# NEED ANALYSIS FOR DIFFERENTIATED LEARNING MEDIA TO FACILITATE STUDENTS WITH DIFFERENT LEARNING STYLES

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**Abstract:**
Each student is unique in their learning style. Hence, for teaching and learning to be effective and efficient, the methods used should be adjusted to meet the student's learning preferences and needs in order to be understood effectively. This research aims to analyze students' learning styles and to identify the learning media students prefer to facilitate their English learning. Using a qualitative approach, the data on learning style was collected through a learning style test involving students from grade 7. The students also responded to questionnaires on their preference for learning media. The teachers' interviews were also conducted to further explore the learning media used. The data highlight that students in the majority are of kinesthetic and visual styles; 39.4% of each style, while 21.2% are auditory. For the learning media, the kinesthetic students tend to like interactive media and projects; visual students prefer books, pictures, videos, and slides; auditory students prefer direct explanation from the teacher, music, and audio. The results of interviews with teachers show that teachers apply learning media in the form of textbooks and direct explanations more often. This is because the school has not yet implemented differentiated learning. Despite this, teachers also occasionally apply interactive learning media during learning. Teachers stated that there is a difference in the effectiveness of traditional learning and interactive media. This finding implies that in ELT, teachers who teach this group of students can use videos and interactive media to accommodate the three learning styles of students.

**Keywords:** *Differentiated Learning, Learning Media, Learning Styles*

## 1. INTRODUCTION

The development of society in socio-political, cultural, technological, and ideological aspects and results of current research and practices requires education to keep up with such changes. Hence, the curriculum should also go through continuous development. Changes in the implementation of the curriculum and the education system are unavoidable (Susanti et al., 2024). The current issue in the Indonesian ELT context within the framework of Kurikulum Merdeka is the use of a variety of learning methods that lead to a more flexible approach, which is called 'differentiated learning' (Azizah et al., 2023). It is expected that the students can be better facilitated through this differentiated learning.

Differentiated learning is learning that aims to provide varied learning by adjusting the learning style of each student. Hence, the learning does not only apply the same method to all students but is tailored to students' individual needs (Wahyuningsari et al., 2022). This is because learning that adjusts or pays attention to differences has more potential to help students understand the material more effectively so that they can achieve more optimal learning outcomes (Azmy & Fanny, 2023). The students are facilitated based on their needs and characteristics.

The ones that can facilitate students' English learning in class are indeed the English teachers. Thus, in implementing differentiated learning, teachers must have the skills and knowledge to categorize students' learning needs by adjusting students' interests, readiness, and academic profiles (Azmy & Fanny, 2023). It is expected that the implementation of differentiated learning will enable students to learn more easily, provide a more positive learning atmosphere, and facilitate more active and engaging learning activities. Therefore, students can better develop their cognitive, affective, and psychomotor skills and have a more positive attitude toward their English learning (Ningtyas et al., 2023). In other words, differentiated learning can be said as teaching the right material, in the right way, on the right level of students for better learning outcomes.

Rahman & Ahmar (2017 in Ardyani et al., 2020) state that learning style refers to interpretation as an ability that can help capture and absorb the material provided and process the learning outcomes received by students. Thus, the essence of the success of students in receiving the material taught during learning lies in the way and technique of educators in delivering material that must adapt to the learning style of each student. Learning style is the main factor that can help students succeed in receiving the material provided, so in teaching activities, educators must pay attention to the learning styles of students (Sari, 2014). Thus, English teachers should be well informed about their student's learning styles so that better ELT can be facilitated.

Learning style is generally divided into several learning styles, which consist of 1). Visual, is a learning style in which students pay attention and observe the object directly. 2). Auditory, is the learning style of students who are more likely to be comfortable and easier to understand material when hearing directly, interpreting information through listening, preferring to read textbooks, and 3). Kinesthetic, is a learning style in which students have a tendency to interact directly, capture information through a movement, learn by being balanced with physical movement, and practice in a real or direct way (Gilakjani, 2012).

Despite the rich discussion on the concepts of differentiated learning, not many teachers or education practitioners facilitate differentiated learning. Several challenges including managing large class (Oyinshi & Sefotho, 2020; Lavania & Nor, 2020; Gaitas & Alves Martins, 2016), difficulties in the implementation in the large class (Onyishi & Sefotho, 2020; Lavania & Nor, 2020), lack of knowledge on methodology (Onyishi & Sefotho, 2020) and training (Lavania & Nor, 2020) have been reported. Other challenges include developments of differentiated assessment (Onyishi & Sefotho, 2020), time constraints, lack of resources and administration of the school (Lavania & Nor, 2020). These challenges in implementing differentiated instruction seem to lead to continuous monotonous teaching, i.e., using the same method regardless of students' unique characteristics and needs. Meanwhile, differentiated instruction leading to differentiated learning should have started accommodating the students' needs or preferences based on their learning styles (Wiyono, 2023). This can be initiated by, among others, conducting studies on students' learning styles and their preferences.

Hence, this research was conducted to analyze students' learning styles and identify learning media students need based on their learning styles. Understanding students' learning styles can help teachers and students learn.  Teachers can then adjust media to make learning more effective. They can help students receive and understand information to be more optimal because it has been adapted to the type of learning style (Awla, 2014). Empirical research can provide a strong basis for such adjustment in the selection of learning media to accommodate students' learning styles.

## 2. METHOD

This research used a qualitative method with a descriptive approach. Descriptive qualitative research is a form of clarifying and probing topics that are in accordance with events when conducting research (Sukardi, 2021). This approach was chosen to explore and understand students' learning styles and their preferences for suitable learning media in English language teaching. This research also aims to identify the needs of learning media that students prefer or want to facilitate in the classroom according to students' learning styles.

The subjects in this study were 33 students of grade 7 in an Islamic public school in Surabaya and an English teacher at the school. The instruments used to collect the data were a learning style test, questionnaire, and interview. The learning style test was distributed to students to understand their perspective on how they learn things or information (Pashler et al., 2008). The questionnaire sought information on students' preferences regarding the desired learning media. An interview with English teachers was also conducted to find out information related to the learning media that has been applied.

## 3. FINDING AND DISCUSSION

This study aimed to investigate the learning styles that students had and to get to know the learning media that students prefer to be implemented in the learning activities.

### 3.1. Students Learning Styles

The results of the learning styles test that students took found that each of them has a different and various type of learning style. The results show that students with the visual and kinesthetic learning styles are the most widely owned type of learning, while the auditory style is the least owned type of learning. The chart below shows the results of the student learning style questionnaire.
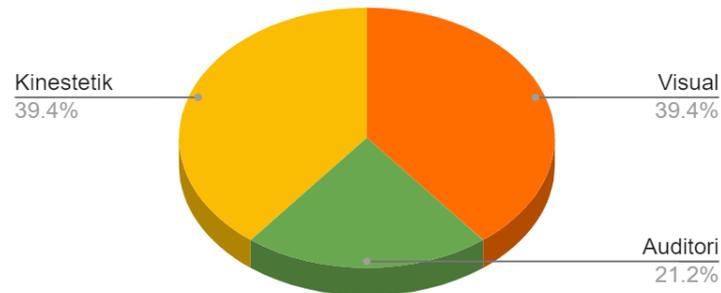
**STUDENT LEARNING STYLE CHART**



**Figure 1** Learning Styles Results of Students.

Figure 1, shows the results of students' learning styles based on the learning style questionnaire. From that result, it can be seen that students with visual learning styles and students with kinesthetic styles had the same amount by the total 39.4% of each type, and students with auditory learning styles had a total of 21.2%. From the results of the analysis, it can be seen that each student has a diverse and different learning style. So, in learning it is very important to recognize what type of learning style each student has. Learning style itself is a system that shows the differences of each individual in the way they receive and understand information. The above data is somewhat different from the findings by Firman et al (2020) in that subjects of university students are included in the visual (majority) and auditory. Another research also highlights that university students in majority are visual learners (Manipuspika, 2020). This is also in line with research by Sari (2014) discussing students' learning style characteristics of university students. The results related to the type of learning style of students show that the visual learning style dominates the overall results across different levels of education with unique characteristics of kinesthetic students also being dominant for grade 7. Such a difference may be caused by the physical and psychological development of transition from children to teenagers. Students at grade 7 aged about 12-13 may still be influenced by their characteristics of playful environment and like physical activities. Hence, kinesthetic style being equally dominant to visual style is understandable.

Together with findings by Sari (2014), Firman et al (2020) and Manuspika (2020), the current study reported in this article highlights that visual learning style stands as the major style of students in Indonesian ELT context. Despite having visual learners in majority, English teachers should not neglect the fact that other students have diverse learning styles, particularly in grade 7 in which students are still in the initial process of learning English as foreign language. Hence, in teaching activities, educators need to pay attention to the learning style of students. This is because each individual has a unique method of receiving, processing, and remembering information. So, it is important for teachers to understand students' learning style types by using tests,

assessment tools or other online technologies to improve learning effectiveness (Pashler et al., 2008).

**Table 1** The Result of Identifying Learning Styles of Students

| No. | Learning Style | Male Students | Female Students | Total |
|-----|---------------|---------------|-----------------|-------|
| 1. | Kinesthetic | 5 Students | 8 Students | 13 Students |
| 2. | Visual | 5 Students | 8 Students | 13 Students |
| 3. | Auditory | 4 Students | 3 Students | 7 Students |

Table 1, shows the results of students' learning styles that have been categorized, and the categorization has been done by learning style results and sorted by students' presence. In the table analysis above, researchers have categorized learning styles into three existing types: visual, kinesthetic and auditory. Again, this finding is somewhat different from a previous study by Gilakjani (2012) in which university students being the participants are mainly visual (50%) followed by auditory (35%) and kinesthetic (15). Gilakjani's (2012) research together with Sari (2014), Firman et al (2020) and Manuspika (2020) highlight that university students tend to be visual. Compared to the current research with both visual and kinesthetic being equally dominant for grade 7, the studies suggest that there may be development and change in style with children to teenagers tend to be visual or kinesthetic to teenagers to young adults tend to be more visual and auditory and less kinesthetic. This further indicate that as students psychologically grow they may prefer for learning activities involving cognitive activities and critical thinking while younger learners may prefer more physical activities incorporated in their learning.

### 3.2. Students; Preference on Learning Media

Learning media are tools or materials that are used in the learning activity to help teachers give the information and to facilitate students' understanding. Learning media that can help in teaching can be textbooks, audiovisual media, electronic media, visual media, interactive media, social media, realia media, and also manipulative media (Santrock, 2011). According to Ertmer & Newby (2013), it says that learning media refers to any form of technology or tools that is used in the learning to give teachers and students facilitate communication and interaction.

### 3.2.1 Media Preference of Student with a Kinesthetic Learning Style

Data from the questionnaire highlights that students with kinesthetic learning style type prefer to use learning media in the form of interactive media (13 students), interactive media such as learning using websites or applications that can be used as educational games and as learning with an attractive appearance. The other 9 students choose project based learning and the rest 4 prefer learning by doing practice.

accompanied by movement and direct project or practice. Also, it can be memorizing information or material by walking or doing physical appearance movements (Awla, 2014). So, this is the reason why students choose some of these kinesthetic learning media in the form of projects or practice. This is in

accordance with Derici & Susanti (2023) who stated that suitable learning methods for learners with kinesthetic learning styles are through the use of tools that they can use directly, giving the projects assignment, giving learners freedom to move but remain organized, and carrying out a project or practice in learning activities.

Kinesthetic student preferences on the learning with project based, practice, and interactive learning seem to be facilitated by teachers. Data from the interview shows that teachers sometimes use interactive learning media such as using interesting educational game websites and puzzles. Then for media such as project based and practice, teachers have also applied learning with these activities several times, but it is still rarely applied in learning due to several factors such as time constraints, unsupportive classroom conditions, and limited availability of tools and materials. However, in the use of those media, the teacher stated that in learning activities students give a good response to the material given and it is also seen that the media can help them understand the material better.

It should be noted that although the use of those media has been used and implemented by teachers during learning, the frequency of use is still limited. Teachers usually only use it about once a week or once every two weeks. This is in line with research by Lavania & Nor (2020) that challenges in implementing learning media are often caused by time constraints and lack of resources. Time constraints make it difficult for teachers to prepare adequate materials, while the lack of facilities such as limited internet access and projectors hinder the optimal use of digital media. These constraints are also reflected by the teachers being the participants in the current research. Hence, while ideally teaching should accommodate diverse learning styles with varieties of media and teaching strategies, teachers must not be solely responsible for the success of the teaching and learning. Supporting facilities and time allotment from the school are also similarly crucial in the success of diverse teaching and learning to accommodate different learning styles in ELT.

### 3.2.2 Media Preference of Student with a Visual Learning Style

Data from the questionnaire highlights that the students with visual learning styles show a strong preference for various types of learning media that can facilitate students in understanding the information and material provided. This is because, from the results obtained, it can be seen that as many as 13 students of the total students with visual learning styles choose media in the form of textbooks as their main learning media, then; the use of learning videos also gets a positive response because it gets a high number with a total of 13 students. Next, in the slide presentation media, there were around 10 students who chose; this result was the same as the total media in the form of images, which also had results in the form of 10 students.

Derici & Susanti (2023) stated that students with this type of learning media have an organized nature and pay more attention to appearance. According to (Alhafiz, 2022), students with visual learning styles tend to process information best by seeing. This is because when learning, they have to visualize images in different ways and imagine each specific page in their memory; they also replace sentences of information by using symbols and initials that are easy to understand. Learning media was chosen because it can help them focus their attention and concentration on the material being studied through visualizing, looking at, or observing the subject matter (Bire et al., 2014). This is confirmed by Ahmadi (1991), who suggests that someone who has a visual learning type will understand information more quickly when presented in the form of images or other visuals. They will tend to absorb information more easily through vision, so the use of media such as books, slides, and videos is very effective in supporting their learning process.

From the results obtained, it can be seen that students with this type tend to choose media in the form of textbooks, videos, slides, and also images as a learning media preference that can help them support learning because it can help them process and understand the material received visually. Data from teacher interviews highlights that teachers generally use media in the form of textbooks or worksheets in daily learning. This is because teachers feel that the use of media is very easy to use and can be an effective medium in conveying information directly to students, allowing teachers and students to interact directly. Then for the use of media in the form of videos, slides, and images, it is known that teachers will use these media occasionally if supporting media such as projectors, speakers, and the internet are adequate.

### 3.2.3 Media Preference of Student with an Auditory Learning

Based on the results of the questionnaire that has been conducted, it is found that students with auditory learning styles show a very strong preference for various types of learning media that can help them understand the information and material being studied. This is because, from the results obtained, it can be seen that there are 7 students with the auditory type who choose to learn media in the form of audio learning. This is because auditory students feel that the use of audio in learning will be able to help them feel more comfortable and easier to understand the material. Then, the use of songs or music as teaching aids or media in learning also received a good response with a total of 7 students, because students felt that the use of music as a medium would be able to help them in learning. After all, it was felt that music could provide innovations so that it could make them more excited. In addition, learning with direct explanation from the teacher is also the highest choice of students with the same results as in the previous 2 media, namely 7 students; this is because students feel that learning with direct direction and explanation from the teacher can help them understand the concepts of the material being taught.

This finding is in line with previous research, which shows that the auditory learning style is a learning style that tends to remember words or phrases that they hear more easily, so sound-based learning media is very useful and can help them understand learning materials (Alhafiz 2022). The other reason students with auditory learning media choose those several learning media is that in the learning process that applies those media, students feel more able to receive information or even material clearly and structured. This is in line with Gilakjani (2012) in that people with auditory type are able to find information through their hearing and interpret the information provided through tone, sensitivity, and also speed.

From the data interview with teachers, for the preferences of learning media that students choose about direct explanation, teachers state that almost all teacher learning activities always use the direct explanation method. This is because direct explanation is a teaching method that has existed for a long time that is considered easy to do. In addition, for other media in the form of learning videos and music, it is known that the teacher will apply the learning if there is material that is needed and if other supporting media such as speakers are available and in good condition.

## 4. CONCLUSION

Based on the results of the learning style analysis test of students in an Islamic school in Surabaya, which consisted of 33 students, the results showed that 13 people had a visual learning style, 7 people had an auditory learning style, and 13 students tended towards a kinesthetic learning style. The percentage is 39.4% visual, 21.2% auditory, and 39.4% kinesthetic.

The results of the questionnaire related to learning media that students need and prefer to use in learning found that visual students, many of them, prefer learning media in the form of audio, songs, and direct explanations from the teacher. Then, for students with auditory types, the most chosen media are textbooks, slides, learning videos, and pictures. Then, for the kinesthetic type, learners prefer learning by using project learning and the use of interactive media in learning.

In the learning process, tailoring teaching to students' learning styles can help them feel more comfortable and understand the information more easily. This is an effort included in differentiated learning; the purpose of this method is to help students to meet different learning needs by adjusting how the teacher delivers the material according to the type of learning style of the learners. Therefore, in applying this method, teachers need to understand the type of learning style and media that students want in learning, which will then require a learning design that is tailored to these differences.

## 5. REFERENCES

Ahmadi, H. A. (1991). *Psikologi belajar*. Rineka Cipta.

Alhafiz, N. (2022). Analisis profil gaya belajar siswa untuk pembelajaran berdiferensiasi di SMP Negeri 23 Pekanbaru. *J-Abdi: Jurnal Pengabdian Kepada Masyarakat*, *1*(8), 1913-1922. https://doi.org/10.53625/jabdi.v1i8.946

Ardyani, W., Nugroho, A. A., & Shodiqin, A. (2020, August). Instrumen angket gaya belajar visual, auditorial dan kinestetik untuk siswa SMP: validitas dan reliabilitas. *In Prosiding Seminar Nasional Matematika dan Pendidikan Matematika*, *5*(1), 250 - 256. conference.upgris.ac.id

Awla, H. A. (2014). Learning styles and their relation to teaching styles. *International journal of language and linguistics*, *2*(3), 241-245. https://doi.org/10.11648/j.ijll.20140203.23

Azizah, S. A., Usman, A., Fauzi, M, A. R., & Rosita, E. (2023). Analisis Gaya Belajar Siswa dalam Menerapkan Pembelajaran Berdiferensiasi. *Jurnal Teknologi Pendidikan*, *1*(2), 12. https://doi.org/10.47134/jtp.v1i2.74

Azmy, B., & Fanny, A. M. (2023). Literature Review: Pembelajaran Berdiferensiasi dalam Kurikulum Merdeka Belajar di Sekolah Dasar. *INVENTA: Jurnal Pendidikan Guru Sekolah Dasar*, *7*(2), 217-223. https://doi.org/10.36456/inventa.7.2.a8739

Bire, A. L., Geradus, U., & Bire, J. (2014). Pengaruh Gaya Belajar Visual, Auditorial, dan Kinestetik terhadap Prestasi Belajar Siswa. *Jurnal Kependidikan*, *44*(2), 168-174. https://doi.org/10.21831/jk.v44i2.5307

Derici, R. M., & Susanti, R. (2023). Analisis Gaya Belajar Peserta Didik Guna Menerapkan Pembelajaran Berdiferensiasi Di Kelas X SMA Negeri 10 Palembang. *Research and Development Journal of Education*, *9*(1), 414-420. https://journal.lppmunindra.ac.id/index.php/RDJE

Ertmer, P.A, & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. Performance improvement quarterly, 26(2),43-71.

Firman, Mirnawati, Sukirman, Aswar, N.. (2020). The Relationship Between Student Learning Types and Indonesian Language Learning Achievement in FTIK IAIN Palopo Students. *Jurnal Konsepsi*, vol. 9, no. 1, pp. 1-12 1. https://www.p3i.my.id/index.php/konsepsi/article/view/24/19

Gaitas, S., & Martins, M. A. (2016, August 26). Teacher Perceived Difficulty in Implementing Differentiated Instructional Strategies in Primary School. *International Journal of Inclusive Education*, 14. http://dx.doi.org/10.1080/13603116.2016.1223180

Gilakjani, A. P. (2012). Visual, Auditory, Kinaesthetic Learning Styles and Their Impacts on English Language Teaching. *Journal of studies in education*, *2*(1), 104-113. http://dx.doi.org/10.5296/jse.v2i1.1007

Himmah, F. I., & Nugraheni, N. (2023). Analisis Gaya Belajar Siswa untuk Pembelajaran Berdiferensiasi. *Jurnal Riset Pendidikan Dasar (JRPD),*, *4*(1), 31-39. http://dx.doi.org/10.30595/jrpd.v4i1.16045

Lavania, M., & Nor, F. B. M. (2020, April 25). Barriers in Differentiated Instruction: A Systematic Review of the Literature. *Journal of Critical Reviews*, *7*(6), 5. http://dx.doi.org/10.31838/jcr.07.06.01

Leow, F. T. (2014, April). Interactive Multimedia Learning: Innovating Classroom Education in a Malaysian University. *TOJET: The Turkish Online Journal of Educational Technology*, *13*(2), 99-110.

Manipuspika, Y.S. (2020). Learning Styles of Indonesian EFL Students: Culture and Learning. Learning Styles of Indonesian EFL Students: Culture and Learning. Volume 11. Number1 March, Pp.91-102. https://dx.doi.org/10.24093/awej/vol11no1.8

Ningtyas, I., Santoso, K., & Setiyawan, E. (2023). Implementasi Pembelajaran Berdiferensiasi dalam Meningkatkan Hasil Belajar Pendidikan Agama Islam Di SMP Ma'arif Kota Batu. *VICRATINA: Jurnal Pendidikan Islam*, *8*(7), 1-10. https://jim.unisma.ac.id/index.php/fai/article/view/21392/15954

Onyishi, C. N., & Sefotho, M. M. (2020, September 18). Teachers' Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implication for Teacher Education. *International Journal of Higher Education*, *9*(6), 15. https://doi.org/10.5430/ijhe.v9n6p136

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological science in the public interest*, *9*(3), 105-119. https://doi.org/10.1111/j.1539-6053.2009.01038.x

Rahman, A., & Ahmar, A. (2017). Relationship Between Learning Styles and Learning Achievement in Mathematics Based on Genders. *World Transactions on Engineering and Technology Education*, *15*(1). https://doi.org/10.26858/wtetev15iy2017p7477

Santrock, John W. *Educational Psychology.* McGraw-Hill, 2011. https://thuvienso.hoasen.edu.vn/handle/123456789/8796.

Sari, A. K. (2014). Analisis Karakteristik Gaya Belajar Vak (Visual, Auditorial, Kinestetik) Mahasiswa Pendidikan Informatika Angkatan 2014. *Jurnal Ilmiah Edutic: Pendidikan dan Informatika*, *1*(1). https://doi.org/10.21107/edutic.v1i1.395

Subiyantoro, S., & Mulyani, S. (2017, June). Kegunaan Multimedia Interaktif dalam Pembelajaran Bahasa Inggris. *Jurnal Edudikara*, *2*(2), 92-100. https://doi.org/10.32585/edudikara.v2i2.38

Sukardi, H. M. (2021). *Metodologi Penelitian Pendidikan: Kompetensi dan Praktiknya (Edisi Revisi)*. Bumi Aksara. books.google.com

Susanti, A., Darmansyah, A., Naqsyahbandi, F., & Muktadir, A. (2024). Analyzing Student Learning Style Profiles for Differentiated Learning in Merdeka Curriculum in Elementary Schools. *Cendikia: Media Jurnal Ilmiah Pendidikan*, *14*(3), 209-223. https://doi.org/10.35335/cendikia.v14i3.4589

Wahyuningsari, D., Mujiwati, Y., Hilmiyah, L., Kusumawardani, F., & Sari, I. P. (2022). Pembelajaran Berdiferensiasi dalam Rangka Mewujudkan Merdeka Belajar. *Jurnal jendela pendidikan*, *2*(04), 529-535. https://doi.org/10.57008/jjp.v2i04.301

Wiyono, H. (2023). Problems of Adjusting the" Independence Curriculum" Learning System at SMP Negeri 2 Pontianak. *Jurnal Scientia*, *12*(02), 1867-1873. https://doi.org/10.58471/scientia.v12i02.1470