JEELS
(Journal of English Education and Linguistics Studies)
P-ISSN: 2407-2575 E-ISSN: 2503-2194
https://jurnalfaktarbiyah.iainkediri.ac.id/index.php/jeels

FUSION OF ICT AND DIFFERENTIATED INSTRUCTION IN DEVELOPING LESSON PLAN: BOOSTING EFL LEARNERS HORTATORY TEXT MASTERY

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Abstract: Students and teachers' need for familiarity with the fusion of technology-based and differentiated lesson planning contributes to challenges for recent education. The goal of the project is to make language learning more successful by meeting the demands of teachers in terms of lesson plan development, implementing differentiated instruction, and using information and communication technology. This research employs five steps of research and development methods: 1) the preliminary research stage, 2) the development stage, 3) the expert validation stage, 4) the testing stage, and 5) the dissemination stage. The study involved 22 senior high school students, an English teacher, and a lesson plan validator expert. The results from the development of Information and Communication Technology (ICT) combined with Differentiated Instruction (DI) in a lesson plan for

[1]**Citation in APA style:**
Al Fiqri. F., Yuliati, & Wahyuni, S. (2025). Fusion of ICT and Differentiated Instruction in developing lesson plan: Boosting EFL learners hortatory text mastery. *JEELS*, 12(1), 175-203.
DOI: 10.30762/jeels.v12i1.2906

Submission: May 2024, Revision: November 2024, Publication: April 2025

teaching hortatory exposition text to eleventh-grade senior high school students are considered ready to implement and disseminate with a score of 100 from the teacher as a validator. This lesson plan significantly improved students' learning motivation and ability in hortatory exposition text based on the data analysis. The findings suggest that integrating ICT and DI in lesson planning not only enhances students' engagement and performance but also provides an adaptable model for teachers to implement technology-supported differentiated instruction.

Keywords: *differentiated instruction, EFL learners, ICT, lesson plan, Merdeka curriculum*

INTRODUCTION

The researchers wrote to discuss current issues related to curriculum changes, which is now the Merdeka Curriculum, has created new problems related to developing and implementing a lesson plan. One of them, as explained by Rahimah (2022), the implementation of the new curriculum has forced the revision of administrative policies, teaching approaches, pedagogical methodologies, and student evaluation procedures. Some of these are new problems for teachers, so they need to adapt and learn from scratch to understand all the regulations set out in the Merdeka Curriculum.

Not only that, the problem of the changing curriculum also has an impact on lesson plans, which are only used for administrative purposes and not as an essential part of the learning planning process that teachers should do (Iqbal et al., 2021). Teachers often use other people's explanations already available on YouTube, so lesson plans deviate from implementing learning. Meanwhile, educators face obstacles such as lesson planning, classroom management, understanding of teaching media using technology, understanding the new teaching materials, and handling students' differentiation (Astuti et al., 2018). Consequently, it is their responsibility to seek new

techniques to improve the learning process and encourage students to expand their knowledge. So then, the lesson plan should continue to be developed by integrating ICT because it requires the use of technology and differentiated instruction or DI to manage the students' differentiation in order to improve the students' English skills, especially in the hortatory exposition text material that researchers raised in this study.

Problems related to the implementation of ICT and DI are also the main focus of this research to be resolved. The previous study related to the application of ICT in a lesson plan due to the current digital era has also caused new challenges for teachers, as described by Lailiyah and Mardliyah (2021), who highlighted the challenges of teachers in implementing learning using ICT in Indonesia, including the need for adequate school equipment and technological devices. Further, the lack of ICT in a lesson plan can deprive students of significant opportunities to interact with multimedia resources and participate in interactive learning platforms.

Another previous study in Indonesia with Merdeka Curriculum is the massive application of differentiated instruction in schools. However, some teachers still need help with the limited information they have regarding the application of DI. In addition, the application of DI is a concern because many failures in the development and implementation process are caused by teachers who are still confused about the best practices for implementing it properly (Klepsch & Seufert, 2020; Shareefa et al., 2021; Hasanah et al., 2022; Pasroni, 2023).

Moreover, students in the eleventh grade from one of the senior high schools at Semarang were chosen as a sample for this study because they have already gone through the Merdeka Curriculum program, which is what this lesson plan development study is based on the same curriculum also. Instead, some other schools still use the old form of the curriculum, like the K–13, 2016, and emergency COVID-19 curriculum.

In addition, students' lack of mastery of English makes it difficult for teachers to interact with them efficiently in the classroom, thus

contributing to students' lack of enthusiasm to learn the subject. It is reinforced by the explanation of Mahrian et al. (2023), who argue that students struggle to learn English due to a lack of enthusiasm, vocabulary, and ability. The lack of optimal lesson plans can also impact students' enthusiasm to learn hortatory exposition text material. According to Maulida (2022), learning can only be optimal if lesson plans are prepared effectively. It causes the delivery of learning content to be unsystematic, resulting in an imbalance between educators and students if lesson plans are unprepared.

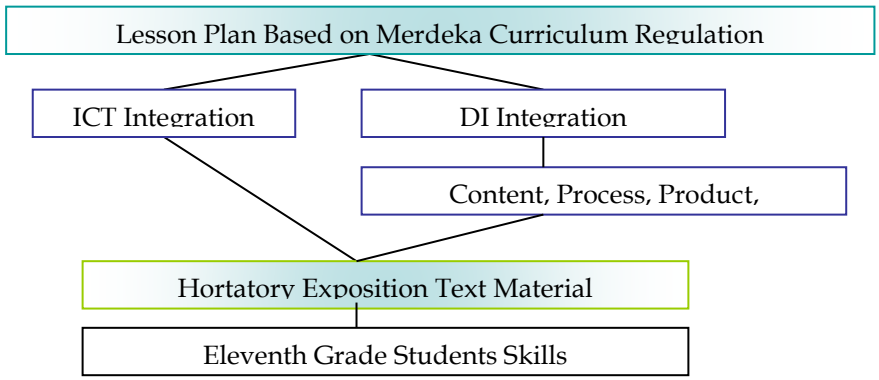

Figure 1. Research Framework

The above issues regarding the changing curriculum, followed by lesson plans that are only an administrative tool for a teacher, then the implementation of ICT and DI in lesson plans that are felt to be lacking, and also student-related problems have had an impact on teachers and students which results in a decrease in the overall quality of education. For this reason, this paragraph discusses the overview or framework of this study, which is related to lesson plans that implement ICT and DI, which are very important for teaching hortatory exposition material because they involve students mentally, physically, and their ability to master hortatory exposition text. As shown in Figure 1. above, the key objective of this research is to develop a lesson plan based on the regulations provided by the Indonesian Minister of Education and Culture, which integrates ICT and DI in teaching hortatory exposition

text materials to increase the students English skills such as (listening-speaking, reading-viewing, writing-presenting).

A lesson plan based on ICT and DI is developed and implemented by researchers to ensure that students who are now confined to a primary learning medium can acquire a comprehensive and high-quality education. For this study, eleventh-grade students were selected to navigate vast information through technology, make informed decisions through an in-depth understanding of a hortatory exposition text, and require differentiated teaching support to adapt to the diverse learning styles, achievements, and paces of students based on their needs. The ultimate goal of this study is to create high-quality, adaptable learning experiences that align with the student needs.

METHOD

The product development process was guided by the research and development cycles from Gall, Gall, and Borg (1983), which were accomplished through the utilization of research and development design. In addition, research and development is "*a process used to develop and validate educational products*" (p.772). Researchers did a study to streamline this approach. *Mantap* (*Model Pengembangan Lima Tahap* or five-development stage model) R&D model which was designed by Sumarni, Istiningsih, and Nugraheni (2019) simplified the ten stages of the Gall et al. (1983) model into five distinct research stages.

This study aimed to streamline the implementation of this process because Emzir (2013) suggested that restricting research to a smaller scale entails minimizing the number of R&D procedures involved. Furthermore, Emzir (2013) observed that the simplification occurred due to the typical limitations of time and money faced by researchers. The steps that the researcher carried out here are explained in the next paragraph and also in Figure 2.

Stages included in this study are: (1) preliminary research: this step includes a theoretical review, needs analysis by interviewing the teacher, doing document analysis from the status quo lesson plan, and

the research data collected underwent extensive study by applying thematic analysis approach, (2) developing the lesson plan based on the needs and criteria that were gained with the data from thematic analysis results obtained, (3) validation stage: this stage sought a lesson plan that met students' and teachers' needs, (4) implementation stage: this stage tested the ICT-DI lesson plan effectiveness, the product was tested to determine its efficacy, possibly with expert validation, (5) dissemination stage: in this process, the ICT-DI lesson plan product is registered for intellectual property rights so that it can be distributed to SMAN 7 Semarang itself and to other schools that want to try to implement it. In Figure 2, each stage is broken down in detail.

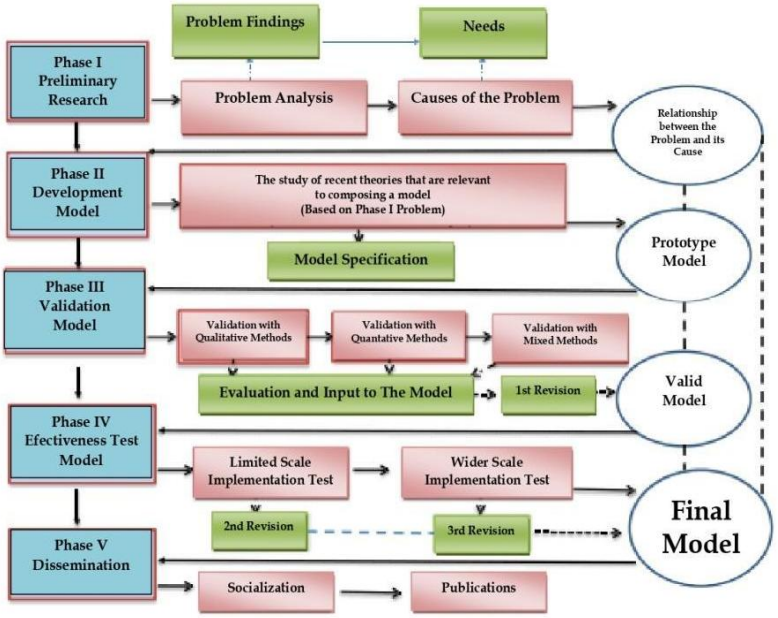

Figure 2. Research and development model adapted from Sumarni et al. (2019)

The participants in this study were twenty-two senior high school students who were in the eleventh grade while they were participating in the study. In the XI MIPA 2 class, thirty-two students were enrolled in the course simultaneously. On the other

hand, some students did not join the class for some reasons. These students were not allowed to join the class. Because of this, a sample consists of 22 students, one English teacher from SMAN 7 Semarang, and one lesson plan validator expert.

The study started with a need analysis. According to Wulandari and Hustarna (2020), needs analysis is crucial for revising the curriculum and creating instructional materials. Lecturers, department heads, and students are consulted in this step. Ibodullayevna and Abdimurotovich (2023) also stated that needs analysis is necessary to identify learner wants, needs, and preferences and create a successful teaching and learning environment. Further, the phases of the needs analysis in thematic analysis are presented in Figure 3 below.

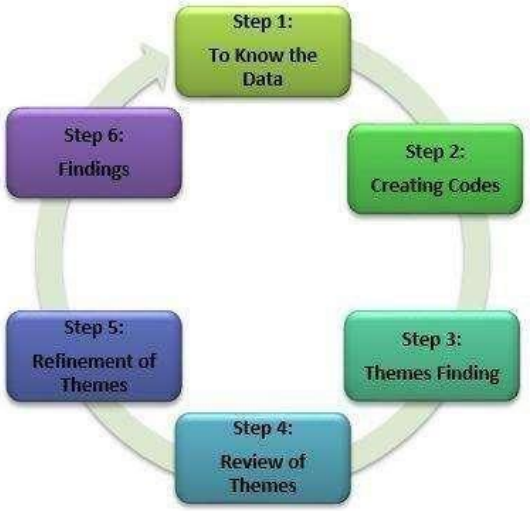

Figure 3. Six-Phase thematic analysis by Braun and Clarke (2006)

The techniques that were utilized for the analysis were, for the most part, based on the methodology that was suggested by Braun and Clarke (2006). In the first phase, familiarization, the interviews were transcribed and translated to analyze the data since the interviews were conducted in Indonesian. The use of L1 in interview was done to increase participants' comprehension on the questions being asked and

respond to them with clarity and understanding. The first researcher translated every interview into English.

The second phase is coding phase. It is to condensed the data into understandable pieces, each containing items that share a relationship or similarity with the other pieces. While analyzing and organizing the data, the researchers also emphasized information regarding the lesson plan that the respondents provided.

The third phase involved developing the themes. According to Braun and Clarke (2006), themes are any data patterns that provide a solution to a study subject. The researchers developed a theme using equivalent codes. It is possible to determine the themes and the degree to which they are prevalent in various methods, which is one of the reasons why thematic analysis is so flexible (Braun & Clarke, 2006). Although the phase used to examine the data appeared to be sequential, they were extremely repetitious and built up on the stage that came before them. A conversion from codes to themes is presented below.

Table 1. *Conversion of coding to themes inspired by Braun and Clarke (2006)*

Interview Transcript Extract	Codes	Themes
Developing a lesson plan that aligns with the components specified by the Merdeka Curriculum established by the Indonesian Ministry of Education and Culture.	1. The components 2. Should comply with 3. Merdeka Curriculum regulations.	The components comply with Merdeka Curriculum.
Lesson plan that involves utilizing ICT as a tool and combining learning comprehensively.	1. A lesson plan 2. Adapted ICT	A lesson plan which adapted ICT
Teachers have had differentiated	1. Teacher need other models	A models which implementing

instruction, but teachers need more skill in implementing it in their lesson plan.	2. Implementing differentiated instruction 3. Used as a reference.	differentiated instruction
The requirements and preferences expressed by educators in lesson plan that seamlessly integrate information and communication technology and differentiated instruction.	1. Requirements 2. Preferences 3. Lesson plan 4. Integrate ICT 5. Integrate Differentiated Instruction	Need a lesson plan that integrate ICT-DI

The last phase involves the examination of the themes, which were accomplished through two distinct procedures: evaluating and categorizing the emerging themes (Braun & Clarke, 2017). The researchers thoroughly examined all the extracts linked to the codes to ascertain their alignment with the topic, identify any conflicts, and determine if there were any instances of overlapping themes. Braun and Clarke (2017) argued that data inside themes should have significant connections and clear and distinguishable differences between themes. What happens when a subject exhibits significant inconsistency or exceeds its defined limits? If this is the situation, the researchers should contemplate partitioning the theme into multiple independent themes or transferring certain codes or extracts to an existing theme where they are more suitable. The following text outlines the process of reviewing the theme.

Table 2. *Review and refinement of themes by Braun and Clarke (2006)*

Previous Themes	Latest Themes
The components comply with Merdeka Curriculum.	Component Needs
A lesson plan which adapted ICT	ICT Needs

A models which implementing differentiated instruction	Differentiated Instruction Needs
Need a lesson plan that integrate ICT-DI	ICT-DI Needs

The researchers continue the process of analysis on the research results once the theme analysis process has been completed. Several topics have been uncovered through the process of thematic analysis. These topics include component needs, ICT needs, DI needs, and ICT-DI needs. In the second stage of the study, the researcher developed the product. Furthermore, according to Marquis and Deeb (2018), the development stage of research and development is significant because it enables the determination of the viability of the product.

The third stage was expert validation once the lesson plan that integrates ICT and DI, comprising learning outcomes and hortatory exposition text learning objectives and all components as the requirements established by the Indonesian Ministry of Education and Culture (2022), the competencies included in the Merdeka curriculum consist of several components so that both of the components should appear by the researchers. Experts validated the ICT-DI lesson plan for teaching hortatory exposition text to get feedback on its practicality and efficacy using sixteen validation criteria based on Merdeka curriculum.

The draft was then reviewed and rearranged after validation to prepare the product for implementation stage as a lesson plan integrating ICT and DI at SMAN 7 Semarang. Each lesson plan component was examined during validation. One expert is an expert in ICT, DI, and lesson plan. The expert was asked to validate the ICT-DI lesson plan. It involved asking for lesson plan validation from a professional English lesson plan developer.

The analysis reviewed and explored a lesson plan that integrates ICT and DI as suggested by the Indonesian Minister of Education and Culture, (2022) and Tomlinson and Imbeau (2023). After all expert traits were examined, the data were, analyzed statistically. The data of each validation form was analyzed to find its percentage.

The following table explains the validation criteria utilized in the expert validation process.

Table 3. *Validation Criteria*

Percentage (%)	Validation Criteria
90-100	Very Feasible/Very Valid
80-89	Feasible/Valid
65-79	Fair Enough
55-64	Not Feasible/Not Valid
0-54	Very Not Feasible/Very Not Valid

Product validity, expert opinion, practical field-testing procedures, and statistical alternatives for data analysis to help decision-making were all considered. As Fernández et al. (2020) define *expertise* as an educated opinion from a proven expert. Their contemporaries considered these people competent specialists who could provide subject-specific information, evidence, judgements, and assessments.

In the fourth stage of the research, the study tested the validity and effectiveness of the lesson plan that integrates ICT and DI for teaching hortatory exposition text at eleventh grade. The results of using this lesson plan in the classroom were the focus of the study. According to Bingham (2015), a new product implementation model has the potential to minimize the probability of severe risks and give users the ability to exercise control over both the internal and external surroundings. 22 students in the eleventh grade at SMAN 7 Semarang, were the subject of the implementation stage. As for the process of small-scale implementation, it runs 2 meetings starting with the opening, giving lighter questions, then conducting a pre-test, providing treatment that is combined the application of ICT and DI to teach hortatory exposition text material, then followed by giving a post-test as an assessment to find out how far students' understanding and improvement in learning hortatory exposition text.

Therefore, a hypothesis is needed to find out whether there is an increase in students' abilities in hortatory exposition text material

when they are given treatment using a lesson plan that integrates ICT and DI. In the method of analyzing data from a pre-test and a post-test using one sample test, the researcher compares the measures taken before and after a treatment within the same group. Several different statistical approaches can be utilized for this investigation such as using Normality Test, Homogeneity Test, Mann-Whitney Test, Hypothesis (One sample T-test), and also the ANOVA. A method that can be utilized is the utilization of one sample t-test, which is utilized to evaluate the average difference between the scores obtained on the pre-test and the post-test for the same individuals of SMAN 7 Semarang students (Siregar & Siregar, 2020). As an additional point of interest, Widhiarso (2012) said that the hypothesis (Ho) is accepted if the probability is greater than 0.050. Furthermore, the hypothesis (Ho) is rejected if the probability is less than 0.050.

RESULTS

The results highlight the ICT-DI lesson plan, research and development process of ICT-DI lesson plan, and the results of implementation. The preliminary research stage, developing stage, validation stage, implementation stage, and dissemination stage are the five steps that make up the research results. The results are intended to provide insights into the ICT-DI lesson plan used to teach hortatory exposition text to senior high school students enrolled in the eleventh grade at SMAN 7 Semarang.

The results of preliminary study in the form of interview with teachers in the school is presented in Table 4.

Table 4. *Themes and codes of interview results*

Interview Transcript Extract	Codes	Themes
Developing a lesson plan that aligns with the components specified by the Emancipated Curriculum established by the Indonesian Ministry of Education and Culture.	1. The components 2. Emancipated Curriculum regulations.	The components comply with Emancipated Curriculum.
Lesson plan that involves	1. A lesson plans	A lesson plan

utilizing ICT as a tool and combining learning comprehensively.	2.	Adapted ICT	which adapted ICT
Teachers have had differentiated instruction, but teachers need more skill in implementing it in their lesson plan.	1. 2. 3.	Teacher need other models Implementing DI Used as a reference.	A model which implementing differentiated instruction
The requirements and preferences expressed by educators in the lesson plan that seamlessly integrate information and communication technology and differentiated instruction.	1. 2. 3. 4. 5.	Requirements Preferences Lesson plan Integrate ICT Integrate DI	Need a lesson plan that integrate ICT-DI

The study analyzed teachers' needs for developing ICT-DI lesson plans for eleventh-grade senior high school hortatory exposition text material. The results were divided into four parts: components of the lesson plan needed, ICT needs, DI needs, the fusion of ICT-DI lesson plan needs. The teachers need a lesson plan that adheres to the guidelines set by the Indonesian Ministry of Education and Culture (2022), as they already understand the format. They value tracking-enabled devices for both online and offline contexts, as they value keeping track of their student's progress and tailoring their lessons to meet their unique needs.

The teachers also need to learn more about DI strategies, as they need to gain experience in the field. The study highlights the importance of providing opportunities for professional development and ICT to help teachers understand the differentiated instructions and successfully implement them in their classrooms. It was also found that the traditional methods have previously dominated eleventh-grade English learning, with teachers primarily using textbooks and YouTube videos sent to WhatsApp groups as.

As a next stage, it is the product development stage, a set of ICT-DI lesson plan for teaching hortatory exposition text. The lesson plan starts from concept to finished product in alignment with the features

and components mandated by the Merdeka curriculum and the previously identified needs of educators and their students.

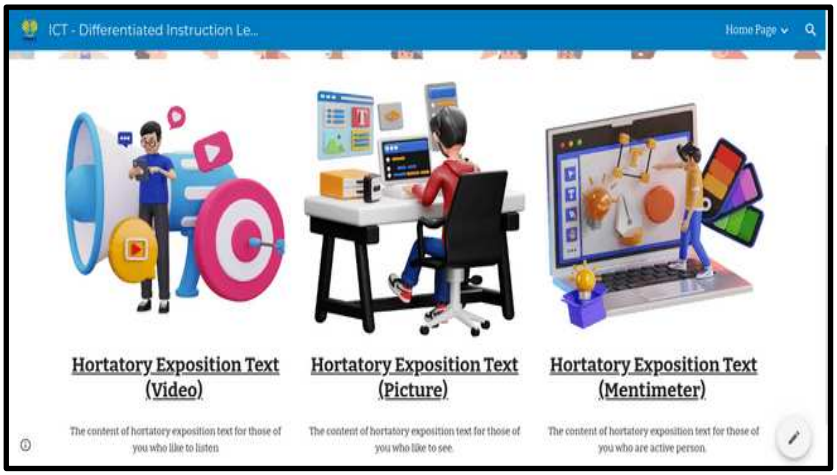

Figure 4. *Content management system part of ICT-DI lesson plan*

Figure 4 is the display of the content management system developed by researchers, where the content management system sites include differentiated learning activities is a part of the ICT-DI lesson plan which starting from the distribution of content that is adjusted to each student's needs, the learning process also adjusts to the needs and diversity of students which can certainly attract students' interest to actively participate in learning activities.

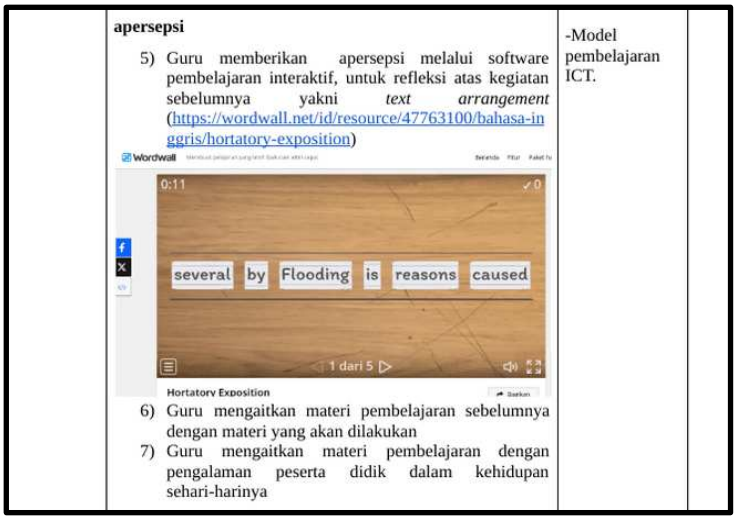

Figure 5. *Learning activity display of ICT-DI lesson plan*

Researchers adapted many of the advancements made in the learning activities portion to something not present in the earlier research. More specifically, there is a process that uses differentiated instruction in conjunction with the application of ICT. It can be accomplished by incorporating various ICT media, such as content management system based website, wordwall, mentimeter, and so on.

Figure 6. *Learning activity display of ICT-DI lesson Plan*

In the learning activities section of the ICT-DI lesson plan, there is information which can make teachers easy to understand and apply the material in the classroom. Additionally, teachers need a well-thought-out plan for their students' learning that includes learning objectives. An ICT-DI lesson plan employs four stages: creating the learning outcomes and learning objectives, organizing all of the lesson's components, figuring out how to implement ICT-DI for each activity, and finally, making an evaluation form which has been designed in such a way as to suit the differentiation of each student.

The next stage of this research and development is the validation criteria from the validation expert test. The statement items have five answer choices with a scale range of 5 for each assessment component: "Very feasible = 5", "Feasible = 4", "Fair enough = 3", "Not feasible = 2", and "Very not feasible = 1". These assessments from specialist were collected using Google Forms as can be seen in Table 5.

Table 5. *Validation Aspect and Scale*

No	Aspect that are Assessed	Validity score				
		1	2	3	4	5
1	**Completeness of Lesson Plan Components** The components of the lesson plan are in accordance with the content of the Merdeka Curriculum standards.					✓
2	**Time Allocation** The time allocation used is adjusted to the learning outcomes, teaching materials, learning activities, and learning objectives.					✓
3	**Conformity of Learning Outcomes with Content Standards** The learning outcomes developed are in accordance with the content standards.					✓
4	**Learning Objectives in accordance with Learning Outcomes** Learning objectives are formulated using operational verbs that can be observed, measured and refer to learning outcomes.					✓
5	**Appropriateness of Teaching Materials with Learning Objectives** The teaching materials developed are in accordance with the learning objectives.					✓
6	**Implementation of a Differentiated Instruction Approach** Learning activities are developed in accordance with Differentiated Instruction.					✓
7	**Clarity of Learning Steps including Initial, Core and Final Activities** The learning activities used include beginning, core and end activities.					✓
8	**Clarity of Activity Planning on the stages of differentiated learning and the application of ICT media** The learning activities used include initial, core and final activities in accordance with differentiated learning and the application of ICT media.					✓
9	**Appropriateness of Learning Process Planning with Learning Objectives** Assessment of the learning process developed in accordance with learning objectives.					✓
10	**Suitability of Pancasila Learner Profile**					✓

	The Pancasila learner profile is in accordance with the learning objectives and learning model used.	
11	**Appropriateness of Use of Facilities and Infrastructure** The use of facilities and infrastructure is in accordance with the learning objectives and the learning model used.	✓
12	**Suitability of *Pemahaman Bermakna*** *Pemahaman bermakna* developed in accordance with the learning objectives used.	✓
13	**Suitability of the Trigger Question** The triggering questions developed are in line with the learning objectives used.	✓
14	**Language** The language used is clear and easy to understand.	✓
15	**Effective and Efficient Use of Language** The language used is effective and efficient.	✓

The table shows that the product validation value for the ICT-DI lesson plan for teaching hortatory exposition text at eleventh-grade senior high school is 100, indicating its feasibility and validity. The value corresponds to the table of validation criteria, a scale of five, with the highest possible score. The expert's feedback for the lesson plan to be implemented according to the draft indicate an appreciation for the thoroughness and suitability of the plan. After a small-scale implementation, the lesson plan was suitable for teaching hortatory exposition text in the F phase eleventh grade.

The next stage involved a product implementation, conducted using pre-test and post-test. 22 students from SMAN 7 Semarang were chosen to see the increase of hortatory exposition text mastery by giving the treatment using lesson plan that integrates ICT and DI, specifically in the F phase of eleventh grade. The purpose is to determine if there is a difference between the time before and after implementing the ICT-DI lesson plan. The pre-test and post-test given to students were in the form of reading and writing, while the treatment for implementing the ICT-DI lesson plan was to teach the hortatory exposition text which was divided into 3 meeting sessions, in the first meeting the implementation of the ICT-DI lesson plan was to

improve reading-listening skills, in the second meeting to improve listening-speaking skills, and in the third meeting writing-presenting. The results of pre-test and post-test scores can be categorized based on scoring category in Table 6.

Table 6. *Score and categorization from teacher*

Intervals Score	Categorization
81-100	Excellent
71-80	Good
61-70	Fair Enough
41-60	Poor
0-40	Bad

Students with scores between 81 and 100 are excellent, 71 and 80 are good, 61 and 70 are enough, while 41 and 60 indicate that the teacher should be concerned. Scores below 40 are considered bad. Differentiated instruction in this lesson plan allows teachers to give low-scoring pupils more work. Further, the small-scale implementation begins with a pre-test, treatment using ICT-DI lesson plan to teach hortatory exposition text, and a post-test to assess students' understanding and improvement in learning. It was found that the pre-test and post-test scores showed significant improvement (Appendix A). Ten students got below 70 on the pre-test, while others achieved 70 or better. The product of ICT-DI lesson plan improved scores. This is also evident from the result statistical tests. They include classic assumption test consisting of normality tests, homogeneity tests, and Mann-Whitney tests, hypothesis tests consisting of one sample t-test, classical completeness test, and regression test simple linear that can be seen in Table 7.

1) Classic Assumption Test (Normality Test)

Table 7. *One-Sample Kolmogorov-Smirnov Test*

		Unstandardized Residual
N		22
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	7.04738918

Most Extreme Differences	Absolute	.131
	Positive	.107
	Negative	-.131
Test Statistic		.131
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Decision making criteria:
If the significance value / p-value / sig. <0.05 means abnormal data
If the significance value / p-value / sig. > 0.05 means normal data

Based on Table 7 above, the data with a confidence level α = 0.05 obtained a significance value (sig.) Kolmogorov-smirnov test 0.200 > 0.05, meaning that the data is normally distributed. Thus, the normality test evaluates whether the acquired data has a normal distribution so that parametric statistics may benefit from it. If this test proves to be abnormal, the data employs a nonparametric approach.

2) Classic Assumption Test (Homogeneity Test)

Table 8. *Test of Homogeneity of Variance*

		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	42.824	1	42	.000
	Based on Median	20.167	1	42	.000
	Based on Median and with adjusted df	20.167	1	29.266	.000
	Based on trimmed mean	41.119	1	42	.000

Based on Table 8, the value of Sig 0,000 <0.05, so that H0 is rejected. This means that the data variant is not homogeneous. It can be seen that the normality test in the previous test was declared normal but the data from the homogeneity test was declared not homogeneous. That's why researchers use the Mann-Whitney test or nonparametric test for the next. The goal is so that the data can be used for hypothesis testing.

3) Classic Assumption Test (Mann-Whitney Test)

Table 9. *Test Statistics (Mann-Whitney Test)*

	Nilai
Mann-Whitney U	72.000
Wilcoxon W	325.000
Z	-4.101
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Class

H_0 means that there is a significant difference between before and after the use of the ICT-DI lesson plan. Based on the output test statistics in the Mann-Whitney test above, it is known that the Asymp.Sig value (2-tailed) is 0.000 <0.05. Therefore, it can be concluded that H0 is accepted. This means that there is a difference in results between before and after the use of the ICT-DI lesson plan.

4) Hypothesis Test (One Sample T-test)

Table 10. *One Sample T-test*

Test Value = 75

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Nilai	-.952	43	.347	-3.182	-9.93	3.56

Decision Making Criteria:

Table 10 presents the sig value of 0.347>0.05, meaning that H_0 is accepted. It can be concluded that the average student in the class is equal to 75. The classical completeness test aims to see whether students have completed the minimum completeness criteria, then the t test used was the one sample t test.

5) Hypothesis Test (Classical Completeness Test)

$H_0: \pi \leq 75\%$ (the understanding of hortatory exposition text that reaches completion is less than or equal to 75%).

$H_1: \pi > 75\%$ (the understanding of hortatory exposition text that achieved completion of 75 has reached more than 75%).

Table 11. *Classical Completeness Test*

Classical Completeness Test						
x	n	π_0	z_{count}	$z_{(0,5-\propto)}$	*Criteria*	*Result*

21	**22**	**0,75**	**1,803**	**1,64**	$z_{count} > z_{table}$	H_0 **rejected**

Based on Table 11, the z_{count} value = 1.803 > 1.64 = z_{table} then H_0 is rejected. This means that more than 75% of the final test results in understanding hortatory exposition text are declared complete and achieve classical completeness.

6) Hypothesis Test (Regression Test Simple Linear)

Table 12. *Regression Test Simple Linear*

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	852.475	1	852.475	16.347	.001[b]
	Residual	1042.980	20	52.149		
	Total	1895.455	21			

a. Dependent Variable: Posttest

b. Predictors: (Constant), Pretest

$H_0: \beta_1 = 0$ (There is no influence of the ICT-DI lesson plan on students' understanding of hortatory exposition text)

$H_0: \beta_1 \neq 0$ (There is an influence of the ICT-DI lesson plan on students' understanding of hortatory exposition text)

The obtained values of a = 64.402 and b = 0.150 so the regression equation is $\hat{Y}$= *48.915 + 0.327X.*

Table 13. *ANOVA Table*

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	0,671	0,450	0,422	5,221

Table 13 shows regression test. It was simple linear regression test, this is to see if there is an effect of the skills used on students and it can have an effect. Based on the calculation results, the F value is 16.347 and the significance value (Sig.) = 0.001 because <0.05 then H_0 is rejected. This means that there is a significant influence. It indicates that there is a significant influence after implementing the ICT-differentiated instruction lesson plan. The effectiveness of

implementing the ICT-DI lesson plan for teaching hortatory exposition material to eleventh-grade students can be inferred.

Regarding the dissemination stage, researchers registered and distributed this ICT-DI lesson plan product on intellectual property rights. The lesson plan product for dissemination stage also presents a chapter containing practical guidelines on what ICT are used in the lesson plan that has been developed, then how the application of ICT can be aligned with the concept of differentiated instruction which teachers can learn directly in the sixth chapter in the product dissemination book. Every chapter highlighted in the book is meant to give teachers and other professionals a clear, easy to understand guideline on including ICT and DI in the lesson plan.

DISCUSSION

Based on the results of the preliminary research, it was found that lesson plans should be in line with the Merdeka Curriculum, using information and communication technology as tools for well-rounded learning, introducing differentiated instruction, and combining the two. The finding is in line with the study conducted by Kimpo and Sudimantara (2023), which mentioned that the Merdeka Curriculum in schools in Indonesia focuses on critical and creative thinking. However, there is a need to be more digital learning media, potentially hindering the effective implementation of traditional learning approaches.

The lesson plan was developed by integrating ICT and DI and including websites that can accommodate all student activities, such as content management system-based websites, Mentimeter, Wordwall interactive websites, and classrooms for learning management systems. In addition, teachers need ICT that is capable of accommodating all learning activities from the beginning to the end. It is also supported by the research from Tariq and Said (2023). They stated that Content Management Systems (CMS) are a type of software that provide a diverse learning environment that is highly interactive, dynamic, and nonlinear. These activities include using Google Sites as

a CMS, Mentimeter, Wordwall interactive websites, and other similar activities.

Moreover, Hembram (2022) proposed that content management system (CMS) is a software for organizing, controlling, and managing website content, including texts, links, images, videos, HTML documents, and other media. From the initial idea to the final product, the ICT-DI lesson plan was designed to be in alignment with the features and components mandated by the Merdeka Curriculum and the needs discovered in the past concerning teachers and students.

For the purpose of enhancing students' abilities and learning outcomes, validity assessments of developed lesson plans are crucial (Hidayatullah, 2016). The validation stage of ICT-DI lesson plan for teaching hortatory exposition text at eleventh-grade senior high school has received a positive assessment from the experts as evidenced by the validation questionnaire which overall assessment received a very feasible category for implementation.

Further, the results of pre-test and post-test from the ICT-DI lesson plan implementation found that the post-test score is higher than a pre-test score which is considered as very high improvement of the students' mastery of hortatory exposition text material. When ICT-DI lesson plan was implemented, they were giving full attention to the material that was facilitated by ICT and DI approach. The researchers followed Creswell (2013) outlines of intervention that consists of a three-part procedure for teaching and learning. The first stage involves conducting a pre-test, followed by delivering treatments in the second step and then administering a post-test in the third step.

Regarding the dissemination stage, researchers registered and distributed this ICT-DI lesson plan product on intellectual property rights. Lu (2013) said that a dissemination-centric copyright system, focusing on information dissemination rather than reproduction, can better adapt to digital challenges and maintain intellectual property system integrity. This is of course in line with the development research approach modified from Sumarni, Istiningsih, and Nugraheni (2019), Five main stages in research and development comprise the

Mantap model: 1) Preliminary Research Stage; 2) Model Development Stage; 3) Model Validation Stage; 4) Effectiveness Test Stage; and 5) Dissemination Stage of ICT-DI lesson plan for the eleventh grade of SMAN 7 Semarang.

Finally, the creation of the ICT-DI lesson plan has produced a product that appeals to its target market of teachers and students and is thereby both efficient. By means of meticulous validation, packaging, and dissemination process through intellectual property rights, the ICT-DI lesson plan seeks to be generally embraced and applied in schools.

CONCLUSION

This study successfully developed an ICT-DI lesson plan for teaching hortatory exposition text to eleventh-grade EFL students, aligning with the mandates of the Merdeka Curriculum. The research and development process, encompassing need analysis, design, validation, implementation, and dissemination, confirmed the lesson plan's effectiveness and feasibility. With a perfect validation score and statistically significant improvements in students' learning outcomes, the lesson plan demonstrated its potential to enhance both engagement and mastery of the hortatory exposition genre. The integration of ICT tools and differentiated instruction not only catered to varied student needs but also provided a flexible, innovative model for modern classroom instruction. As a result, this ICT-DI lesson plan serves as a valuable pedagogical resource for teachers aiming to implement technology-driven and student-centered instruction in the Indonesian EFL context and beyond.

DECLARATION OF AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this paper, the authors used DeepL website for optimizing language and readability. The authors also uses Gemini 2.0 flash to provide examples of sentence starters so that each paragraph can be more organized and follow the flow of the previous paragraphs. In addition, as is evident from the results of this study, the

authors also used the IBM SPSS application to assess significant changes in scores based on the treatment and tests given to the students. Authors also occasionally use Grammarly to look for grammatical errors or typos. Of course, the author has reviewed and adjusted as necessary the text derived from the use of these technologies and takes full responsibility for the content of the publication after the use of these tools/services.

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Appendix A

Table. *Score of Pre-Test and Post-Test*

No.	Students Name	Pre-Test Results	Post-Test Results
1	D Z	100,00	100,00
2	F I	99,00	100,00
3	A L	96,00	94,00
4	I Q	96,00	87,00
5	M D	94,00	100,00
6	R S	87,00	85,00
7	A Z	84,00	86,00

8	E L	84,00	100,00
9	L T	83,00	86,00
10	A N	83,00	100,00
11	R G	76,00	81,00
12	G B	73,00	95,00
13	Y P	69,00	86,00
14	C T	69,00	85,00
15	B G	57,00	95,00
16	Y L	52,00	95,00
17	A U	51,00	87,00
18	F D	43,00	89,00
19	E K	42,00	100,00
20	F R	35,00	100,00
21	M Y	35,00	83,00
22	A R	33,00	84,00