

---

**RESEARCH ARTICLE**

## Improving the English Language Achievement of SMP Negeri 4 Polewali by Integrating E-modul as a Media and Differentiated Learning as the Approach

Masykur<sup>1</sup>, Am Mang Latifa<sup>2</sup> ✉ and Salasiah Ammade<sup>3</sup>

<sup>1</sup>SMP Negeri 4 Polewali, Polewali Mandar, West Sulawesi, Indonesia

<sup>23</sup>Program Pascasarjana, Universitas Muhammadiyah University Parepare, Parepare, Indonesia

**Corresponding Author:** Am Mang Latifa, **E-mail:** [ammanglatifa70@gmail.com](mailto:ammanglatifa70@gmail.com)

---

**ABSTRACT**

The differentiated learning model is a teaching and learning process where students can learn the subject according to their abilities, preferences, and needs. The researchers conducted pre-observation of learning for students at SMP Negeri 4 Polewali. From the results of these observations, the researchers found that the teaching to improve the students' achievement in English failed, where their achievement was under the expectation of the National Education Standard. The failure of students' learning achievement is caused by a less attractive learning approach and the selection of learning media that does not motivate students to learn English in class. The problem statement is that student learning achievement is very low in learning media and approaches. The research objectives are to determine whether an E-learning module integrated with differentiated learning can improve learning achievement, the steps of learning English using an E-module integrated with differentiated learning and the students' perceptions of learning by using e-modules and differentiated learning. The researcher implemented a quasi-experimental design to determine students' language achievement. This study uses a pre-experimental design using a one-group pretest-posttest design using a quantitative approach. In the Pre-test and Post-test groups, the observation is two times: before giving treatment, called the Pre-test, and after giving the treatment, called the Post-test. The use of an e-learning module integrated with differentiated learning can improve the learning achievement of students of SMP Negeri 4 Polewali. A validation test was conducted to obtain expert-validated learning steps. Perception dimensions consisting of cognitive, affective, and conative dimensions can be used to support students in learning English through differentiated learning. The use of an E-learning module integrated with differentiated learning can improve students' learning achievement in class VIII SMP Negeri 4 Polewali; differentiated learning can improve students' learning achievement. The study recommends that researchers and teachers continue exploring best practices for combining e-learning and differentiated instruction to enhance student outcomes.

**KEYWORDS**

English Achievement, E-Modul, Differentiated Learning

**ARTICLE INFORMATION**

**ACCEPTED:** 12 December 2023

**PUBLISHED:** 05 January 2024

**DOI:** 10.32996/jeltal.2024.6.1.4

---

**1. Introduction**

The implementation of differentiated learning requires teachers to be creative, innovative and reasonable in the learning activities. They are supposed to facilitate students according to their needs. Each student has different characteristics (learning style, learning readiness, learner profile, talent, interest, etc.), as stated by Yavuz (2020). Meanwhile, M Koutsoukos (2022) explained that in a differentiated classroom, there are three important elements in differentiated learning, namely (1) Content (input) regarding what material students learn, (2) Process (process): How students will get the material or information actively involved. (3) Product (output).

According to Tomlinson (2017), the differentiated learning model is a teaching and learning process where students can learn the subject according to their abilities, preferences, and needs so that they are not frustrated or fail in their learning experience and their learning achievement remains successful as expected (Rivera, 2021).

Regarding the learning process that impacts achievement, researchers conducted a pre-observation of learning for students at SMP Negeri 4 Polewali. From the results of these observations, it can be seen that students' English language learning achievement is quite alarming, as evidenced by the average score of student learning outcomes, which is 59 from the KKM standard of 65. (data taken on 1<sup>st</sup> March 2023)

The failure of students' learning achievement is caused by a less interesting learning approach and the selection of learning media that does not motivate students to be able to learn English in class. This is evidenced by a survey using a questionnaire through Google form and the results can be seen in the following diagram:



Based on the findings above, it appeared that the learning media used in the classroom is not satisfactory (43.8%), followed by the boring or unpleasant way of teaching teachers (31.3%). Therefore, the researcher provides a solution to improve the learning achievement of SMP Negeri 4 Polewali students through the use of e-modules as media and integrated with differentiated learning as an approach.

## 2. Literature Review

### 2.1 Learning Media Technology

Learning media is one of the means of channeling learning messages and information (Al Rashid, 2023). In addition, Sudarsana (2019) stated that Well-designed learning media is very helpful for students in digesting and understanding the subject matter. The development of information technology in the current era of globalization and information spurs the advancement of learning media as well. Meanwhile, Chien (2021) argued that the use of Information and Communication Technology (ICT) as a learning media is a demand. Continuing this statement, Miftah (2020) stated that Although ICT-based media design requires special skills, it does not mean that these media are avoided and abandoned.

ICT-based learning media can be in the form of the internet, intranet, mobile phone or Android. In his view, Nicolich et al. (2019) concluded that the advancement of Information Technology has encouraged many changes, including in the field of education, which gave birth to the concept of e-learning. With e-learning, the implementation of learning becomes more effective and efficient. E-learning allows learners to be active and creative (Tampi, 2023).

E-learning provides learners, educators, and education managers with many benefits, including program flexibility and learning materials that can be made more interesting and memorable (Alam, 2023). Meanwhile, Szymkowiak et al. (2021) explained that the integration of information technology in education will improve the quality of learning.

In general, media is defined as a communication tool that carries messages from source to receiver. This definition leads to a more specialized understanding of media. More broadly, Rahmatullah (2022) said that the media is a tool that contains a message, which allows people or students to be oriented to the message directly. Meanwhile, Sartono (2022) stated that Learning becomes more interesting and interactive. Connecting the statement, Rahim (2022) argued that the use of learning media in the form of photos or videos can attract students' attention when compared to verbal descriptions. In addition, Suwarna and Apriyani (2022) explained that teachers can create varied activities and activate students through photos or images of the objects discussed.

Lewe and Wszofek (2023) explained that the learning process can be done anywhere and anytime. Audio, video, and computer (offline and online) programs are learning media that can be used anywhere and anytime according to the conditions and situations of teachers and students. Generating positive student attitudes towards the learning process. In addition, using media designed to meet student learning needs can lead to positive student attitudes towards the teaching and learning process (Bulut,2022).

### **2.1 The concept of module**

In the context of learning, a module is a self-contained unit of study that focuses on a specific topic or learning objective. It is designed to be completed independently or as part of a larger course or program. Modules can be used in various educational settings, including online courses, traditional classrooms, and training programs. They can be organized in a sequential or non-sequential manner, depending on the learning goals and the needs of the learners.

Each module typically includes a set of learning materials, such as readings, videos, and interactive activities, that help learners acquire knowledge and skills related to the topic. It may also include assessments, such as quizzes or assignments, to test the learners' understanding and provide feedback.

Using a modular approach to learning offers several benefits. For example, it allows learners to focus on specific areas of interest or need while providing a flexible and adaptable learning experience. Modules can also be easily updated or replaced, which is important in fast-changing fields where new information and technologies emerge regularly.

Overall, the use of modules in learning can enhance the effectiveness and efficiency of education, enabling learners to acquire the knowledge and skills they need to achieve their goals.

Based on research conducted by Asri and Suryadi (2022) in developing English teaching modules for electrical engineering study programs, it is found that Electronic modules (E-modules) are innovative media that can increase student interest in the learning process. In order to improve the achievement of Learning outcomes, the students need to be supported by the right learning guide. In addition, Qiu (2022) argued that this is because face-to-face time in front of the class is very limited when compared to the volume of material that must be completed. Therefore, Archambault (2022) explained that a learning guide that is able to activate students in learning is needed. The electronic module is among the learning guides that allow for the improvement of student learning outcomes and prioritize active student independence. In another view, Pratama et al. (2022) argued that the Electronic module (E-module) itself is almost the same as the e-book. The difference is only in the context of both. The Encyclopedia Britannica Ultimate Reference Suite (tahun) explains that an e-book is a digital file containing text and images that are suitable for electronic distribution and displayed on a monitor screen like a printed book. Pratama (20220) also explained that E-modules or electronic modules are digital modules consisting of text, images, or both that contain digital electronic material accompanied by simulations that can and should be used in learning.

### **2.2 Non Interactive E-modules**

A non-interactive learning e-module type is a type of module that does not allow direct interaction between students and learning materials. Some examples of non-interactive learning e-modules include E-books (Liaw,2016). E-books are learning modules in the form of electronic books that can be accessed online. E-books usually contain static text and images and do not provide interactive features such as exercises or simulations.

Slide presentations, Wang (2017): A slide presentation is a learning module that contains a series of slides presented sequentially. Slide presentations usually contain static text and images and do not provide interactive features such as exercises or simulations. In video learning, Liu dan Chu (2010) stated that a learning video is a video-based learning module that can be accessed online. Learning videos usually contain learning materials presented in the form of videos that can be played back.

Audio learning: Audio learning is an audio-based learning module that can be accessed online. It usually contains learning materials presented in the form of sound recordings. Huang dan Liaw (2018). Although non-interactive learning e-modules do not provide interactive features such as exercises or simulations, they can still help students understand difficult concepts through clear explanations and examples.

### **2.3 The Advantages of e modules**

Electronic modules can be used as media or teaching materials and, of course, have certain advantages. According to G.R Gevi & Andromeda (2019), Some of the advantages of electronic modules include:

1. Focus on the individual abilities of students.
2. There is control over learning outcomes with the use of competency standards that each student must achieve.
3. There is relevance between the curriculum and the goals and ways of achieving them. So that students can know the relationship between learning and learning outcomes obtained.
4. Physics concepts can be visualized in the form of animation.
5. Presented in an attractive display. Equipped with text, images, videos, animations, and so on.
6. The presentation of the material is more interactive and dynamic. So as to reduce the element of verblability, one of which is by including video tutorials.
7. It can be used anytime repeatedly and can be used wherever the students are.

### **2.4 The Weaknesses of E Modules**

Electronic modules can be used as media or teaching materials, which have certain disadvantages. According to Puspitasari (2019) Some of the shortcomings of electronic modules include:

1. Whether a module is good or not depends on the compiler's expertise.
2. It is difficult to determine scheduling or graduation because the time management of each student varies depending on the speed of each individual.

### **2.5 The Development of E-modules**

The development stage consists of expert validation and e-module trials. Sofyan et al. (2019) explained that Instrument validation is carried out to obtain valid and feasible instruments to assess e-module products. The components assessed in the research instrument include the aspects of the statement in accordance with the instrument grid, aspects of content/material suitability, and aspects of suitability for learning. The next step is to analyze concepts, analyze tasks, and specify learning objectives (Ilma et al.,2023). In this case, the selected learning material. In other words, Baidowi (2023) argued that the core competencies and basic competencies are analyzed in the specification of learning objectives.

Astegher (2023) stated that The design stage consists of test preparation, selection of media in accordance with the objectives, format selection, and initial design. Meanwhile, Talan (2023) explained that the media used to deliver the subject matter are E-modules and printed package books. In addition, Talan mentioned that In learning, student worksheets (LKS) are also used as supporting media.

The format of the e-module developed was in accordance with the needs at the planning stage. The design of electronic modules (e-modules) uses the format proposed by Prastowo (2011). The following is the format of the electronic module (e-module) developed using the format proposed by Prastowo (2011).

The following is the format of the developed electronic module (E-module):

**Table 1. Outline E module interactive**

<b>1) The beginning</b>	<b>2) Content</b>	<b>3) Final Section</b>
Cover Preface table of contents competency standards basic competencies Learning objectives The scope introduction material	Title Description Exercise Worksheet Summarize	Evaluation References

Source : Prastowo (2011)

Table: Example of E modules

The following are applications for making E-modules, including:

1. Sigil

Sigil ebook editor is a free and open-source software application used for creating and editing eBooks in EPUB format. Sigil provides a user-friendly interface for editing and formatting EPUB files, allowing authors and publishers to create professional-quality ebooks without knowing how to code or use complex software.

Some of the features of Sigil include a WYSIWYG editor, spell-checking, full Unicode support, multiple views (code view, book view, and preview), and support for various metadata formats. Sigil also allows users to create custom stylesheets and add multimedia content, such as images and videos, to their eBooks. We can access it in (source <https://sigil-ebook.com>). Overall, Sigil is a powerful and flexible tool for creating eBooks, and it has a large and active user community that provides support and resources for those who want to learn how to use it.

2. Flip Html 5

Flip HTML5 is a digital publishing platform that allows users to convert their PDF files into interactive digital publications such as magazines, catalogs, brochures, and more. The platform uses HTML5 technology, enabling it to work seamlessly on any device, including desktops, tablets, and smartphones.

With Flip HTML5, users can add multimedia elements such as videos, audio, and animations to their publications and customize the design and layout to suit their brand. The platform also offers a range of features such as social sharing, analytics, and SEO optimization to help publishers reach a wider audience and track the performance of their publications.

Overall, Flip HTML5 is a powerful tool for creating engaging and interactive digital content that can be easily accessed and shared across multiple devices. We can access or create at <https://fliphtml5.com/>

3. Anyflip

AnyFlip is a digital publishing platform allowing users to convert PDFs into interactive digital publications such as magazines, catalogs, brochures, and more. Like Flip HTML5, AnyFlip uses HTML5 technology to enable its publications to work seamlessly on any device, including desktops, tablets, and smartphones.

4. 3D Pageflip

Arora (2019) explained that 3D PageFlip is a software tool for creating digital publications such as e-books, magazines, catalogs, brochures, and more. Unlike the previously mentioned platforms, 3D PageFlip is a desktop application that runs on Windows computers.

5. Flipbook maker

Erna (2021) explained that a flipbook maker is a tool that enables users to create digital flipbooks or animated books. Flipbooks are typically a series of images that, when flipped through quickly, create the illusion of motion or animation. With a flipbook maker, users can create their own custom flipbooks by importing images and arranging them in the desired order.

6. Flip Pdf

Putri (2022) explained that Flip PDF is a software tool that allows users to convert PDF documents into interactive flipbooks with page-turning effects, multimedia content, and customizable themes. It was developed by FlipBuilder, a software company that

specializes in creating digital publishing solutions. With Flip PDF, users can import PDF files and customize their flipbooks' layouts, colors, fonts, and other design elements. They can also add multimedia content such as videos, audio, images, and hyperlinks to make their flipbooks more engaging and interactive.

#### 7. Canva

Canva is a graphic design platform that allows users to create a wide range of visual content, including social media graphics, presentations, posters, flyers, and more. It offers a user-friendly drag-and-drop interface, a vast library of templates, images, and other design elements, as well as advanced features such as custom fonts, color palettes, and animations. Canva is available both as a web-based and mobile app, offering free and paid plans. The free plan includes basic features and access to a limited library of templates and design elements, while the paid plans offer more advanced features and access to a larger library of resources.



Source: <https://www.google.com/search?q=fliphtml5>



Source: <https://www.google.com/search?q=anyflip>

### 2.6 Differentiated Learning as an Approach

According to Tomlinson in Nurlinah (2022), differentiated learning is a process of assimilation of diversity to acquire information, create ideas, and actualize what they learn. In addition, Boelens (2018) differentiated learning occurs by creating a diverse learning environment and giving freedom to children to reach satisfaction in processing ideas to generate an outcome for each child so they learn very effectively. In line with what was stated by Tomlinson (2013), learning Differentiation is learning that accommodates, guides, and appreciates the diversity of students in learning according to readiness, interests and student learning profiles.

Every human being is created unique and special; no one is exactly the same even though they are twins, but there are definitely differences between them. Shah (2019) argued that, similarly, with students in the class, When they enter school, they are definitely not a blank white sheet of paper. Furthermore, Rusilowati (2020) explained that within each child, there are characteristics and potentials that are different from one another that the teacher must consider.

Tomlinson (2013) explains the diversity of students in terms of 3 different aspects; these three aspects are further explained as follows:

a. Readiness for student learning

Student learning readiness is the ability to learn new material. Readiness to learn is not interpreted as the ability of students. Roberts (2023) stated that the Readiness learning in question is described as a range of teaching and learning with different levels for each child. In addition, Knowles (2020) argued that the range will be known to children who are ready to learn and will move forward; temporarily, children with less learning readiness will move backwards to reach the goal of learning. In contrast, Marlina (2020:22) describes student readiness as a form of closeness to the learning objectives determined.

Teachers need to ask what their students need, so they can succeed in their studies. Alif (2020) explained that the readiness of students must be closely related to the way teachers think, namely that each student has the potential to grow both physically, mentally, and intellectually. Then, the teacher can ask his students what they are interested in.

b. Student's interest

Interest is one of the most important motivators in achieving a goal. Interests also determine the activity of a child to be involved in learning. Tomlinson (2001) explains that student interest can increase motivation in learning, helping students to convert between schools and their propensity to learn, showing the interconnection between all learning. In contrast, Marlina (2020) describe interests as the personal preferences of students and the will that can motivate learning.

c. Student's study profile

Marlina (2020) describes a learning profile student as an ultimate learning design liked by students, namely the learning design that is stimulated by a way of thinking, a special intelligence, cultural background, or gender. Tomlinson (2021) describes student learning profiles related to tendencies to learning that are usually done by a student. Style learning in question is a tendency related to learning:

- 1) Visual: relying on learning style visual power (seeing) to sharpen understanding of an object of study (Winarto et al.,2020).
- 2) Audio: relying on learning style deep listening ability understanding of learning objects (Malacapai, 2019)
- 3) Kinesthetic: learning by expressing himself through the motions. Students with kinesthetic learning tendencies are usually happy to do learning activities outdoors. Physical intelligence in students is kinesthetically superior to other students. (Wahidy,2021)

Differentiated learning uses several approaches, namely content, process, and product. (Suartama, 2020). Content differentiation refers to the strategy of differentiating the organization and format of content delivery. Content is the material knowledge, concepts, and skills that students need to learn based on the curriculum. (Bayram, 2019). Bayram further said that In differentiated learning, there are 2 ways to create different lesson content, namely:

- a. Adjusting what will be taught by the teacher or what will be learned by students based on the level of readiness and interest of students
- b. Adjusting how the content to be taught or learned will be delivered by the teacher or obtained by students based on the profile learning that each student has.

Furthermore, Bayram also said the strategies that can be carried out by teachers to be able to differentiate the content that will be studied by students are:

- a. Using a variety of materials
- b. Use a study contract or class agreement
- c. Provides mini-learning
- d. Presenting material with various learning.
- e. Provides a variety of support systems

Process: how students obtain information or knowledge they will learn. In addition, Retnawati (2018) explained the methods related to the steps that students take to get guide information. In other words, process differentiation refers to a strategy of differentiating the processes students must go through, which can enable them to practice and understand content.

In other words, van geel (2019) argued that the process of learning differentiated is the activities carried out by students in class. The activity in question is an activity that is meaningful to students as a learning experience in class, not an activity that does not correlate with what is being learned. Furthermore, Deunk (2018) stated that The learning differentiated carried out by these students are not given a quantitative assessment in the form of numbers but a qualitative assessment in the form of notes and feedback regarding attitudes, knowledge and skills that are still lacking and need to be corrected/improved by students.

Some activities are carried out that must meet the criteria as activities.

- a. They are good, namely, activities that use the information skills possessed by students.
- b. Differ in terms of difficulty level and how to achieve it. Meaningful activities carried out by students in the classroom must also be differentiated based on readiness, interest, and the learning profile of students.

Table 2. Strategies for differentiating activities can be seen in the following table:

<b>Readiness</b>	<b>Interest</b>	<b>Study profile</b>
Class discussions with questions of different levels of difficulty	Class discussions with different questions according to the interests of students.	Class discussions by chatting on online media, podcasts, talk shows.
Peer tutors explain friends who are having trouble.	Peer tutors who share the same interests.	Peer tutors in large (class), small, individual groups through videos, pictures, songs).
Tasks using RAFT (Role Audience Format Topic) with different levels of difficulty	Assignments using RAFT with different topics according to students' interests.	RAFT played in Role play (playing drama)
Think-Pair-Share	Jigsaw (expert group based on interest)	Gallery walk
think that the level of difficulty of the task is different	Think different questions according to the interests of students.	different thinking tasks based on auditory, visual, or kinesthetic
Learning contracts or class agreements for activities based on student readiness	Study contracts or class agreements based on interest activities	Learning contract learning according to auditory, visual or kinesthetic learning styles

Table 2

*Quoted from the Source: Tomlinson, C. A., & Imbeau, M. B. (2023)*

Products are evidence, works, or results that are concrete of what they have learned and understand. Tomlison & Imbeau (2023) explained that products are tangible or tangible in nature, the form of student work designed in such a way that forms according to the understanding and creation of teaching materials. Tomlison & Imbeau (2023) also said that product differentiation refers to the strategy of differentiating the product of student learning outcomes, training results, application, and development of what has been learned.

In this product, the teacher is required to be able to make updated content, process or way of thinking, and products as evaluation forms based on student characteristics, level of students' abilities, and preferences or tendencies student. (Robers & Ilman, 2023). In addition, Robers said that differentiated learning does not mean that the teacher has to teach 32 different ways to teach 32 students. Nor does the teacher have to increase the number of questions for students who work faster than others. Differentiated learning does not mean that teachers have to classify those who are smart with those who are smart and those who are less with those who are less. Not also giving different tasks for each child. Differentiated learning is a series of common sense decisions made by teachers who are oriented to student needs.

By looking at the description above, the writer tries to do differentiation learning by mapping students first. This mapping includes a diagnostic test of the aptitudes, interests, learning styles and cognitive abilities of students. After doing student mapping first, it will be easier to carry out the learning process. Students will feel that their learning needs are met, and the teacher will find it easier to guide students.



Differentiated Learning must be formed through a teacher's way of thinking that considers that every child can grow and develop optimally according to their respective capacities. Tomlinson and Moon (2013), as figures of differentiated learning, state that there are five basic principles that assist teachers in applying this differentiated learning.

#### 1) Learning Environment

The learning environment in question includes the physical environment of the school and the classroom where students spend their time studying at school Chai et al. (2020). Furthermore, Sokmen (2021) explained that learning climate refers to the situations and conditions that students feel when learning, forming relationships, and interacting with other students and their teachers. In addition, he said that in learning, the teacher must respond to students according to their readiness, interests, and learning profiles so that their learning needs are met. In another view, Sokmen (2021) said that the teacher needs to have a connection with his students so that he can recognize the profile of the students he teaches in terms of their readiness to receive lessons, what interests their students have in being able to easily accept lessons, and what is the right way to convey lessons to students in accordance with their own learning style.

In addition to having relationships and connections with students, teachers also need to make their students believe in themselves. Tomlinson in Rickards & Hattie (2020) states that the trust of students is obtained by the teacher by:

- a. give true respect for the values, abilities, and responsibilities of students,
- b. provide optimism to students that they have great ability to learn the subject matter provided
- c. active and support students in a real way so they can be successful.

#### 1) Quality curriculum

A quality curriculum, of course, must have clear goals so that the teacher can know what to aim for at the end of learning. In addition, Elmurzaeva (2021) the focus of the teacher in teaching is on the understanding of students, not on what material they memorize. The most important thing is an understanding of the subject matter that is in the minds of students so that it can be applied in their lives.

Another thing that needs to be considered by the teacher is considered how the existing curriculum can challenge all students, both those who have above average, moderate, and below average abilities Meyer & Norman (2020). Furthermore, for students who are above average, teachers need to challenge them with other thoughts that are more in-depth about the material being discussed so that they will not get bored and bored in learning it.

Meanwhile, for students who are below average, teachers need to think about concrete steps that need to be taken to help them understand the subject matter presented step by step and achieve learning objectives.

#### 8. Concept of developing learning activities in the classroom

Before the lesson begins, the teacher must make an activity plan. The purpose of creating a lesson plan is to create learning activities that meet the learning objectives effectively and efficiently. On this occasion, you will find information on how to create learning activities that are useful for you in the classroom.

The steps for developing learning activities are:

##### a. Formulate the Learning Objectives

Formulating learning objectives is the first thing to do. The teacher must know the purpose of the activity before starting it. By knowing the learning objectives, it will be easier for the teacher to arrange the steps of the learning activities.

According to Bloom in Ulfah (2023), there are three main components that can be used as reference when constructing learning objectives:

- 1) Cognitive Aspect: Learning objectives will be based on students' mastery of knowledge and information about data and facts, learning concepts, generalizations and principles (Rahayu, 2022).
- 2) Affective Aspect: The learning objectives formulated will relate to the mental development of students and how they receive and value things (Supena,2021).
- 3) Psychomotor Aspect: Teachers can see students' abilities and skills from physical and non-physical performance. The learning objectives contained in this element will describe students' abilities and skills.

- 4) Selecting the Learning Experiences Students Will Receive: Learning is not just about students going to class, listening to the material explained by the teacher, recording important things, and memorizing concepts and formulas given by the teacher (Wong, 2023). Learning is an experience that is felt directly by students, so learning activities must foster students' ability to think critically, logically, creatively, and actively (Bobi,2023).

#### b. Determining Learning Activities

Learning activities are an important component of the learning process (Dewi,2019). To implement them, teachers can use individual or group approaches. The individual approach allows students to learn independently by using learning media that has been designed by the teacher beforehand, allowing students to learn according to their own abilities and pace. The group approach allows students to learn in groups, either in small or large groups.

#### c. Determining Who Will Be Involved in the Learning Activity Process

The teacher should know the people who will be involved in the learning activity in this case. Is there only one teacher involved, or are additional teachers needed? Teachers are responsible for assisting and managing the process of learning activities that are enjoyable for students. Therefore, it is important for teachers to continuously improve their abilities and skills (Tamsah,2021).

In addition, teachers must be ready to anticipate and willing to continuously adapt to the changing times as the characteristics of their students change over time.

#### d. Determine the learning media.

Teachers need the right learning media to support learning in the classroom (Al Rashid,2023). Here are some things that teachers should consider when choosing learning media:

1. Diverse intellectual abilities of students.
2. Learning objectives that students are expected to achieve.
3. Learning media that will be used.
4. Student learning experiences are used to achieve learning objectives.
5. Methods and materials used in making learning media.
6. Tools and materials used to make learning media.
7. Available facilities.
8. The learning style of the students

#### e. Planning Evaluation and Development Activities

Teachers must plan evaluation and development activities that will be carried out after the learning activities are completed. By conducting these evaluation activities, teachers can find out whether students' abilities have developed or not. By utilising these evaluation activities, teachers can also plan improvement and development activities for the learning activity process that will encourage the improvement of students' abilities.

From the combination of the concept of differentiated learning Bobi (2023) and the use of e modules that are placed on the concept of learning steps (Dewi, 2019), the researcher will propose the main components of differentiated learning using e modules as follows:

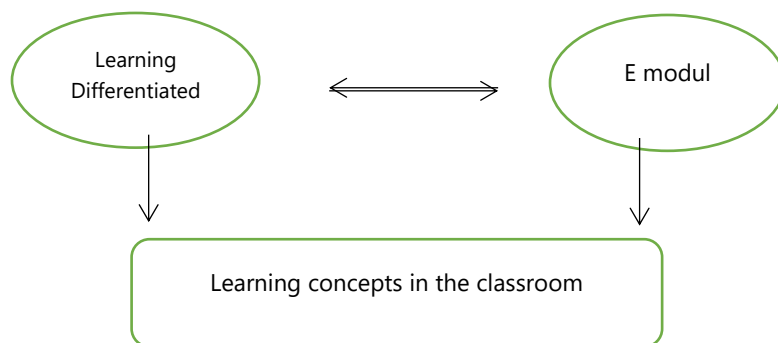


Figure 1 Learning development and activities

The main features of differentiated learning include adjusting the content, process, or product of learning to ensure that students are appropriately challenged and supported, grouping students based on their readiness levels, interests, or learning profiles, and using various teaching methods and strategies to accommodate different learning preferences.

### 9. Concept of perception

Perception is the way a person understands, interprets, and gives meaning to the information they receive from the environment. The concept of perception is very important in research because it relates to how participants understand and respond to the stimulus or variable under study in a study (Septiana, 2023). In research, perception can be measured in various ways, such as through questionnaires, interviews, or observation. It is important to consider that perception is subjective, meaning that two different people can have different perceptions even though they are exposed to the same stimulus or variable (O'Brien, 2023)

Furthermore, in some types of research, perception can be an independent or dependent variable. For example, in social psychology research, people's perceptions of the characteristics of a person or group can be tested in relation to their attitudes or behaviors. Meanwhile, in clinical psychology research, an individual's perception of their symptoms can be measured to aid diagnosis or evaluate the effectiveness of treatment. In addition, in taking the concept of perception into account in research, it is also important to pay attention to factors that can influence perception, such as context, previous experience and individual preferences.

In essence, perception is an interrelation of various components, where there are three components, namely, cognitive perception. The Cognitive Component is a Component that is composed on the basis of the knowledge or information that a person has about the object of his attitude. From this knowledge, we will then form a certain belief about the attitude object, Affective perception. The Affective relates to feelings of pleasure and displeasure. So, it is an evaluative nature that is closely related to cultural values or value systems. Conative perception: The Conative Component is a person's readiness to act in relation to the attitude object with the object of his attitude.

### **3. Methodology**

The researcher implemented a quasi-experimental design to know students' language achievement. This study uses a pre-experimental design in the form of a - group Pretest- Posttest design using a quantitative approach. In this study, the researcher uses experimental research with quantitative experiments. This study investigates the process of integrating e-modules as a medium and differentiated learning as an approach and finds the problem faced by the teachers in the English language achievement of SMP Negeri 4 Polewali. The researcher collects the information to analyze the research question, and the researcher uses a frame of reference to gain a better understanding of this study based on the document, responses to the interview and observation. Thus, this research describes how the teacher carries out the English language achievement of SMP Negeri 4 Polewali by integrating the e-module as a medium and differentiated learning as an approach. This research used some instruments to collect data, which included the English Language achievement test: This test is applied to the pretest, whose function is to measure the initial English language skills of students in class VIII SMP Negeri 4 Polewali. The second is the validation test, which is used to obtain expert-validated learning steps. This validation test used one expert. The validation test consists of validation of theory, learning objectives, syntax, strategy, support system and assessment. This study aims to measure the validity of differentiated learning procedures integrated with E modules as media. The validated test was used to verify the theory, the learning objective, syntax, strategy, support system, and assessment (Nur, 2015). The third is the questionnaire; the questionnaire is distributed to students in the form of 15-point questions that facilitate the researcher in obtaining information about the students in learning through the e-module as a medium and integrated with differentiated learning as an approach, distributing questionnaires to students directly by providing clear instructions and sufficient time for the students. The last is the Perception test; Each perception provided 3 aspects, namely, cognitive aspects, affective aspects and conative aspects. This study uses three types of techniques to collect the data. Three types of techniques in collecting the data are the distribution of English tests to respondents, collecting and analyzing. Distributing questionnaires effectively involves a series of steps to ensure that the survey reaches the intended respondents and generates valuable responses. Collecting and analyzing tests for students is an essential part of the educational process. It helps educators assess student performance, identify areas of improvement, and make data-driven decisions to enhance the learning experience. Here's a step-by-step guide on how to collect and analyze tests for the students:

For analyzing tests, we used a grading key or software to quickly score the tests, calculate individual scores for each student, ensuring accuracy in the grading process, and examine the distribution of scores to identify outliers or groups of students who performed exceptionally well or poorly, and Reflect on the test's quality and effectiveness. Distributed questionnaires were checked and analyzed. The distribution, checking, and analysis of questionnaires are important steps in conducting research or data collection. The data analysis collected by the researcher was implemented in descriptive inferential statistics. The following are steps implemented for data analysis: analyze the students' English achievement data, analyze the learning steps of differentiated learning, analyze perception, distribute questioners and classify the student's score, and find out the significant difference between both tests using the following:

o	Classification	Score
	Very good	86 – 100
	Good	71 – 85
	Fair	56 – 70
	Poor	41 – 55
	Very Poor	≤ 40

Source : Kemendikbud (2020)

### 3.1 Data Analysis

In analyzing the data which had been obtained by using questionnaires, the researcher analyzed it through the Likert scale. It is described as follows:

Category	Statement Score (Positive)	Statement Score (Negative)
Strongly Agree	5	1
Agree	4	2
Undecided	3	3
Disagree	2	4
Strongly Disagree	1	5

## 4. Results and Discussion

### 4.1 Result

To answer the research question, "Is the use of an E learning module integrated with differentiated learning able to improve the learning achievement of students in class VIII SMP Negeri 4 Polewali?" the researcher first took data, in this case, English learning achievement, before being given learning treatment through differentiated learning. Then, the respondents who had been selected as the experimental class were given the learning treatment and the other party, namely the control class, was also given English learning without using differentiated learning integrated with E-module as media. The English learning process for both the experimental and control classes was given 4 meetings, excluding the schedule for taking pre-test and post-test data. Furthermore, after the experiment class and control class were given the English learning treatment, it was continued by giving the final test (post-test).

The following data was acquired by testing learning achievement in the experimental and control classes:

#### 1. The finding of students' English Learning Achievement

The following are the results of the students' learning achievement in the pre-test and post-test:

##### a. Pre-test: Findings of student achievement data on the pre-test

Table 3. Students' English learning achievement on pre-test

No	Classification	Scores	Experimental Class		Control Class	
			F	P (%)	F	P (%)
1	Very Good	86 – 100	-	-	-	-
2	Good	71 – 85	-	-	-	-
3	Fair	56 – 70	1	3.33	1	3.33
4	Poor	41 – 55	28	96.67	29	96.67
5	Very Poor	≤ 40	-	-	-	-
Total			29	100	30	100

Table 3 investigates the frequency of learning achievement among the students' pre-tests. It may be concluded that low classification dominates the students' score in the pre-test, whether in class experimental or control. There is just one student in each class who is categorised as fair; the others are classified as low. It shows that the student's learning achievements are still lacking and must be improved.

b. Pos test; Findings of students' English learning achievement data on the post-test

Table 4. students' English learning achievement on post-test

No	Classification	Scores	Experimental Class		Control Class	
			F	P (%)	F	P (%)
1	Very Good	86 – 100	9	31.05	-	-
2	Good	71 – 85	12	41.37	20	66.67
3	Fair	56 – 70	8	27.58	10	33.33
4	Poor	41 – 55	-	-	-	-
5	Very Poor	≤ 40	-	-	-	-
Total			29	100	30	100

Table 4 demonstrates that the experimental class's rate percentages were higher than the control class's rate percentages. In the experimental class, 9 students (31.05 %) are categorized as very good, 12 students (41.37 %) are classed as good, and 8 students (27.58 %) are classified as fair. Meanwhile, in the control group, 20 students (66.67 %) receive a good classification, and 10 students (33.33 %) receive a fair classification. It implies that the students' learning achievement improved in the post-test session compared to the pre-test session.

2. The standard deviation and the mean score of the experimental and control groups

The following tables show the mean score and standard deviation of the experimental and control classes in the pre-test and post-test:

Table 5 The mean and standard deviation of the pre-test scores

Class	Mean Score	Standard Deviation
Experimental	41.45	9.45
Control	35.19	13.15

Table 5 shows that the mean score of students in the experimental class before treatment differs from that of students in the control class. However, both classes received low grades. It finds that the treatment is still needed to improve their learning achievement.

Table 6. Post-test mean and standard deviation

Class	Mean Score	Standard Deviation
Experimental	75.48	8.64
Control	65.8	8.97

Table 6 shows that the average result of students in the experimental class after receiving treatment differs from that of the other classes. The experimental class average has met the minimum achievement criteria of 75. It concludes that implementing differentiated learning can considerably improve the learning achievements of the students.

Hypothesis testing

The researcher employed a t-test formula to examine hypotheses. The significance level is set  $\alpha = 0.05$ .

Table 7 T-test and t-table value computation results

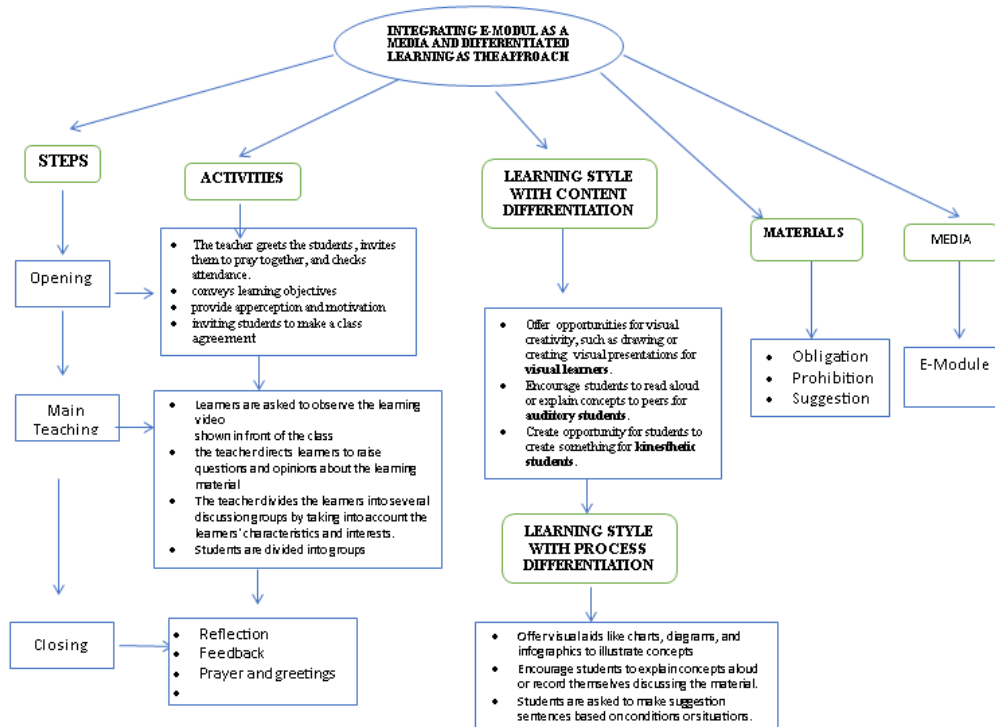
Test	A	Df	t-test value	t-table value
Pre-test	0.05	57	1.86	2.002
Post-test	0.05	57	4.1	2.002

The t-table value is 2.002, as shown in the table above. Because the students' pre-test t-test value (1.86) is lower than the t-table value, there is no significant difference between the two mean scores. Meanwhile, because the t-test value of the students' post-test (4.1) is greater than the t-table value, it is determined that the two mean scores differ significantly.

Meanwhile, to answer the research question, "What are the steps of learning English using an E-module integrated with a differentiated learning system?"

**4.1.1 First Draft**

Based on the concept of differentiated learning (Bobi, 2023), e-modules (Dewi, 2019), and learning steps (Rahayu, 2022), the researcher's draft is described as follows.



**Figure 2 First draft differentiated learning.**

This first draft of the learning design is validated by the expert provided by the researcher, who then provides suggestions and changes that should be added. I analyzed and developed Draft 1 based on Herwina's (2021) opinion to improve the differentiated learning process integrated with E modules as media.

Through the validation process (validated draft), there are changes and aims to develop the learning process from the introduction core activities in terms of learning style with content differentiation and process differentiation.

4.1.2 Validated draft

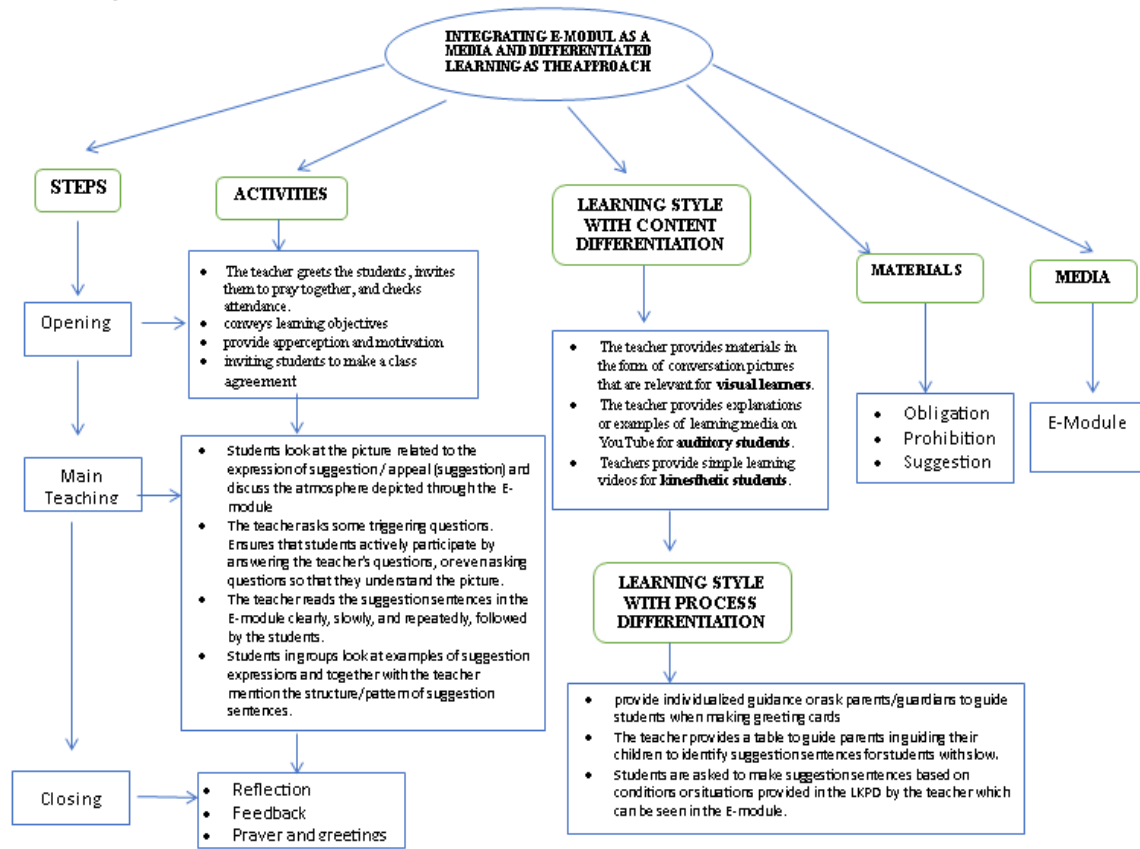


Figure 3 Validated draft of differentiated learning Concept

This learning model consists of three main stages: Opening (Opening), Main Learning Process (Main Teaching), and Closing (Closing). Each stage is designed to optimize the learning experience of students.

- a. Opening: The opening stage aims to acquaint students with learning objectives, interest them, and activate relevant prior knowledge. The teacher greets the students, invites them to pray together, checks attendance, provides apperception and motivation and invites students to make a class agreement.
- b. Main Teaching Process: At this stage, students will be involved in the core learning activities. Students look at the picture related to the expression of suggestion/appeal (suggestion) and discuss the atmosphere depicted through the E-module

And then, the teacher asks some triggering questions. Ensures that students actively participate by answering the teacher's questions or even asking questions so that they understand the picture. The teacher reads the suggested sentences in the E-module clearly, slowly, and repeatedly, followed by the students. Students in groups look at examples of suggestion expressions and, together with the teacher, mention the structure/pattern of suggestion sentences.

**Closing:** The closing stage aims to summarize the learning and ensure that the learning objectives are achieved. The teacher will invite students to reflect on what has been learned during the process. They will discuss the challenges faced, achievements achieved, and experience using E-modules in learning. Teachers and students will jointly evaluate the results of the project and discuss lessons that can be drawn for future learning. This step will provide meaningful closure to the learning experience and ensure that students understand the connections between differentiated learning as an approach and E-module as a medium. Reflect on the learning experience: Allocate time for students to reflect on their learning journey. Encourage them to think about how the differentiated learning approach and the use of e-modules have impacted their understanding and engagement with the content. In addition, Facilitate a discussion where students share their thoughts on the benefits of differentiated learning and e-modules. Encourage them to identify specific examples or instances where these approaches have helped them grasp concepts more effectively or catered to their individual needs. After that, the teacher helps students make connections between the differentiated learning strategies they experienced and the features of the e-modules used. Discuss how the e-modules provided

opportunities for personalized learning, allowed for multiple entry points into the content, or accommodated different learning styles.

This learning design draft was validated by an expert. After the revision, there were changes in the learning steps for both process differentiation and content differentiation.

To answer the following research questions: "What are the perceptions of students and teachers on English learning using E-module integrated with differentiated learning?"

No	Dimension	Frequency (F)	Percentage (%)
1	Cognitive	8	27.58
2	Affective	11	37.93
3	Conative	10	34.49
Total		29	100

Based on O'Brien's (2023) opinion on the dimensions of perception, the researchers identified the dimensions of perception as mentioned by Faturrahman (2017), namely the cognitive, affective and conative dimensions. Then the data is as follows:

8 students (27.58%) in the cognitive dimension feel that their school or institution provides sufficient support and resources to implement differentiated learning strategies. In addition, according to students, differentiated learning strategies can improve learning achievement in class. Then, using E-modules can help students understand learning materials well.

11 students (37.93%) in affective dimension students are happy to learn more English through differentiated learning strategies. In addition, students also feel happy that their school or institution provides enough support and resources to implement differentiated learning strategies. Then, students find E-modules more fun and interesting.

10 students (34.49%) in the conative dimension feel motivated to learn English more through differentiated learning strategies. Students also feel that they have the motivation to learn well even though they have different ability levels from other students in the class. Then, students also feel that the E-module can motivate them to understand the learning material better.

## 4.2 Discussion

This section summarizes the findings of learning achievement on the pre-test, learning achievement on the post-test, and differentiated learning steps integrated with the E-module; then the last section explains the three dimensions (cognitive, affective and conative), dimensions that support students to continue to want to learn English by using differentiated learning integrated with E-module as media.

### 1. Learning achievement on pre-test

Before being taught through differentiated learning integrated with E-modules, the students' mean score in learning English was 41.45. According to Dirjen Pendidikan Dasar dan Menengah (2015), it is classed as fair. Second, the researcher feels that increasing students' interest in the learning process should be a bigger priority for teachers; thus, the researcher seeks a remedy to the student's problem in learning achievement.

It is possible to conclude that low classification dominates the students' pre-test scores, whether in class, experimental or control. Each class has one student who is classed as fair, while the others are classified as low. It demonstrates that students' learning achievement is still low and has to be addressed.

### 2. Learning achievement on the post-test

It can be concluded that the overall learning outcomes of students in the experimental class showed a better improvement compared to the learning outcomes of students in the control class. This can be explained as follows:

#### a. Percentage Increase in Grades

The percentage of students categorized as "excellent" and "good" in the experimental class was higher than in the control class, while the percentage of students categorized as "fair" was lower in the experimental class.

#### b. Increase in Average Achievement

The average achievement of students in the experimental class tended to be higher than the average achievement of students in the control class.

#### c. Treatment or Method Effect



In this context, it seems that the method or treatment given to the experimental class contributed positively to the increase in students' learning achievement. It can be seen from the opinions of experts and then similar research support differentiated learning is a strategy that can be utilized to improve English language achievement among learners, according to Maruf, N. (2023). This approach involves modifying instruction, content, and assessment to meet the needs of individual students. Integrating e-modules as a medium is one way to implement differentiated instruction. E-modules can be utilized to provide learners with interactive and engaging learning experiences that are tailored to their specific requirements. Learners can work at their own pace and receive quick feedback on their progress by using e-modules. This can aid in increasing learners' motivation and autonomy, including e-modules as a medium and differentiated learning as an approach, which can be helpful in enhancing learners' English language achievement. Using this technique, learners can receive education that is personalised to their own requirements, which may improve motivation and autonomy, ultimately leading to higher achievement.

### 3. Learning Steps

Differentiated learning is a teaching approach designed to accommodate individual differences in the classroom, such as abilities, interests, learning styles and needs (Mukhibat,2023). The aim is to ensure that all students have the opportunity to learn and develop at their own rate. One of the distinctive concepts of differentiated learning measures is "individualized appropriateness." This concept refers to the effort to understand and respond to individual differences between students, including differences in abilities, interests, learning styles and needs.

The benefits of differentiated learning, namely increasing Student Engagement, can increase student motivation and engagement in the learning process. Students feel more connected to the material and more motivated to learn. Each student has a different ability level. Differentiated learning allows teachers to customize materials, difficulty levels and teaching methods to meet the individual needs of each student (Grecu,2023). Students are given the freedom to explore their interests and talents in differentiated learning. This can encourage the development of students' creativity and interest in a particular topic.

Differentiated learning barriers refer to the difficulties that may arise when teachers try to teach students with different learning styles, ability levels, interests or needs in one class effectively. In a differentiated learning approach, teachers strive to provide materials, approaches and resources that suit the individual needs of each student. To overcome these barriers, it is important for schools and teachers to invest in the necessary training, resources and support to develop effective differentiated learning approaches. This way, all students have an equal opportunity to reach their potential.

In facing the barriers of differentiated learning, the use of E-modules (electronic modules) can be a strategic solution to integrate educational technology with differentiated learning approaches (Ningsih,2023). E-modules allow teachers to easily customize and modify the content according to the needs of each student. Students with different ability levels can get materials that suit their needs (Khastini,2023). E-modules allow students to access learning materials anytime and anywhere (Fayzulloeva, C. (2023). This provides flexibility for students who need extra time or want to study at their own pace. By integrating E-modules into a differentiated learning approach, teachers can overcome many barriers and provide a richer, personalized and effective learning experience for students.

Facing barriers to differentiated learning integrated with E-modules can be challenging, but there are some solutions that can help to overcome these barriers. First of all, identify the specific barriers to integrating differentiated learning with E-modules. This can include technology availability, students' technology skills, time required for E-module development, etc. By understanding these barriers, the teacher can plan more appropriate solutions.

Ensure that the E-modules created are well designed and focused on the individual needs of students. This could include providing content that can be customized to the student's skill level or providing different task options. In addition, evaluate the use of the E-module in differentiated learning and solicit feedback from teachers and students. This can help to identify problems and obstacles that may arise and make improvements accordingly.

As a result, researchers seek the optimum answer by employing a fun learning technique on report text material, with the goal of improving student learning outcomes through differentiated learning. According to the findings of this study, student learning outcomes employing a differentiated learning approach on report text material were discovered. According to the learning outcomes theory employed in this study, learning completeness increases, and there are significant changes in student learning outcomes, which encompass cognitive, emotional, and psychomotor elements.

Before providing treatment, the researcher provided pre-tests to both the experimental and control classes to determine the students' learning achievement. Before the researcher gave the treatment, the students' mean score was only 41.45. Based on the Permendibud No. 4 categories in 2014, this score is classified as a bad achievement. A poor score is 41-55 with predicate D. When

compared to the score following differentiated learning; the mean score was 75.48. Based on the Permendikbud No. 4 classification in 2014, this score is classified as an excellent achievement, with a reasonable score of 71-85 with predicate B.

These results were obtained by administering a writing test to the students. It appears that the children's writing abilities have improved. It demonstrates that prior to treatment, the students' score classification was low, but after treatment, the students' score was classed as good. It can be observed from the percentage of students who were in good (66.67%) and fair (23.33%) classifications before therapy that none of them were able to be in good classification, and most of them received a very low classification.

In this study, the researcher used the differentiated learning steps method for the experimental class and the three-phase technique (Pre activities, Main Activities, Post Activities) for the control class of eight-year students at SMPN 4 Polewali.

Overall, the researcher concludes that among the academics, the goal was to improve the students' English, particularly their learning achievement. As a result, the purpose of this study is to look at the implementation of the differentiated learning steps approach to improve the learning achievement of eight-year students at SMP Negeri 4 Polewali.

It is hoped that by doing this research, it would be possible to determine if differentiated learning strategies may be used in conjunction with E-modules as a media, as well as the extent to which differentiated learning strategies can improve students' learning achievement. The students' writing score before being taught differentiated learning is 41.45. According to (Kemendikbud, 2014), it is classified as fair. It suggests that the students' abilities should be developed, whether in outstanding or generally excellent order.

## **5. Perception**

The concept of perception dimensions consisting of cognitive, affective, and conative dimensions can be used to support students to continue to want to learn English by using differentiated learning as follows:

### **5.1 Cognitive Dimension**

The cognitive dimension relates to students' understanding of the importance of English as a relevant skill in their lives. Teachers can help students develop this understanding by presenting strong arguments about the benefits of English in careers, global communication, and access to educational and information resources.

The cognitive dimension of building students' understanding of their own English learning ability is also important. In differentiated learning, teachers can identify students' strengths and weaknesses in different aspects of English (e.g. listening, speaking, reading, writing) and plan learning according to individual ability levels.

### **5.2 Affective Dimension**

The affective dimension relates to students' feelings and motivation towards learning English. Teachers need to create an environment that supports and motivates students to learn. This could include listening to students' concerns or fears related to English and trying to address them.

Using a more personalized and differentiated approach to English learning can help students feel more motivated. Teachers can incorporate students' individual interests and needs in lesson plans, such as topics relevant to their interests or teaching methods that better suit their learning styles.

### **5.3 Conative Dimension**

The conative dimension relates to students' willingness to act, in this case, to continue learning English. Teachers can stimulate conative motivation by providing challenging but possibly successful tasks, providing positive feedback, and rewarding students' achievements. Using a differentiated approach can also help with the conative dimension. Students who feel successful in learning English will be more likely to keep trying and want to learn more.

By paying attention to these three dimensions, teachers can create a more positive and engaging English learning experience for students. Differentiated learning, which recognizes differences in students' understanding, motivation, and ability, can be a powerful tool to motivate students to continue wanting to learn English.

Enhancing cognitive, affective and conative dimensions in the context of English language learning involves various strategies and approaches. Enhance the Cognitive Dimension by ensuring the material taught is relevant to students' daily lives and needs. This will help them understand the importance of English in a real context. Then, adjust teaching methods and task difficulty levels to suit their abilities.

To improve the Affective Dimension, teachers need to create a comfortable and supportive classroom environment. This can create a feeling of security that will increase students' motivation and confidence, consider students' interests and desires in learning, and

then provide positive feedback to students to increase their motivation. To improve the Conative Dimension by setting clear goals and encouraging them to be active in the learning process, such as planning and tracking their progress.

It is important for teachers to remember that each student is a unique individual, so different approaches may be needed for each student. In addition, open communication between teachers and students and regular monitoring of student progress will help in improving all these dimensions. Cognitive, affective and conative dimensions are very important in improving student learning achievement at school. This is because they are interrelated and have a significant influence on each other in the context of learning.

Integrating the concept of differentiated learning with e-modules in improving junior high school students' English learning has great potential to improve students' understanding and ability in English.

In addition, the concept of differentiated learning allows teachers to identify different needs and ability levels among students. With e-modules, teachers can provide materials that suit each student's level of understanding.

## **6. Conclusion**

The use of an E learning module integrated with differentiated learning is able to improve the learning achievement of students in class VIII SMP Negeri 4 Polewali; differentiated learning can improve the learning achievement of students in class VIII SMP Negeri 4 Polewali. It can be seen from the results of the increase in pretest posttest and also from the t-test results.

After validating the learning steps that researchers made, then from the results of the analysis and input from experts, the steps are as follows: The teacher greets the students, invites them to pray together, and checks attendance; conveys learning objectives; provides apperception and motivation; inviting students to make a class agreement; The learning steps of the core activities; Students look at the picture related to the expression of suggestion/appeal (suggestion) and discuss the atmosphere depicted through the E-module; The teacher asks some triggering questions. Ensures that students actively participate by answering the teacher's questions or even asking questions so that they understand the picture. The teacher reads the suggestion sentences in the E-module clearly, slowly, and repeatedly, followed by the students.

The components of validation are theory, learning objectives, syntax, strategies, support systems, and assessment viewed from 3 aspects: affective, conative, and cognitive (overall results, the results of the researcher's analysis,

8 students (27.58%) in the cognitive dimension feel that their school or institution provides sufficient support and resources to implement differentiated learning strategies. In addition, according to students, differentiated learning strategies can improve learning achievement in class. Using E-modules can help students understand learning materials well. In the affective dimension, 11 students (37.93%) are happy to learn more English through differentiated learning strategies. In addition, students also feel happy that their school or institution provides enough support and resources to implement differentiated learning strategies. Then, students find E-modules more fun and interesting. 10 students (34.49%) in the conative dimension feel motivated to learn English more through differentiated learning strategies. Students also feel that they have the motivation to learn well even though they have different ability levels from other students in the class. Then, students also feel that the E-module can motivate them to understand the learning material better.

However, its success depends on various factors, including the quality of the module, teacher competency, student engagement, access to technology, alignment with learning goals, ongoing evaluation, and adequate support. Researchers and teachers continue to explore the best practices for combining E-learning and differentiated instruction to enhance student outcomes.

English language learning using E-modules integrated with a differentiated learning system is an effective way to meet the diverse needs of students. Students' and teachers' perceptions of English language learning using electronic modules integrated with differentiated learning may vary depending on various factors, including individual experiences, previous learning methods, and the quality of program implementation.

## **7. Suggestion**

Based on the findings, the researcher offered the following suggestions: The teacher can use differentiated learning as the approach integrated with E-modules as a medium in teaching English, especially to improve the learning achievement of the students. The teacher can excite and interest pupils in learning English by making them motivated and interested in the fact that there are numerous approaches to learning English. The next researcher is expected to discover and develop new methods for improving students' English skills.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Publisher's Note:** All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

## References

- [1] Abdullah, D., Sastraatmadja, A. H. M., Lestari, N. C., Saputra, N., & Al Haddar, G. (2023). Implementation of youtube as a learning media in the new normal era. *Cendikia: Media Jurnal Ilmiah Pendidikan*, 13(3), 476-481.
- [2] Aba, L., Ismail, A. K., & Adolof, F. (2022). Pengembangan E-Modul Interaktif berbasis Android Bagi Dosen dan Mahasiswa Program Studi Tadris Bahasa Inggris IAIN Sultan Amai Gorontalo. *JURNAL RISET RUMPUN ILMU PENDIDIKAN*, 1(2), 194-203.
- [3] Al Rashid, B. H., Sara, Y., & Adiyono, A. (2023). Implementation of education management with learning media in era 4.0. *International journal of humanities, social sciences and business (injoss)*, 2(1), 48-56.
- [4] Alam, A. (2022, December). Cloud-Based E-Learning: Development of Conceptual Model for Adaptive E-Learning Ecosystem Based on Cloud Computing Infrastructure. In *Artificial Intelligence and Data Science: First International Conference, ICAIDS 2021, Hyderabad, India, December 17-18, 2021, Revised Selected Papers* (pp. 377-391). Cham: Springer Nature Switzerland.
- [5] Alif, M. H., Pujiati, A., & Yulianto, A. (2020). The effect of teacher competence, learning facilities, and learning readiness on students' learning achievement through learning motivation of grade 11 accounting lesson in Brebes Regency vocational high school. *Journal of Economic Education*, 9(2), 150-160.
- [6] Anggaraini D P. (2019). Penerapan Media Pembelajaran Fisika Menggunakan Modul Cetak dan Modul Elektronik Pada Siswa SMA *dalam Jurnal Pendidikan Fisika* 7 1 h:17-25
- [7] Archambault, L., Leary, H., & Rice, K. (2022). Pillars of online pedagogy: A framework for teaching in online learning environments. *Educational Psychologist*, 57(3), 178-191.
- [8] Arifin, A., Mashuri, M. T., Lestari, N. C., Satria, E., & Dewantara, R. (2023). Application of Interactive Learning Games in Stimulating Knowledge About Object Recognition in Early Childhood. *Educenter: Jurnal Ilmiah Pendidikan*, 2(1).
- [9] Arora, D. (2019). E-books with Flip Effect: A Practitioner's Guide. *International Journal of Information Dissemination and Technology*, 9(1), 6-11.
- [10] Asri, A. N., Imron, A., & Suryadi, S. B. (2022). Development of English teaching module for electrical engineering study program. *SAGA: Journal of English Language Teaching and Applied Linguistics*, 3(1), 69-80.
- [11] Astegher, M., Busetta, P., Gabbasov, A., Pedrotti, M., Perini, A., & Susi, A. (2023). Specifying requirements for collection and analysis of online user feedback. *Requirements Engineering*, 28(1), 75-96.
- [12] Baidowi, B., Arjudin, A., Novitasari, D., & Kertiyani, N. M. I. (2023). The Development of Project Based Learning Module for Vocational High Schools to Improve Critical Thinking Skills. *JTAM Jurnal Teori dan Aplikasi Matematika*, 7(1), 217-230.
- [13] Barus, I. R. G., & Simanjuntak, M. B. (2020). Evieta-Based Learning Material in English Business Class: Students' Perceptions. *SELTICS*, 73-82
- [14] Boelens, R., Voet, M., & De W, B. (2018). The design of blended learning in response to student diversity in higher education: Instructors' views and use of differentiated instruction in blended learning. *Computers & Education*, 120, 197-212.
- [15] Bobi, C. B., & Ahiavi, M. A. (2023). Using Differentiated Instruction to Promote Creativity, Critical Thinking and Learning: Perspective of Teachers. *Journal of Education and Practice*, 7(2), 1-30.
- [16] Breaux, Elizabeth & magee, Monique B. (2013). How the best teachers differentiate instruction. NY: Routledge.
- [17] Brooke, R. W. E. M. J. (2023). Quantitative Research. Navigating the Maze of Research: Enhancing Nursing and Midwifery Practice, 84.
- [18] Bulut, D., Samur, Y., & Cömert, Z. (2022). The effect of educational game design process on students' creativity. *Smart Learning Environments*, 9(1), 8.
- [19] Cai, J., Hwang, S., Melville, M., & Robison, V. (2023). Theory for teaching and teaching for theory: Artifacts as tangible entities for storing and improving professional knowledge for teaching. In *Theorizing teaching: Current status and open issues* (pp. 225-251). Cham: Springer International Publishing.
- [20] Chasanah, A., & Fitriawanati, M. (2023). An E-Module of Math Based on Problem-Based Learning for the Subject of Fractions in Elementary School. *Jurnal Praktik Baik Pembelajaran Sekolah dan Pesantren*, 2(01), 38-43.
- [21] Chien, F., Anwar, A., Hsu, C. C., Sharif, A., Razzaq, A., & Sinha, A. (2021). The role of information and communication technology in encountering environmental degradation: proposing an SDG framework for the BRICS countries. *Technology in Society*, 65, 101587.
- [22] Delita, F., Berutu, N., & Nofrion, N. (2022). Online learning: The effects of using e-modules on self-efficacy, motivation and learning outcomes. *Turkish Online Journal of Distance Education*, 23(4), 93-107.
- [23] Dewi, P. Y., & Primayana, K. H. (2019). Effect of learning module with setting contextual teaching and learning to increase the understanding of concepts. *International Journal of Education and Learning*, 1(1), 19-26.
- [24] Dick, W and Carrey, L. (1985). *The Systematic Design Instruction*. Secon edition. Glenview. Illinois: Scott., Foreman and Company
- [25] Direktorat P, Dikdas SMA & Dikmen, (2017) Panduan Praktis Penyusunan E-Modul. Diakses tanggal 10 Pebruari 2023 di alamat [https://awan965.files.wordpress.com/2017/09/panduan\\_penyusunan-e-modul-2017\\_final\\_edit.pdf](https://awan965.files.wordpress.com/2017/09/panduan_penyusunan-e-modul-2017_final_edit.pdf)
- [26] Fayzulloeva, C. (2023). Importance Of E-Learning In Credit Module System.
- [27] Fox, J & Hoffman, W. (2011). *The differentiated instruction: Book of lists*. CA: John Wiley & Sons.
- [28] Grecu, Y. V. (2023). Differentiated instruction: Curriculum and resources provide a roadmap to help English teachers meet students' needs. *Teaching and Teacher Education*, 125, 104064
- [29] Kasanah, P. N. A., & Kusumawati, N. D. (n.d) Interactive E-Modules as Teaching Materials on Diffraction and Interference Materials: A Feasibility Test. *Impulse: Journal of Research and Innovation in Physics Education*, 2(2), 64-74.
- [30] Kemendikbud. (2022). Permen Kemendikbud No. 21 Tahun 2022

- [31] Liaw, S. S., & Huang, H. M. (2016). Investigating learner attitudes toward e-books as learning tools: based on the activity theory approach. *Interactive Learning Environments*, 24(3), 625-643.
- [32] Liu, C. C., & Chen, I. J. (2010). Evolution of constructivism. *Contemporary issues in education research*, 3(4), 63-66.
- [33] Liu, T. Y., Tan, T. H., & Chu, Y. L. (2010). QR code and augmented reality-supported mobile English learning system. *Mobile multimedia processing: Fundamentals, methods, and applications*, 37-52.
- [34] Maruf, N. (2023). The Interplay of Teachers'beliefs, Attitudes, And The Implementation Of Differentiated Instruction In Indonesian Efl Contexts. *English Review: Journal of English Education*, 11(2), 357-364.
- [35] Mukhibat, M. (2023). Differentiate Learning Management To Optimize Student Needs And Learning Outcomes In An Independent Curriculum. *QALAMUNA: Jurnal Pendidikan, Sosial, dan Agama*, 15(1), 73-82.