

## PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL LISTENING AND SPEAKING MATERIALS FOR EFL PRE-SERVICE TEACHERS

I Dewa Gede Rat Dwiyanu Putra\*<sup>1</sup>, I Gusti Ngurah Agung Wijaya Mahardika\*<sup>2</sup>,  
I Putu Andre Suhardiana\*<sup>3</sup>

[ratdwiyanaputra@uhnsugriwa.ac.id](mailto:ratdwiyanaputra@uhnsugriwa.ac.id)\*<sup>1</sup>, [wijayamahardika@gmail.com](mailto:wijayamahardika@gmail.com)\*<sup>2</sup>,  
[putuandresuhardiana@gmail.com](mailto:putuandresuhardiana@gmail.com)\*<sup>3</sup>

Faculty of Dharma Acarya\*<sup>1,2,3</sup>

Universitas Hindu Negeri I Gusti Bagus Sugriwa Denpasar\*<sup>1,2,3</sup>

Received: January 6, 2026

Accepted: March 16, 2026

Published: March 27, 2026

### ABSTRACT

This study concentrated on examining the attributes, subjects, and activity choices for multimodal listening and speaking materials for EFL pre-service teachers. This research and development study used a four-step process: design, develop, review, and revise, based on the Dick and Carey System Approach Model. This study found that when designing multimodal listening and speaking materials, it is needed to think about how they fit with the goals of the study, how to encourage active learning and participation, how to make them flexible and adaptable, how to use technology, how to be culturally competent and inclusive, how to make the language clear, how to arrange and design the materials, and how to get feedback and make improvements. The procedure of developing the material includes gathering the parts, creating the content, getting expert opinions, and editing the content. The focus was on grammar problems, photo selection, formatting, and storing the material. The research shows that multimodal materials function as ecosystems that integrate theory, practice, and cultural responsiveness to facilitate the growth of pre-service teachers. Longitudinal studies should be conducted in future research to see how the materials affect how well students learn and how engaged they are in different classroom settings.

**Keywords:** *Listening, Multimodal, Pre-service teacher, Speaking, Teacher education.*

DOI: 10.31943/wej.v10i1.625

### INTRODUCTION

For EFL pre-service teachers, language instruction precedes both the teaching practice and the education program. The teachers themselves, for both personal development and to further their own careers, must become proficient in the reading and writing of English. The use of 'multimodal' approaches in language instruction, due to the growing body of research on how people understand and use language, is rising in popularity (Custodio-Espinar & López-Hernández, 2023; Mohammed-Ahmed, 2021; Yusuf, 2023). The purpose of this research is to

PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL  
LISTENING AND SPEAKING MATERIALS  
FOR EFL PRE-SERVICE TEACHERS

address the need to develop quality multimodal speaking and listening materials for teachers of English as a foreign language. In the case of EFL instruction for pre-service teachers, the context comprises the difficulties and inadequacies of existing speaking and listening materials. Studies highlight a deficiency of materials that represent authentic language use in a context (Mierwald et al., 2022; Tekir & Akar, 2020) and show that the materials mentioned above are appropriate for equipping pre-service teachers with the language skills they need. The latest studies indicate that learning resources have the potential to develop instructional materials capable of serving diverse learning flourishing (Alvionita, 2024; Hsu et al., 2020; Sabarun, 2018; Suharyadi & Wulyani, 2022). It has also been shown that teachers need to use their curriculum and instructional design skills to develop instructional materials that meet the curriculum requirements and capture the learners' attention through the use of technological tools (Bahar & Soegiarto, 2020; Öztürk & Erdem Dağistanlıoğlu, 2018; Roemintoyo & Budiarto, 2021). Moreover, in addition to enhancing language skills, the need for instructional materials that promote intercultural competency stress the resources' educational materials' importance to EFL pre-service teachers (Azizah et al., 2021; Inderawati et al., 2022; Prayati et al., 2020).

Research has shown that EFL pre-service teachers need multimodal speaking and listening materials that include both technological and authentic elements in order to improve their language skills and teaching skills. Materials should go beyond audio drills that are not in context that show how students really talk and use paralinguistic cues. With these, students will be able to develop the pragmatic skills they need for future classroom instruction (Mierwald et al., 2022; Tekir & Akar, 2020). At the same time, the design process itself should be seen as a learning experience for pre-service teachers. They should be able to use curriculum design principles by choosing different types of inputs, like video clips of classroom interactions, podcasts with different accents, and simulations, that fit with certain language and intercultural learning goals (Bahar & Soegiarto, 2020; Öztürk & Erdem Dağistanlıoğlu, 2018). This is needed because, as mentioned, these resources do two things: they help teachers improve their own language abilities and they show teachers how to employ multimodal teaching methods that they use later (Custodio-Espinar & López-Hernández, 2023; Yusuf, 2023). Besides, the effectiveness of these materials depends on using technology not just to get students interested, but also to create learning experiences that give students instant feedback on how well they speak and listen, which is something that traditional resources lack (Hsu et al., 2020; Suharyadi & Wulyani, 2022). Consequently, the creation of these materials signifies a synthesis of requirements: for genuine language models, for pedagogical design methodology, for intercultural competence, and for technology-enhanced, skill-oriented practice.

The range and application of multimodal instructional techniques have advanced due to the deficiency of some existing pedagogical tools. The addition of learning materials to texts and images, as well as sounds and videos, aims to produce stronger learning results. In this case, the most recent research states that the Multimodal Method design is suitable to give due consideration and fit the case of learning as people have differing levels of information and retention (Qin

& Wang, 2021; Tan et al., 2023; Yeret, 2023). Moreover, the addition of the visual and aural components of materials involved in language learning, retention, and improvement (Jabal Primadana, 2024; Li et al., 2022; Lin et al., 2022; Yuniarti et al., 2022). With the aid of Multimodal resources that incorporate culture, learners can grasp the language more deeply and in a broader range, and appreciate and understand the sensitive and complex levels of its use including cultural context. This promotes the use of language more fully (Oakley et al., 2023). The extent of success in pluralistic pedagogy to be used in teaching language education to pre-service teachers depends on their comprehension of the features of the Multimodal resources.

The materials need to be emotionally involved for students to be able to engage fully with the content and learn to enjoy the process. The materials should also be challenging intellectually. Evidence shows that the impact of what students learn from the materials is improved when the materials are culturally and contextually relevant. The instructional materials also help to associate the new language and its use. This implies that a multimodal approach helps students to be able to produce language actively, use and engage with it at a level higher than passive reception, and improve language use (Aristia, 2025; Calafato & Gudim, 2022). Students can be assigned multimedia tasks, written work, and presentations to help them express their thoughts and improve their language competencies. A multimodal approach also helps them to develop the competencies they need to work with language in all the different ways they will need to do so, both personally and professionally. Papanastasiou et al. (2019) contend that this equips students for the characteristics of contemporary communication.

Before making resources for EFL teachers who are just starting out, the topics that need to be learned must be decided on first. A topic should be in line with the learning objectives. This will make the textbook easier for both teachers and students to use (Fitri, 2022; Pravitasari & Afyattena, 2022; Widyaningrum, 2022). The learning objectives should help them choose the topics. The resources and subjects ought to address the visual, auditory, and psychomotor (or kinaesthetic) requirements (Dewi, 2023; Kholis & Azmi, 2023; Kusumaningrum, 2024). Besides, the subjects should meet the teaching demands of students with different learning styles. The suggested multimodal resources ought to reflect the many viewpoints and backgrounds of the intended learners (Azizah et al., 2021; Inderawati et al., 2022; Oakley et al., 2023). In Indonesia, research also shows a need to identify subjects that are relevant to the area and use students' surroundings as sources for multimodal input. Research shows that themes like Indonesian national heroes, traditional markets, local folklore, and the country's diverse cuisine fit with the national curriculum's focus on *Projek Penguatan Profil Pelajar Pancasila* and also assist students learn language structures by giving them familiar schemata (Nurhayati, 2022; Pratama & Sari, 2023). These subjects need to have chosen multimodal features. This is due to their efficacy being contingent upon their relevance to the learners' sociocultural context (Sari et al., 2022; Fithriani, 2023). This localized strategy, supported by the studies of

Azizah et al. (2021) and Inderawati et al. (2022), guarantees that the resources are available to foster a feeling of critical literacy.

Another point to think about in the MLE is the proposed activity design (Kholis & Azmi, 2023). The activity design must focus on the primary topic of the MLE and incorporate varied learning to accommodate the varying ages of the learners (Kholis & Azmi, 2023). Prior research demonstrates that a combination of technology-enhanced activities, project-based learning, and collaborative peer engagement (Hasibuan, 2021; Nie et al., 2019; Oakley et al., 2023; Ridwan, 2024). There should be more focus on interactive activities in a multi-modal learning activity (Pravitasari & Afiyattena, 2022; Syamdianita, 2021; Wahyuni, 2023). The activities should be set up in such a way that they make the learning environment more positive and interesting through the use of multimedia projects, conversations, and other activities. The activities described are appropriate for many contexts (blended, remote, and in-person learning) (Situmorang, 2024; Tan et al., 2023; Tekir & Akar, 2020). When picking activities is how they could be used for assessment and feedback. Calafato and Gudim (2022), Oakley et al. (2023), Putri (2023), Tan et al. (2023), and Wulandari (2025) stated that activities should contain a formative evaluation and feedback. Teachers need to make sure that the exercises will show how much the student has learned and how far they have come. Feedback can be from the teacher, a classmate, or self-directed.

Teacher education programs must use multimodal resources to help future EFL teachers learn the skills they will need. Using real language, teaching models, and being aware of other cultures in a technology-enhanced setting serves two purposes. It improves the pre-service teachers' language skills and gives them a model for how to plan student-centered lessons in their own classrooms in the future. This study addresses the identified imperatives by examining the characteristics, topics, and activities that define multimodal listening and speaking materials, thereby seeking to reconcile the theoretical advocacy for multimodality (Custodio-Espinar & López-Hernández, 2023; Mohammed-Ahmed, 2021) with the establishment of a developmental framework. Such a framework is necessary to give pre-service teachers the tools they need to understand and change the communication contexts of modern language learning settings (Papanastasiou et al., 2019; Yusuf, 2023).

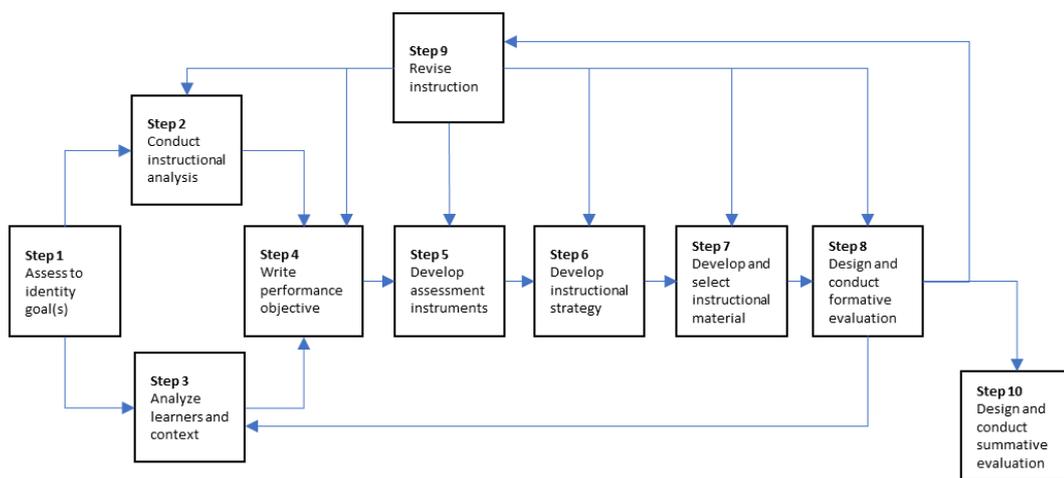
## **RESEARCH METHOD**

### **Research Design and Procedure**

The research design employed the Dick and Carey System Approach Model (Figure 1) in order to develop EFL (English as a Foreign Language) pre-service teachers' multimodal listening and speaking instructional materials in a stepwise fashion. The Dick and Carey Model is among the most prevalent design in educational research and development (Gall et al., 2003). The System Approach Model is characterized by a phased approach to research and development involving ten steps (Figure 1). Step 1 is determining the desired outcome of the instructional product (via a needs assessment). Step 2 is specifying the skills, procedures, and learning tasks to be included in the attainment of the educational outcome. Step 3 is determining the target learners and the learning environment

for the instructional product. Step 4 is precisely stating the desired learning outcome in terms of behavioral objectives. Developing the assessment plan, the instructional design, and the instructional materials (textbooks, teaching media, and teaching guides/lesson plans) are the focuses of steps 5 to 7. Step 8 to 10 are concerned with formative and summative evaluations. Gall et al. (2003) report that formative evaluation is an ongoing process that took place while the product was being created, while summative evaluation is performed after a product is complete, and concerns statements of impact and the use of experimental methods.

**Figure 1. The Steps of the Systems Approach Model of Educational Research and Development (Gall et al., 2003, p. 571)**



In her review of the R&D methodology and its alternatives, Gustiani (2019) noted that researchers tend to condense the model to 3 to 8 steps. The condensation of moves is influenced by the research context and scope of the study. Therefore, in the current study, in the context of developing multimodal instructional materials for the EFL pre-service teachers, the steps were tailored to four: design, develop, review, and revise. These four steps did not reduce the total number of steps in the model, but instead clustered some of the steps that were interrelated. The design steps clustered together were that of need assessment, instructional analysis and context analysis, which produced a performance objective that was specific in the form of a blueprint of the multimodal instructional materials. The development step that then followed was concerned with the development of the instructional materials, which also included the determined topics and activities. The activities were also the ones that mirrored the instructional strategies and assessments that were employed in the multimodal learning approach. The outputs of development were then subjected to the review process, which included but not limited to expert evaluation, user feedback, and limited field testing. Finally, revision was undertaken based on the outcome of the review step. The systematic procedure of R&D in this study was confined to the formative evaluation of the product because of the time and resource constraints on the study.

PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL  
LISTENING AND SPEAKING MATERIALS  
FOR EFL PRE-SERVICE TEACHERS

### **Subject and Object of the Study**

The subjects of this study were first-year EFL pre-service teachers from the English Language Education Department of Universitas Hindu Negeri I Gusti Bagus Sugriwa Denpasar. They were selected because they are at a fundamental scholastic level where listening and speaking abilities are developed. At this point, students require learning materials that can help them boost their language abilities and give them a taste of the teaching approaches they will employ later. As new students in the teacher education program, their needs and expectations provide baseline data for developing tools that are responsive, relevant, and effective in aiding their transition from language learners to potential educators. These pre-service teachers were the study's target users, and they performed their function in the first stage of the development procedure. In addition, the head of the department, the lecturers, and the other concerned parties who took part in the instructional activities that were performed in the department provided significant input in this study. This study was confined to the instructional material that concentrated on the topic and activities related to listening and speaking.

### **Data Collection Instruments**

Seven instruments were employed to gather information and facilitate instructional material development during this study. For the design stage, these included the needs analysis questionnaire, the interview guideline, and the content analysis guideline. In the development stage, data analysis results informed the construction of a development checklist. In the review stage, the review form and interview guideline were utilized; the results generated from these instruments served to create a revision checklist that directed the final stage of the study. These instruments, their stage in the R&D cycle, and their purpose were summarized in Table 1.

**Table 1. The Instruments of Data Collection**

<b>Steps</b>	<b>Instruments and Target</b>	<b>Purpose</b>
<b>Design</b>	Need analysis questionnaire (user)	Collected the data about the characteristic of the instructional material that was be developed based on the pre-service teacher requirements.
	Need Analysis Interview guideline (lecturer)	Collected the data about the characteristics of the instructional material that was be developed based on the lecturer requirements.
	Content analysis guideline (documents)	Collected the data about the characteristics of the instructional material that was be developed based on the curriculum requirements.
<b>Develop</b>	Development checklist	Guided the process of instructional material development based on the result of need analysis.
<b>Review</b>	Review form (expert; lecturer, user)	Gathered comments and suggestions from the expert, lecturer, and also pre-service teacher (user) about the quality of the new developed instructional material.
	Interview guideline (expert; lecturer, user)	Gathered comments and suggestions from the expert, lecturer, and also pre-service teacher (user) about the quality of the new developed instructional material.
<b>Revise</b>	Revision checklist	Assisted the revision of the newly developed

		instructional material based on the result of the review.
--	--	---

### **Data Analysis Procedures**

The main approach to data analysis that this study has used was qualitative data analysis done in the process of developing. The qualitative data analysis used in this study was based on the approach of Miles and Huberman (1994), made of the following steps: data collection, data display, data reduction, and conclusion drawing/verifying. The information collected through open-ended questionnaire (user), interview guideline (user/lecturer), and content analysis guideline in the design step were examined in order to prepare the draft of the material development. The review process involved looking at all the data that had been obtained from the review guideline / rubric (expert), the feedback form (expert / user), the open-ended questionnaire (user), and the interview guideline (user / lecturer) to figure out what changes needed to be made to improve the product.

## **FINDING AND DISCUSSION**

### **Finding**

#### *Finding of Need Analysis Questionnaire (Users)*

Pre-service teachers regard effective teaching materials as unified ecosystems where each part connects to and is anchored by one / more course objectives. Pre-service teachers see materials with progressive movement toward professional competence. They see materials that support the development of the competency, support the curriculum outcomes, and assist the students to build an integrated experience as opposed to a disjointed sequence of activities. Moreover, respondents rejected the simplistic concept of materials being responsive to one of the learner types. They requested for integrative approaches. Visual learners called for the incorporation of infographics, diagrams and videos. Auditory learners developed skills to listen to and understand the nuances of what they were being taught through the use of podcasts, audiobooks, and other recorded materials. Kinesthetic learners called for and received greater engagement through the use of role-play, simulation, and other interactive resources such as Kahoot and Quizizz, as they understood that deep insight is gained through the use of high-level application. The use of QR codes and blended activities for self-directed learning showed the desire for empowerment in combination with seamless multimodal learning and simulation through video, and the listening and analysis of audio to be followed by reenactment.

Pre-service teachers noted the importance of using authentic materials as foundational as opposed to supplementary. They know that conversations in the classroom go beyond the problems that teachers face. Their requests show the learning of teaching and the natural speech of the authentic documentary materials (news clips, documentaries, interviews). However, the respondents requested glossaries and simplified explanations so that challenging texts do not require scaffolding to be possible. Furthermore, three pillars are interrelated as the authentic engagement of diversity through non-discriminatory language and diversified case studies, inclusive representation, and the balanced local and global cultural relevance. Participants need to engage in the inter-ecology of the

PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL  
LISTENING AND SPEAKING MATERIALS  
FOR EFL PRE-SERVICE TEACHERS

respectful classroom. This included the potential for bias toward any religious practice, such as the opening of the class in prayer, to be respectful. Participants expect that materials can be used to create a place for all learners to be visible and worthy, a culture of belonging. Besides, educational technology acknowledged transforming passive experiences into active learning where students have agency over their learning path. Considerable passive participation becomes active when using interactive quizzes and games, as learners are able to apply their knowledge in low-risk scenarios. The ability to receive feedback in real time aids self-monitoring, and encourages learners to identify, and adjust their efforts as needed, to close gaps in their understanding.

Pre-service teachers hope for more than the simple and basic combination of text and images, they hope for integration of each of the several learning modalities to achieve instructional objectives. Text conveys high density information, images enhance understanding, auditory components promote active listening and video, along with sound, provide real time and paralinguistic explanations. The requests for augmented and virtual reality from participants show the belief in the possibility of immersive learning. The combination of the methods of teaching; reading, visual, auditory, and kinetic, enables the creation of a learning experience where each of the methods supports and helps to achieve mastery for a wide constituency of learners. In line with the language quality, this should cover more than technical correctness, it should have a pedagogy dimension that influences the potential for learning. Errors are harmful because for future teachers, language is the content, and the medium of Instruction. They demand to use of simple and clear language to limits the cognitive load and allows concentration on the important parts. For the most part, respondents appreciated materials that merged the informal and the formal which, for them, catered to the different professional discourse communities they would be part of. The requests for more informal language, and more informal learning environments, highlighted the approachable language and its impact psychologically. Layout and visuals Learning materials must look appealing but the layout and design has a more impact than decoration. Simple, organized visually, and clean design prevents learners from being distracted by the learning materials. With the right visuals, learners can create a dual-coding model from the abstractions, and the visuals can create the right models. A well-designed learning material will be responsive, meaning it will have the right color and the right font, and that will help them remove barriers for the learners. In addition, one of the respondents defined the pedagogical use of learning materials as, in order to guide learners to self-directed learning, learning materials and learning environments must be designed flexibly, and thoughtfully to account for the different learning paces of the learners, offer opportunities for collaborative learning through group discussion and game, provide for informal reports, and routinely update the learning materials, include accessibility features, and feedback opportunities.

*Finding of Need Analysis Interview Guideline (Lecturers)*

The respondents felt the materials are relevant to their teaching, but the systems within the educational institution are as well. They are concerned with the

educational optimum environment and its construction alignment, which to them, would reflect the educational aims and objectives. This means that they have to meet the required learning outcomes, and as such, every chapter develops a set of competencies and understanding. The expectation to include elements that foster higher order thinking and the requirement to strike a proper equilibrium between theory and practice show the requirement for resources that do the more than inform. They challenge the learner and prepare them for the actual practice of teaching. The need for description of teaching steps is also an acknowledgment of the need for resources that rich in content and also instructional (by design). This clarifies the need for pedagogical resources that guide pre-service and practicing teachers on how to teach. In addition to this, lecturers support a differentiated and multimodal teaching style that shows a better understanding of how various students learn. Besides, the goal of technology use, described by the lecturers, is to enable flexible and diverse integration of learning activities to enhance the learning environment to be more flexible and supportive. The integration of online quizzes and collaborative and discussion tools shows the expectation of technology use for formative assessment and social learning to construct knowledge, which is the opposite of the traditional use of technology where information is stored as a passive resource. One thing that the teachers talked about a lot was the necessity for cultural competence and contextualization. The necessity for such authenticity speaks to a larger cultural competence, to do with avoidance of stereotypes and the representation and equity of local and global cultural settings. Such approaches create a safe learning environment for teaching professionals to learn to work in diverse classrooms. The comments made by lecturers regarding the clarity in communication and the design also suggest the need for language to be appropriate, that is, simple, accurate, formal, and the materials organized and presented clearly. While this speaks to the design, this also speaks to the need to ease cognitive load by avoiding unnecessary redundancies in the materials. Suggestions like easy navigation, offline access, quick updates, practice questions, and others show that ideal materials are living documents that professionals can use to learn and grow.

*Finding of Content Analysis Guideline (Documents)*

The analysis of the content of the IEC material shows a framework designed to change the approach to working on skills in isolation to a more integrated approach in alignment with real-life situations. The bedrock of the curriculum is an integrated and simultaneous focus on both listening and speaking. The curriculum seeks to achieve understanding of audiovisual content and the expression of ideas in a manner that counters some fluency and a number of grammatical and phonological standards. The organizational structure is flexible, but it still meets the goal. An allowance of 8 SKS (400 minutes a week) is a time commitment. The intentional distribution of 60 minutes per each of the five language skills ensures the language is covered in all of its 5 dimensions. The instruction period being 14 weeks over a 16 week semester allows for a systematized approach to the 14 thematically arranged subjects over the semester. Each chapter being allocated 60 minutes for the input and output skills offers a

PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL  
LISTENING AND SPEAKING MATERIALS  
FOR EFL PRE-SERVICE TEACHERS

structured circadian pattern. All 14 units have the same teaching materials and testing methods. The modules focus on useful themes, with everyday conversation skills being the focus. This also focuses on cross-cultural diversities as well as integrates current industry constructs such as critical thinking, creative thinking, and problem-solving.

### **Discussion**

This study has an all-inclusive and practitioner-informed structure for the creation of instructional materials in the listening and speaking multimodal dimensions for EFL pre-service teachers. This framework represents a philosophy that synergizes curriculum alignment and technology-enhanced learning in the integrated preparation ecosystem. The identified components advance the discussion in the EFL teacher education and multimodal pedagogy context. First, the focus placed on the curriculum alignment and instructional goals for the materials to establish a connection between the theoretical components of the coursework and their use in the practicum classrooms. This also resonates with the perspectives of Bahar and Soegiarto, (2020) and Roemintoyo and Budiarto (2021), who argue that appropriate instructional design is a consequence of effective articulation of learning outcomes and a given curriculum. In relation to the pre-service teachers, the materials are, in addition to assisting in language procurement, also, the foremost, models of instructional design. So, the alignment of materials is to warrant that each and every multimodal component, whether it is a video case study or a digital interactive quiz, is purposefully structured to build particular teaching competencies and not just language skills, but what Pravitasari and Afiyattena (2022) refer to, as the praxis of the theory in teaching practice. This alignment has two purposes. It makes sure that pre-service teachers learn the target language and understand the principles of backward design. They learn to first figure out what they want to achieve and then choose the best multimodal tools to help them reach those goals.

When looking at the demand for active learning and participation, specifically through project work and group work, shows a paradigm in which the process of knowledge construction is collaborative. This finding is in line with, and more strongly supports, Nie et al. (2019) and Ridwan (2024) in promoting collaborative and experiential learning for teacher education. The pre-service teachers' wish to work with real-world case studies and authentic materials, such as news articles and video recordings of lessons, speaks to the particular deficit of authenticity in most materials noted by Mierwald et al. (2022) and Tekir and Akar (2020). Pre-service teachers encounter unscripted language as well as real teaching problems, thereby not only developing their listening and speaking fluency but also analytic and reflective dimensions of adaptive teaching, as emphasized by Calafato and Gudim (2022), through the real pedagogical dilemmas. The principle of flexibility and adaptability is intertwined with active learning. Kholis and Azmi's (2023) outcomes support the need for varied approaches based on auditory, visual, and kinesthetic learning style requests. However, the outcomes further develop this idea by framing flexibility as change in teaching style and constrains the need for self-directed learning development.

The need for self-directed learning coupled with resources and flexible instructional approaches addresses the gaps of learning speed among the members of a learning cohort and advocates for personalized learning paths. This is needed in cultivating self-directed teachers. Moreover, this is a need for teachers to possess such skills, especially in technology-enhanced classrooms (Tan et al., 2023). This kind of flexibility also lets pre-service teachers be independent learners who can plan their professional development. This is an ability for staying up-to-date with new teaching methods and technologies throughout their careers.

Constructive use of technology defines integration as a supporting framework for a multi-layered approach. Hsu et al. (2020) and Qin and Wang (2021) identified the inclusion of multiple forms of media as needed for cognitive load, understanding, and retention. However, more than the other participants, Technology understood the purpose of the tool for interactivity (quizzes, simulations), collaboration (web-based platforms), and feedback (synchronous). This corresponds to the emphasis of Lin et al. (2022) and Yuniarti et al. (2022) on the potential of the simultaneous use of the auditory and visual channels in the processing of language. In addition, the more advanced suggestions for the use of Augmented Reality (AR) and Virtual Reality (VR) reflect the participants' preparatory awareness of the potential for the use of emerging educational technologies and the desirability of keeping instructional materials contemporary. The main point of the proposed framework is centered on Cultural Competence and Inclusivity. This goes beyond the mere tick box of materials representation to also include the cultivation of inter-cultural relations, the respectful and inclusive use of local context, and the use of inter-culturally inclusive language. This supports the work of Azizah et al. (2021), Inderawati et al. (2022), and Oakley et al. (2023), who argue that language teaching cannot be divorced from the culture of the language. For pre-service teachers, this is required for a number of reasons. They have to face the cultural complexities of language and also the demand of making their classroom inclusive. Resources empower teachers to exemplify this practice by incorporating local culture, free of stereotypes and cultural prejudices, and provide examples of equitable practice.

The clarity and quality of language and layout and design expectations say that for this group, the design and structure include parts of the learning process. The request for the instructional materials to use correct, clear, and linguistically suitable language, suggests that instructional materials should serve as important input and exemplars for language educators. The instructional materials should also promote language teaching exemplars. The correction of language, as stated by Wahyuni (2023), shows that this is the primary reason for the use of instructional materials. The relation of cognitive load and dual-coding theories to the use of appropriate and attractive design and layout materials is similarly clear. The layout is also meant to enhance the aesthetically pleasing design. Respondents state that the design, as also noted by Kholis and Azmi (2023) and Dewi (2023), increases motivation and enhances the design. The request for Continuous Improvement and Feedback processes reconfigures developed materials from an end product into a resource that has potential to grow and

PIXELS, PODCASTS, AND PEDAGOGY: DEVELOPING MULTIMODAL  
LISTENING AND SPEAKING MATERIALS  
FOR EFL PRE-SERVICE TEACHERS

evolve. This is in line with the iterative processes of educational design research and the Dick and Carey model. Building feedback mechanisms and scheduling updates needed for materials can adapt to new curriculum additions, technological advancements, and the demands of pre-service teachers.

### CONCLUSION AND SUGGESTION

This study developed a framework needed in EFL teacher education for the first time in the developing of materials for teaching multimodal listening and speaking to pre service teachers. The need for this work was validated by the completed materials for teaching listening and speaking, developed for graduate education, and their authenticity, curriculum alignment, ability to engage students, cultural relevance of educational materials, and varied learning style inclusiveness. The educational material developed followed the Dick and Carey System Approach Model in a design, development, review and revision process. The educational material design was based on a needs analysis involving pre service teachers, teaching staff, and a review of the curriculum documentation. The main output of the research was the principles of effective multimodal materials developed by the researcher. The principles articulation discusses the interrelationship of curriculum and instructional objectives, active learning, adaptable pedagogical design, appropriate technology, cultural and inclusive competence, clarity of language and instructional design, and sustained effort. These features were instrumental in establishing the relevance of topics and activities to the first year EFL pre service teachers' learning outcomes and the pedagogical expectations of the activities. Progress is being made on a model that can systematically be adjusted to the contemporary classrooms of very diverse and multicultural settings to develop EFL materials. By using pedagogy and contextual design to develop materials for pre-service teachers, this study seeks to enhance the instructional design of other studies. Other researchers building on this study should be encouraged to incorporate material design for more practical classroom applications. To demonstrate the practical value of the designed material, longitudinal and action research studies should be conducted to measure the effect of the designed materials on teaching proficiency, learner engagement, and language performance. These studies should aim to improve the designed materials.

### REFERENCES

- Alvionita, K. V., Widyaningrum, L., & Prayogo, A. (2024). EFL learners' reflection on digitally mediated multimodal project-based learning: Multimodal enactment in a listening-speaking class. *Language Circle: Journal of Language and Literature*, 17(1). <https://journal.unnes.ac.id/nju/LC/article/view/36466>
- Aristia, E. S., Siswantara, E., & Ismiati, I. (2025). Developing CCU instructional materials integrated with local cultures in improving EFL learners' communicative competences. *Journal of Languages and Language Teaching*, 13(2), 863-875. <https://doi.org/10.33394/jollt.v13i2.13082>

- Azizah, N., Inderawati, R., & Vianty, M. (2021). Developing descriptive reading materials in EFL classes by utilizing the local culture. *Studies in English Language and Education*, 8(2), 584-601. <https://doi.org/10.24815/siele.v8i2.18562>
- Bahar, B., & Soegiarto, S. (2020). Development of instructional media based on mobile technology to enriching teaching material for primary school students in Indonesia post-learning in the classrooms. *International Journal of Scientific and Technology Research*, 9(1), 1795-1798.
- Calafato, R., & Gudim, F. (2022). Comics as a multimodal resource and students' willingness to communicate in Russian. *Journal of Graphic Novels and Comics*, 13(2), 274-291. <https://doi.org/10.1080/21504857.2021.1951788>
- Custodio-Espinar, M., & López-Hernández, A. (2023). Beyond written-linguistic modes of meanings: Multimodal representations to extend the range of literacy learning in EMI students. *Journal of Language Teaching and Research*, 14(1), 216-227. <https://doi.org/10.17507/jltr.1401.02>
- Dewi, D. S., Hartono, R., Saleh, M., & Wahyuni, S. (2023). Investigating multiliteracy pedagogy practices of EFL speaking teachers in Indonesia. In *Proceedings of International Conference on Science, Education, and Technology (ISET)* (pp. 169-175). Universitas Negeri Semarang.
- Fithriani, R. (2023). Local culture-based materials in EFL reading classrooms: Benefits, considerations, and implementations. *Journal on English as a Foreign Language*, 13(1), 24-45.
- Fitri, Yuliani. (2022). Multimodal learning material in an English-speaking class in Kampung Baluwarti. *Journal of English Language Teaching and Learning (JETLE)*. E-Journal UIN Malang.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction* (7<sup>th</sup> ed.). Allyn & Bacon.
- Gustiani, S. (2019). Research and development (R&D) method as a model design in educational research and its alternatives. *Holistics Journal*, 11(2), 1-12.
- Hasibuan, M. E., & Male, H. (2021). Pre-service EFL teachers' perception of using podcast as a learning media to improve listening skills. *Journal of English Teaching*, 8(2). E-Journal UKI.
- Hsu, R. W., Chang, C. Y., & Ho, H. J. (2020). A study of English writing instruction with use of multimedia. *International Journal of Information and Education Technology*, 10(3), 196-203. <https://doi.org/10.18178/ijiet.2020.10.3.1361>
- Inderawati, R., Susanti, S., Nurhayati, N., & Sijinjak, M. D. (2022). Developing instructional reading materials with local culture-based narrative texts for the tenth grade students. *English Review: Journal of English Education*, 10(2), 669-682. <https://doi.org/10.25134/erjee.v10i2.6431>
- Jabal Primadana, R., Maswani, Wahab, M. A., Fudhaili, A., & Raswan. (2024). Development of listening and speaking skills teaching materials based on CEFR level. *Arabiyatuna: Jurnal Bahasa Arab*, 8(2), 559-578. <https://doi.org/10.29240/arabiyatuna.v8i2.10904>
- Kholis, A., & Azmi, U. (2023). A need analysis on developing English interactive multimodal e-book oriented to 21<sup>st</sup> century skills. *Elsya: Journal of*

- Kusumaningrum, S. R., Dewi, R. S. I., Mardhatillah, M., Pristiani, R., Rizal, M. S., & Mustakim, S. S. (2024). Multimodal texts implementation in Indonesian primary and secondary EFL classrooms: Prospects and challenges. *Jurnal Pendidikan Progresif*, 14(3). Jurnal FKIP Unila.
- Li, W., Yu, J., Zhang, Z., & Liu, X. (2022). Dual coding or cognitive load? Exploring the effect of multimodal input on English as a foreign language learners' vocabulary learning. *Frontiers in Psychology*, 13, Article 929167. <https://doi.org/10.3389/fpsyg.2022.929167>
- Lin, V., Yeh, H. C., Huang, H. H., & Chen, N. S. (2022). Enhancing EFL vocabulary learning with multimodal cues supported by an educational robot and an IoT-Based 3D book. *System*, 104, Article 102691. <https://doi.org/10.1016/j.system.2021.102691>
- Mierwald, M., Lehmann, T., & Brauch, N. (2022). Writing about the past: The impact of different authentic instructional material on students' argument writing in history. *European Journal of Psychology of Education*, 37(1), 217–238. <https://doi.org/10.1007/s10212-021-00541-5>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2<sup>nd</sup> ed.). Sage Publications.
- Mohammed-Ahmed, H. (2021). A multimodal literacy approach to foreign language instruction. *Applied Language Learning*, 31(1-2), 1-24.
- Nie, L., Liu, M., & Song, X. (2019). *Multimodal learning toward micro-video understanding*. Morgan & Claypool.
- Nurhayati, D. A. W. (2022). Utilizing local wisdom in English language teaching materials: A case of Kurikulum Merdeka. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(1), 1-15.
- Oakley, G., Pegrum, M., Lander, B., Tomei, J., Sonobe, N., & Deboer, M. (2023). 'Free rein' to learn about language, culture & technology: A multimodal digital text exchange project between school students in Australia and Japan. *Research and Practice in Technology Enhanced Learning*, 18, Article 022. <https://doi.org/10.58459/rptel.2023.18034>
- Öztürk, B. K., & Erdem Dağıstanlıoğlu, B. (2018). Pre-service Turkish teachers' metaphorical perceptions regarding the concepts of 'instructional technology' and 'teaching material.' *Universal Journal of Educational Research*, 6(5), 901-911. <https://doi.org/10.13189/ujer.2018.060501>
- Papanastasiou, G., Drigas, A., Skianis, C., Lytras, M., & Papanastasiou, E. (2019). Virtual and augmented reality effects on K-12, higher and tertiary education students' twenty-first century skills. *Virtual Reality*, 23(4), 425-436. <https://doi.org/10.1007/s10055-018-0363-2>
- Pratama, H., & Sari, R. K. (2023). Integrating Pancasila student profile projects in ELT materials: A multimodal approach. *JEES (Journal of English Educators Society)*, 8(1), 12-21.
- Pravitasari, H., & Afyattena, N. (2022). Development of grammar in written discourse e-book with multimodal approach using book-creator application. *Wiralodra English Journal*, 6(1), 1-12.

- Prayati, Z., Haerazi, H., Irawan, L. A., & Vikasari, R. M. (2020). Developing culture-based English instructional materials to improve students' thinking, ELT achievement, and classroom interaction. *Lingua Cultura*, 14(2), 163-172. <https://doi.org/10.21512/lc.v14i2.6650>
- Putri, M. K., Susanti, Y., & Nurhajati, D. (2023). Incorporating differentiated listening instructional materials in English listening class of mixed competence students. In *Proceedings of English Language Teaching and Technology (ELTT) Conference* (Vol. 9, No. 1, pp. 198-203). Universitas Nusantara PGRI Kediri. <https://proceeding.unpkediri.ac.id/index.php/eltt/article/view/4233>
- Qin, Y., & Wang, P. (2021). How EFL teachers engage students: A multimodal analysis of pedagogic discourse during classroom lead-ins. *Frontiers in Psychology*, 12, Article 791185. <https://doi.org/10.3389/fpsyg.2021.791185>
- Ridwan. (2024). Developing English listening comprehension materials based on YouTube as a medium for second-grade students of SMAN 2 Teluk Dalam. *International Journal of Educational Research Excellence (IJERE)*, 3(2), 621-628. <https://ejournal.ipinternasional.com/index.php/ijere/article/view/953>
- Roemintoyo, R., & Budiarto, M. K. (2021). Flipbook as innovation of digital learning media: Preparing education for facing and facilitating 21st century learning. *Journal of Education Technology*, 5(1), 54-60. <https://doi.org/10.23887/jet.v5i1.32362>
- Sabarun, S. (2018). Needs analysis on developing EFL paragraph writing materials at Kalimantan L2 learners. *English Language Teaching*, 12(1), 186–193. <https://doi.org/10.5539/elt.v12n1p186>
- Sari, R. K., Widyantoro, A., & Fithriani, R. (2022). Developing multimodal English materials based on local culture for secondary school students. *Journal of Languages and Language Teaching*, 10(4), 487-499.
- Situmorang, I., Sitompul, H. S., & Tuty. (2024). Implementation of audiolingual method as instructional media in improving English speaking skills. *Edu Cendikia: Jurnal Ilmiah Kependidikan*, 4(3), 952-956. <https://doi.org/10.58298/educendikia.v4i3.4973>
- Suharyadi, S., & Wulyani, A. N. (2022). EFL teachers' reasons for selecting instructional materials during the COVID-19 pandemic. *Bahasa Dan Seni: Jurnal Bahasa, Sastra, Seni, Dan Pengajarannya*, 50(1), 49-61. <https://doi.org/10.17977/um015v50i12022p49>
- Syamdianita, S., & Cahyono, B. Y. (2021). The EFL pre-service teachers' experiences and challenges in designing teaching materials using the TPACK framework. *Studies in English Language and Education*, 8(2), 573-589. <https://doi.org/10.24815/siele.v8i2.19202>
- Tan, L., Thomson, R., Koh, J. H. L., & Chik, A. (2023). Teaching multimodal literacies with digital technologies and augmented reality: A cluster analysis of Australian teachers' TPACK. *Sustainability*, 15(13), Article 10493. <https://doi.org/10.3390/su151310490>
- Tekir, S., & Akar, H. (2020). Preparing pre-service English language teachers for

- classroom realities: Strengthening their competence in instructional materials. *Eurasian Journal of Educational Research*, 2020(86), 61-84. <https://doi.org/10.14689/ejer.2020.86.4>
- Wahyuni, D. (2023). Efektivitas penggunaan e-book multimodal dalam pembelajaran bahasa Indonesia. *Jubindo: Jurnal Ilmu Pendidikan Bahasa*, 8(1), 1-10.
- Widyaningrum, L., Rizal, D., & Prayogo, A. (2022). Multimodal project-based learning in listening and speaking activities: Building environmental care? *EduLite: Journal of English Education, Literature and Culture*, 7(2). Jurnal Unissula.
- Wulandari, I., Safitri, L., Syafitri, W., & Syahrul. (2025). Integrating authentic materials to enhance listening comprehension: Evidence from secondary EFL classrooms in Indonesia. *ELP (Journal of English Language Pedagogy)*, 10(2), 249-257. <https://ojs.fkipummy.ac.id/index.php/elp/article/view/1056>
- Yeret, O. (2023). Ready? Kadima! The use of games in the language classroom. *International Journal of Arts, Humanities & Social Science*, 4(3), 40–47. <https://doi.org/10.56734/ijahss.v4n3a4>
- Yuniarti, Y., Yulian, R., & Yuniarti, Y. (2022). Digital story telling based on multimodal elements on EFL learners' speaking performance. *JPI (Jurnal Pendidikan Indonesia)*, 11(2), 218-229. <https://doi.org/10.23887/jpiundiksha.v11i2.40217>
- Yusuf, F. N., Widiati, U., & Sulistyono, T. (2023). Multimodal feedback provision in improving pre-service teachers' competence. *Indonesian Journal of Applied Linguistics*, 7(2). Ejournal UPI.