more relaxed during my presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	33 42 17 1 0
2. The teacher's slides were easy to follow and understand.	Strongly Agree Agree Neutral Disagree Strongly Disagree	75 12 6 0 0	16. Using slides supported my speaking when giving presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	48 36 5 0 0
3. The teacher's slides made it easier to understand the teacher's instructions and lesson goals.	Strongly Agree Agree Neutral Disagree Strongly Disagree	75 18 0 0 0	17. I used ideas from my teacher's slides in my presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	43 34 15 2 0
4. The teacher's slides held my attention throughout the class.	Strongly Agree Agree Neutral Disagree Strongly Disagree	57 33 3 0 0	18. I think using slides is important to give a strong presentation.	Strongly Agree Agree Neutral Disagree Strongly Disagree	60 21 9 0 0
5. The teacher's slides helped me remember information more easily.	Strongly Agree Agree Neutral Disagree Strongly Disagree	69 24 0 0 0	19. I prefer to use slides during a presentation instead of only speaking.	Strongly Agree Agree Neutral Disagree Strongly Disagree	52 27 12 2 0
6. The teacher's slides helped manage class time.	Strongly Agree Agree Neutral Disagree Strongly Disagree	60 27 6 0 0	20. The teacher's slides on Blackboard helped me prepare before each class.	Strongly Agree Agree Neutral Disagree Strongly Disagree	54 27 6 3 0

Question	Answer	N	Question	Answer	N
7. The teacher's slides were attractive and fun to look at.	Strongly Agree Agree Neutral Disagree Strongly Disagree	81 9 3 0 0	21. The teacher's slides on Blackboard helped me review and better understand the lesson after class.	Strongly Agree Agree Neutral Disagree Strongly Disagree	48 30 5 0 0
8. The use of media (e.g., pictures, videos, music, animations) helped present information more clearly.	Strongly Agree Agree Neutral Disagree Strongly Disagree	66 18 9 0 0	22. The teacher's slides were more useful than using a textbook.	Strongly Agree Agree Neutral Disagree Strongly Disagree	60 28 2 0 0
9. The teacher's slides motivated me to make my own slides better.	Strongly Agree Agree Neutral Disagree Strongly Disagree	54 30 9 0 0	23. What did you think about the teacher's slides?	N/A	N/A
10. I prefer lessons with slide presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	63 26 1 0 0	24. What did you think of your slides?	N/A	N/A
11. I found it easy making interesting or attractive slides.	Strongly Agree Agree Neutral Disagree Strongly Disagree	24 39 24 2 24	25. Do your other teachers use presentation slides?	Yes, always. Sometimes. No, never.	45 42 6
12. I enjoyed making slides for my presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	39 41 3 0 0	26. If yes, how are their slides similar/different?	N/A	N/A
13. Using slides made my presentations easier to understand.	Strongly Agree Agree Neutral Disagree Strongly Disagree	43 32 17 1 0	27. If no or sometimes, how do your other teachers present the course content?	N/A	N/A
14. Using slides helped me give my presentation more smoothly.	Strongly Agree Agree Neutral Disagree Strongly Disagree	49 36 6 2 0			

Table.3: Using Slide Presentations – Learners Responses (Presentation Students, n = 93)

When asked if their other teachers used presentation slides during their classes, 52.6% of the learners (n = 213) said "Yes, always," with the remaining students choosing "Sometimes." It is important to note that the other teachers whom they refered to were not only their language teachers but also teachers in their regular classes. However, comparisons can be made between different approaches to technology-based instructional design, and conclusions can be drawn from the participants' responses. Below are some examples:

a) *Ian's slides are more easy and interesting to look at.*

b) Other teachers just list words, but the slides in this class are animated and interesting.

c) The other teachers' slides don't have many illustrations, they are very mechanical.

d) Other teachers' slides are more descriptive and hard to read.
e) Other teachers' slides just give information so they are too simple. My debate teacher's slides have not only important information but also attractive motion and stuff.
f) To begin, the slides used introduced a debate battle. Next, it showed the schedule of debate. It was very convenient.
g) Other teachers' slides are not interesting and it is difficult to understand because they don't use pictures effectively.
h) Words are not so many as your slides.
i) Other teachers' slides are much simpler. Not as motivating as Ian's.
j) Other teachers' slides are only words and sentence. No pictures.
k) Similar, but it is more fun than others'.

The comparisons show that in many cases, the learners felt that the PowerPoint presentations designed for this study were more "interesting," "motivating," and "easier to follow," Also, the fun factor of the slides through the use of animations and pictures seemed to appeal to the learners. In statement *f*, the student highlights the convenience of the slides in providing a form of scaffolding, with videos showing the end goal, so that the students knew what they were aiming toward. Then, each phase of production could be broken down effectively, giving the learners a clearer understanding. While coursebooks/textbooks can provide similar instruction and scaffolding, the nature of this particular class (debate) means that students benefit more from witnessing the completed task in its natural form (i.e., seeing a full English debate in a video). In addition, the use of PowerPoint animations allows the teacher to present instruction and content when relevant. This minimizes the amount of information visible to the learner at any given time. When asked if they find it easy to create interesting and engaging slide presentations, 70% of the teachers felt that they did, with the others disagreeing or remaining neutral. Without testing their slides on the same students, it is impossible to observe differences between the slide designs; however, it is clear from the student responses that they notice differences in instruction and they are able to evaluate which method they find more effective.

Regarding learner performance, positive results were seen by both the researcher and learners. As the slide presentations were available before and after each class, nearly all of the students felt that the slides had helped them prepare in advance and better understand the lesson after the class. In the presentation class, more students agreed that they used the slides for preparation (90%) than review (83.8%), while in the debate class it was the reverse (57.5% for preparation, 70% for review). This may be explained by the course content, with the presentation class requiring more preparation outside of class time, requiring a wider varietyof language and skills to be learned, while the debate course is more task-based learning, with less focus on taught content and more focus on in-class planning and production. In these cases, the instructional slides acted as a "surrogate teacher," as seen in previous studies (Levy, 1997; Hart, 2022), with information being presented using a set order and effective timing, much like the verbal instruction of a teacher. By viewing the slides prior to the class, a kind of flipped classroom was created, with in-class instruction being more of a review of what was previously taught. As for the students who used the slides to review the class content, an interesting comment was given by one of the students who had said their other teachers do not use presentation slides: "I think PowerPoint is better because I know what what each lesson's goal is. Also, if using PowerPoint, I can use them to review everytime." The implication here is that the slides provide more structured presentation and help present learning goals more clearly. Moreover,

technology-based materials are more apealing to young learners, which improves motivation and engagement.

Question	Answer	N	Question	Answer	N
1. Which type of class do you prefer?	Lecture Style Active Learning Mixed	8 30 82	11. The teacher's slides motivated me to use the skills that were taught.	Strongly Agree Agree Neutral Disagree Strongly Disagree	45 42 33 0 0
2. Which teaching style do you other university teachers usually use?	Lecture Style Active Learning Mixed	69 9 39	12. I prefer lessons with slide presentations.	Strongly Agree Agree Neutral Disagree Strongly Disagree	66 48 3 0 0
3. The teacher's slides were interesting.	Strongly Agree Agree Neutral Disagree Strongly Disagree	87 27 3 3 0	13. The teacher's slides on Blackboard helped me prepare before each lesson.	Strongly Agree Agree Neutral Disagree Strongly Disagree	12 57 45 4 1
4. The teacher's slides were easy to follow.	Strongly Agree Agree Neutral Disagree Strongly Disagree	66 42 9 0 0	14. The teacher's slides on Blackboard helped me review and better understand the lesson after the class.	Strongly Agree Agree Neutral Disagree Strongly Disagree	15 69 30 6 0
5. The teacher's slides made it easier to understand the debate skills and lesson goals.	Strongly Agree Agree Neutral Disagree Strongly Disagree	60 51 9 0 0	15. The teacher's slides were more useful than using a textbook.	Strongly Agree Agree Neutral Disagree Strongly Disagree	48 39 24 6 0
6. The teacher's slides held my attention throughout the class.	Strongly Agree Agree Neutral Disagree Strongly Disagree	54 54 12 0 0	16. What did you think about the teacher's slides?	N/A	N/A
7. The teacher's slides helped me remember information more easily.	Strongly Agree Agree Neutral Disagree Strongly Disagree	60 36 21 3 0	17. Do your other teachers use slides in their classes?	Yes, always Sometimes No, never	69 51 0
8. The teacher's slides helped in managing class time efficiently.	Strongly Agree Agree Neutral Disagree Strongly Disagree	72 48 0 0 0	18. If yes, are there any differences with their slides? How do they use slides differently?	N/A	N/A
9. The teacher's slides were attractive and fun to look at.	Strongly Agree Agree Neutral Disagree Strongly Disagree	75 30 15 0 0	19. If no or sometimes, how do your other teachers present the course content?	N/A	N/A
10. The use of media (e.g., pictures, videos, music, animations) helped present information more clearly.	Strongly Agree Agree Neutral Disagree Strongly Disagree	72 36 9 3 0			

Table.4: Using Slide Presentations – Learners Responses (Debate Students, n = 120)

Another positive impact the instructional slides had on performance was that they provided inspiration to the students in the presentation class: 98.9% of the students admitted to using ideas from the teacher's slides when creating their own PowerPoint presentations. Clear differences were observed compared with the previous year, with slide presentations being more interactive, dynamic, and aesthetically appealing. Students used a vareity of media, and animations and transitions were used to present information and media more smoothly and effectively. As an observer, I felt that I was able to understand the taught information more easily, and the presentation of information was more memorable. Some of the students expressed that they found it difficult to make effective slides, whereas positive comments were given such as "using slides helped the listeners to understand my presentation when they couldn't listen to my voice." Even though the students did not use an instructional design model when designing their presentations, they appeared to be influenced by the teacher's presentations, resulting in clearer presentation and instruction.

In the debate class, major improvements were achieved with regard to learner progress. In the coursebook, debate skills are explained to the students in each lesson, with the first full debate taking place in lessons 8 and 9 (i.e., week 8 and 9). When evaluating the *top level* of the instructional design model, I noticed that the learners responded well to demonstration videos, and that the use of diagrams and animated examples made the skill-based goals more digestible for the students. This led to the combination of skills to show connectivity between them and displayed the structured progression of a debate more clearly. This also provided the students with examples of natural language use and fluent speaking. As a result, the students were able to conduct a full debate successfully by lesson 4. This created more time for practice, production, and testing. After the *mid-level* evaluation, slides were created to be more interactive, with students having access to the instructional material to add their own debate topics and images. I felt that the students appreciated having their ideas displayed in the learning materials, and with the lessons being more personalized, gains in learner participation, engagement, and motivation were observed.

During the length of the study, the presentation slides were shared with other instructors in my department who taught the same classes. Feedback was given by some of the teachers who had used the slides, with all of the responses being positive. One teacher explained that his students preferred the slides over using the coursebook, causing him to stop using the coursebook entirely. Benefits included increased participation, clearer instruction, more efficient use of time, the ability to provide instruction online, and more professional looking classes.

Implications, Limitations, and Conclusion

Implications

The study was relatively small in scale but clear implications can be made from the data gathered that support the use of IDT when designing technology-based instructional materials. Overall, the majority of the learners showed signs of preferring the instructional slides over conventional methods such as teacher-fronted verbal instruction or the use of the supplied coursebooks. The learners noticed clear differences in the presentation slides used in this study compared with slides used in their other classes, which proves that the learners are aware of the teaching methods of their instructors. Further evidence for this was provided by the end of course evaluation conducted by the university. When asked "Is there anything that you thought good about this course?," the answer "PowerPoint" was the most popular choice in all 11 classes (*Figure.7*).

Is there anything that you thought good about this course? [Multiple answers allowed]

Handouts (class resumes, etc.) / Handouts (Worksheets, including digital resources etc.) (1)
Write on the blackboard (Written communication in class, including use of digital whoteboards.) (2)
PowerPoint (12)
Video and other visual aids (This is not a video of the online class itself.) (0)
Syllabus (1)
None of the above apply / NA not applicable (0)

Figure.7: Example of course evaluation questionnaire answers

The learner-centered paradigm that is at the core of IDT allows for the learners to be more active participants, with many of the learners highlighting that the presentation slides were motivating and immersive, providing clearer and more efficent direction. Evidence for this was seen in the all subjects, with course goals being achieved sooner and at a higher standard. As stated by Reigeluth (2014), using such a personalized educated system "empowers learners" and supports their "self-directed learning" (p. 223).

The need for a holistic approach to evaluate instruction was also supported during the study. While it is important to identify instructional goals and conduct a needs analysis early on, continuous evaluation during the design and development helped create more effective outcome-based objectives. Further improvements to instruction could have been made to the instructional materials if more in-depth quantitative and qualitative data had been collected during the study (e.g., a number of students asked for even further reduction of text on screen at the end of the study). This implies that Reigeluth and An's (2021) holistic 4D model is better suited to the design of instructional presentation slides than the stardard ADDIE approach, as it provides more in-depth continuous evaluation throughout the design and development process.

Based on the responses made by the learners, and through observations made by other teachers and myself while using the newly design presentation slides, improved learner motivation was apparent. The use of an instructional design model helped cultivate students' motivation by focusing not only on their goals but also by utilizing their values and interests to provide more personlized and appealing instruction. This echos aspects of early motivational design models, such as Keller's model (1983) that identifies four major aspects of motivation in educational instruction: interest, relevance, expectancy, and satisfaction. Due to the university courses being mandatory, and having around 20 students per class, providing personalized learning materials for individuals students is not usually possible, other than the materials being level appropriate. However, instruction could be customized to provide learning experiences that accomodate learner interests, with optimal novelty, and a degree of learner control. Positive effects were present such as curiousity and increased engagement that appeared to enhance the learners' intrinsic motivation. Words such as "attractive," "interesting," "fun," and "motivating" were used by various students. With the use of mixed-media, tasks became more relevant by providing examples and inspiration, making them more meaningful. Without the use of control groups, the learners' willingness to participate in course-related tasks was difficult to measure; nonetheless, improvement in effort and production was evident in their presentations compared with the previous year. Data from the learner surveys also suggest improvement in learner confidence, with students stating that the classes were "easy to understand," making it easier for learners' to "understand the theme and goal" of each lesson. This feeling of confidence and success is known to facilitate learning (APA, 1993). Many of the students felt that the slide design influenced their own design choices when producing their own presentations. As for learner satisfaction, the

students were able to “understand deeply” about the skills that they were learning, and media and animated explanations provided opportunities to show them why the taught content was important and how they could use it effectively. This motivated the learners to pursue the same goals. By taking all these points into consideration, the study implies that IDT provided improved instruction outcomes with regard to effectiveness, motivation, efficiency, and appeal, as previously described by Reigeluth (2021).

Finally, with IDT being design oriented, the use of a technology (i.e., blended learning) allowed for a wider variety of instructional methods to be used in consideration of values, outcomes, and conditions. The transition between online and face-to-face classes was made smoother, as the instructional presentations could easily be customized to suit the conditions, and the study proved that the learners preferred the use of PowerPoint slides over coursebooks and the use of whiteboards. Additional instructional methods proved effective such as providing learners with a “flipped” classroom by providing animated slides prior to each lesson that presented information with timings that simulated a teacher’s instruction.

Limitations and Suggestions for Future Research

Due to unforeseen complications, only one student interview was conducted, and with insightful information coming from that interview, I believe the study would have benefited from more interviews from a wider variety of learners. I also believe that control groups would have provided a clearer understanding of changes in learner performance. As explained, a key aspect of IDT is the need for learner-centered instruction through a clear understanding of the learners’ values and personal goals. A wider variety of needs analysis and evaluation techniques could have been used during the design and development process, such as giving the learners the opportunity to provide continuous feedback during the courses (e.g., feedback forms, questionnaires, or interviews). Interviews with other teachers who used the presentation slides could also have been conducted to get a more accurate understanding of a wider range of learner needs.

Conclusion

This study provided support to the idea that an instructional design model can be used to design technology-assisted materials that provide learners with more personlized and meaningful instruction. By putting more focus on the individual needs, values, and personal interests of the learners, a shift can be made from standardized instructions to customized, where learner needs are more effectively met and learner motivation is improved. While plenty of existing research supports the use of active, student-centered learning, it is also important to provide student-centered instruction that is meaningful, efficient, and does not hold the time constraints that are found in traditional language classes. The difficulty is that if instruction should be personalized to individual learners, it is difficult to teach the same thing to a classroom of students, especially in standardized language courses. However, by using well-designed resources developed using instruction design models and instructional technology (e.g., presentation software), a more personalized experience can be achieved. Also, it is important that the instruction is focused not just on conveying information to the learner, but it also includes a constructivist approach as referred to by cognitive theorists as a process of helping learners build their own knowledge through the facilitation of purposeful learning (Ertmer & Newby, 2013).

Based on the evidence presented in this study, it is suggested that more attention should be given to design principles when creating instructional materials for L2 learners, and that further research needs to be carried out on the design and development of effective technology-assisted instructional presentations.

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Appendix 1 – Questionnaire Items for Teachers (Pre-Study)

1.1. Using Slides Presentations (Teacher Perceptions)

1. Do you create slide presentations?
2. Do you use existing templates when creating slide presentations?
3. Do you use pictures in your slide presentations?
4. Do you use videos in your slide presentations?
5. Do you use audio (e.g., music, sound clips) in your slide presentations?
6. Do you use hyperlinks in your slide presentations?
7. Do you usually use the same design for your slide presentations?
8. Do you design your slide presentations based on the students' interests?
9. Slide presentations engage students in learning.
10. Slide presentations help present learning materials more clearly.
11. Slide presentations provide inspiration to the learners when making their own presentations.
12. I prefer using slide presentations over conventional methods.
13. I am able to deliver material easily by using slide presentations.
14. I think students prefer the use of slide presentations over conventional methods.
15. I think the use of media (e.g., pictures, videos, audio) helps students retain information.
16. I find it easy to create interesting or engaging slide presentations.
17. The facilities at the university support the use of slide presentations.
18. I put emphasis on the importance of slides when teaching presentation skills.
19. I feel the use of slide presentations helps support the learners' speaking during their presentations.
20. I feel the use of slide presentations helps reduce learner anxiety during their presentations.
21. I feel good slides or visuals are important for a strong presentation.
22. The use of slides or visuals has an influence on how I grade my students.
23. If you have any additional comments or observations regarding the use of slide presentations, please write them below.

Appendix 2 – Questionnaire Items for Students (Post-Study)

2.1. Using Slides Presentations (Learner Perceptions: Presentation Classes)

1. The teacher's slides were interesting.
2. The teacher's slides were easy to follow and understand.
3. The teacher's slides made it easier to understand the teacher's instructions and lesson goals.
4. The teacher's slides held my attention throughout the class.
5. The teacher's slides helped me remember information more easily.
6. The teacher's slides helped manage class time.
7. The teacher's slides were attractive and fun to look at.
8. The use of media (e.g., pictures, videos, music, animations) helped present information more clearly.
9. The teacher's slides motivated me to make my own slides better.
10. I prefer lessons with slide presentations.
11. I found it easy making interesting or attractive slides.
12. I enjoyed making slides for my presentations.
13. Using slides made my presentations easier to understand.
14. Using slides helped me give my presentation more smoothly.
15. Using slides helped me feel more relaxed during my presentations.
16. Using slides supported my speaking when giving presentations.
17. I used ideas from my teacher's slides in my presentations.
18. I think using slides is important to give a strong presentation.
19. I prefer to use slides during a presentation instead of only speaking.
20. The teacher's slides on Blackboard helped me prepare before each class.
21. The teacher's slides on Blackboard helped me review and better understand the lesson after class.
22. The teacher's slides were more useful than using a textbook.
23. What did you think about the teacher's slides? Examples:
24. What did you think of your slides? Examples:
25. Do your other teachers use presentation slides?
26. If yes, how are their slides similar/different? Examples:
27. If no or sometimes, how do your other teachers present the course content?

2.2. Using Slides Presentations (Learner Perceptions: Debate Classes)

1. Which type of class do you prefer?
2. Which teaching style do you other university teachers usually use?
3. The teacher's slides were interesting.
4. The teacher's slides were easy to follow.
5. The teacher's slides made it easier to understand the debate skills and lesson goals.
6. The teacher's slides held my attention throughout the class.
7. The teacher's slides helped me remember information more easily.
8. The teacher's slides helped in managing class time efficiently.
9. The teacher's slides were attractive and fun to look at.

10. The use of media (e.g., pictures, videos, music, animations) helped present information more clearly.
11. The teacher's slides motivated me to use the skills that were taught.
12. I prefer lessons with slide presentations.
13. The teacher's slides on Blackboard helped me prepare before each lesson.
14. The teacher's slides on Blackboard helped me review and better understand the lesson after the class.
15. The teacher's slides were more useful than using a textbook.
16. What did you think about the teacher's slides? Examples:
17. Do your other teachers use slides in their classes?
18. If yes, are there any differences with their slides? How do they use slides differently? Examples:
19. If no or sometimes, how do your other teachers present the course content?