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## INFLUENCE OF VISUAL MEDIA ON THE ARTICULATION LEARNING MODEL FOR STUDENT ACADEMIC ACHIEVEMENT IN BASIC EDUCATION AITEMUA BRANCH

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### ABSTRACT

The research objective is to determine whether Visual Media and Articulation Learning Models influence Student Learning Achievement in Basic Education at the Aitemua Branch. The research method is quantitative with a population of 309 and a sample of 76 students. The data collection technique is questionnaires, and the data analysis technique uses double linear regression. The research results show that: visual media has a significant influence on student learning achievement; the articulation learning model has a significant influence on student learning achievement; and both visual media and the articulation learning model have a significant influence on student learning achievement.

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## INTRODUCTION

The development process of each nation in the world that seeks to progress and undergo change depends on the quality of its Human Resources. However, the quality of Human Resources only emerges when there is an educational system that is proper, standardized, and of high quality, aligned with the objectives and principles of each respective nation. Education is a principal model that forms and creates quality Human Resources through informal processes in the family and formal processes in

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school.

School is a formal institution that has the obligation to raise educational quality through teachers' teaching methods, in accordance with the plans and objectives of the national education of the State of Timor-Leste. The education system of the Democratic Republic of Timor-Leste is arranged and regulated in Article 59, paragraphs 1 to 5, of the Constitution, which speaks about Education and Culture. Paragraph (1) The State recognizes and guarantandy citizen's right to education and culture, and also establishes a universal compulandic education system and when possible free according to law; (2) everyone has equal rights to school opportunities and professional training; (3) The State recognizes and supervises private and cooperative schools; (4) The State must guarantee all citizens, according to their capacity, to obtain higher education regarding scientific investigation and developing/cultivating art; (5) everyone has the right to enjoy and create culture as well as their obligation to cultivate, defend and also give value to the cultural heritage of learning.

Learning is an activity that involves a person striving to obtain knowledge, skills, and positive values through the use of various learning resources (Nur, 2016). Learning can involve two parties: students as the subject and object of learning, and teachers as facilitators. Within school, a student's life is the most content part of their life, but this can also become something very thought-provoking. Daily, they take part in classroom learning activities; in addition, students must complete their schoolwork from these activities.

The problem is when they do not feel difficulty in learning. This can be caused by the monotonous nature of the teacher's learning materials. Based on observations of Basic Education Aitemua Branch students, several obstacles have been encountered in the Indonesian language learning process. These include (1) students pay less attention to material that teachers present because they feel bored with the monotonous learning model, which is dominated by teachers who dominate and only bright students, while students who are not smart tend to be passive, (2) students do not like Indonesian Language because they consider these lessons boring. If this continues, learning objectives will not be achieved as expected. Currently, teachers do not use teaching media in teaching and learning activities, even though teachers must be able to design learning so that it can be

carried out effectively and efficiently to improve student learning outcomes.

According to what has been written and stated above, the writer intends to research to develop the context as follows: Learning is a deliberate process to change people's behavior, not only attitudes and values, but also the mastery of knowledge and skills. According to Suswandari (2023), learning is an activity that involves all elements and results in relatively permanent changes that impact students' spiritual and social aspects. According to Savitri (2022), learning is a permanent change in behavior through experience. Learning is not only about books as a learning medium, but also about children's interaction with their environment as a planned experience that brings about behavioral change. According to Amin (2022), learning outcomes are about people's behavior during the learning process, but these changes must be used to improve articulation in people's lives.

According to Lisnawati (2023), articulation is a structure in the brain that involves the ability to speak (speech), read or process other words, and additional movement areas (writing, sketching, and other expressive movements). This articulation model forms a group with partners, in which one student conveys the material just received to their partner and then makes a presentation again in front of the class of the discussion results, and the teacher guides students to make conclusions (Sarumaha et al., 2022). The process of the articulation learning model is like a message. This is what makes the articulation learning model unique. Students must be able to act as both the recipient and the transmitter of the message (Naibaho, R., & Nurjannah, 2022).

Based on the comprehensive explanation from the experts above, the researcher concludes that the articulation learning model emphasizes active student participation. Students are divided into pairs or small groups. One student interviews the other about the material presented by the teacher. This is done in another place. Then each group conveys the results of its activity to the other groups.

Using video media in learning can facilitate learning and make it more interesting. Using animated video in online learning can create an engaging learning environment, and it can also facilitate the process by providing the material to be studied. This innovation is intended to foster students' interest and enthusiasm in the online learning process.

According to Yulinar & Shanie (2023), the media is generally a communication channel, especially anything that carries information from the information source to the person receiving it. According to Lisnawati (2023), states that media as a component of learning activities, through which this social communication medium enables teachers to deliver learning materials in the learning process, carried out with ease and yielding maximum results. Audiovisual media can also create an engaging classroom environment for in-class learning (Agustira, 2022). Video media is a type of audiovisual media that combines audio and visual elements, also known as listening media. Besides that, according to Janati et al. (2023), video media, or what is commonly called audiovisual learning media, is a combination of audio and visual, or what is commonly called visual listening media.

Based on the explanation above, this researcher concludes that social communication media is an instrument or intermediary through which an educator can provide students with information about the material to be studied. The existence of media also serves as a facilitator in the learning process. Social media can be used in the learning process, at the beginning or middle, to achieve learning objectives.

Visual media is media that serves as channels for conveying messages from the source to the recipient (Sarumaha et al., 2022). This shows that we see as we see. Visual media can be defined as media that combine facts and ideas in a clear, strong, and integrated manner through the combination of words and images. This media is very appropriate for the purpose of conveying information in condensed summary form (Sarumaha et al., 2022). Visual media can facilitate comprehension (for example, through elaboration of structure and organization) and strengthen memory (Sumbayak et al., 2022). Visual media can also cultivate students' interest and can provide a connection between the content of this material and the real world. To be effective, visual media must be placed in a meaningful context, and participants must interact with it to ensure the information process occurs (Husein, 2020). It can be concluded that visual media refers to media that relate to the sense of sight. This media can help accelerate comprehension, draw attention, strengthen memory, clarify material presentation, and present material in a way that makes it memorable.

Teaching media truly helps students to improve their comprehension and learning experience. According to Shanie (2023), media initially only function as an instrument in learning activities, especially in a form that can provide a visual, realistic experience for students to encourage learning motivation, clarify and simplify complex and abstract concepts, to become simpler so that the function of media is not only to increase absorption but also the child's potentiality for learning material.

The articulation learning model in the classroom can help the teaching and learning process (Husnu, 2024). Articulation, as a cooperative learning model for mixed groups, involves team recognition and group responsibility for individual learning among group members. The teacher gives tasks to students to summarize the material to be studied before learning begins, then during the lesson, the teacher asks students to form groups in pairs, then one person states the material presented by the teacher and the other acts as a listener, then switches roles, then together holds a discussion (Dian Rahmatika, 2024).

Indicators of the Articulation learning model include: students become more independent, students work in groups to complete learning material, rewards are oriented more towards groups than individuals, there is interaction between students in small groups, there is interaction between small groups, and each student has the opportunity to speak or appear in front of the class to convey the results of their group discussion. In the educational context, articulation learning media can include activities such as online discussions, comments on articles, sharing information on social media, interaction through videoconferencing, and sharing educational resources on online platforms.

## **METHOD**

The research method is a way researchers use to investigate a subject to obtain final data and utility. Through this research, an analysis of the problem is obtained. This research uses a quantitative method to develop a theory from data, which is then questioned based on facts or phenomena. This research activity will be carried out at Basic Education Aitemua Branch Turisca, Manufahi. The researcher conducted the research from Thursday, 08th – 14th of August 2024.

Population is the totality of groups that become the research object.

According to Brito & da Costa (2024), population is the totality of values that exist, as determined by the results of quantitative or qualitative measurement, for these characteristics, regarding the complete collection of objects. Based on the theories stated above, the researcher concludes that the population in this research is the totality of students at Basic Education Aitemua Branch, totaling 309, and a Sample of 76.

### Research Variables

According to Nasir (1998), a variable is a concept that can take different values. Masri Singarimbun and Sofian Efendi (1995) state that a variable is a concept that has more than one value. Based on the above definition, in this research, one independent variable and one dependent variable are identified as follows: Independent variable (X1) Visual Media; its indicators are: relationship, teacher's ability, ease of use, availability, and utility. Independent Variable (X2) articulation learning model: its indicators are students' emotional and mental involvement, their participation in contributing to goal achievement, and the presence of learning activities that benefit students. Dependent variable (Y): student learning achievement, its indicators are the knowledge domain, affective domain, and psychomotor domain.

According to Riduwan (2006), in establishing research instruments, one must know and consider the variety of measurement scales utilized in this research so that the instrument we use follows its scale. This is because the scale we use to measure the indicators or alternatives we use must strictly follow its response format. The variables mentioned above, which are used as measurements in this research, use the "Likert" scale with the following criteria: Strongly Agree = 5, Agree = 4, Neutral (N) = 3, Disagree (LA) = 2, Strongly Disagree (LAL) = 1.

### Validity Test

According to Riduwan (2010), validity is a measure of the degree to which a measuring instrument accurately reflects the construct it purports to measure. To measure the instrument and assess validity first, one seeks the Correlation between the parts of the measuring instrument as a whole by correlating each item with its total score, which is the same as that item's total score. The researcher first examines the Correlation between all parts of the instrument using the Pearson product-moment formula cited by Riduwan (2010). Notation:  $r$  = Correlation coefficient,  $X$  = Total value of points,  $Y$  = Total value of respondents,  $n$  = Total

respondents.

## REZULTADU PESKIZA NO DISKUSAUN

List total recapitulation of students in EBF Aitemua:

Degree	Class	Boys	girls	Totál
1 <sup>o</sup> circles	1 <sup>o</sup> students	20	13	33
	2 <sup>o</sup> students	10	12	22
	3 <sup>o</sup> students	15	15	30
2 <sup>o</sup> circles	4 <sup>o</sup> students	11	14	23
	5 <sup>o</sup> students	13	12	25
	6 <sup>o</sup> students	12	8	24
3 <sup>o</sup> circles	7 <sup>o</sup> students	27	36	63
	8 <sup>o</sup> students	28	38	25
	9 <sup>o</sup> students	30	34	64
Total Alunu				309

**Table 1: Dadus Alunu**

### Klasifikasaun Respondente Tuir Idade

Distribuisaun respondente tuir idade hanesan ho dadus ne'ebé tau hamutuk ona iha tebela tuir mai.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-17	45	59.2	59.2
	18-19	25	32.9	92.1
	20-21	6	7.9	100.0
	Total	76	100.0	100.0

**Table 02: Klasifikasaun Respondente Tuir Idade**

Based on the results shown, respondents by age show that the total number of respondents aged 16-17 is 45 (59.2%), aged 18-19 is 25 (32.9%), and aged 20-21 is 6 (7.9%). This shows that many respondents by age are aged 16-17.

### Research Results Analysis

Descriptive analysis is an analysis that uses statistical measures or techniques to summarize numerical data related to the responses that respondents provide. Based on research results from questionnaire distribution for the Visual Media variable (X1), respondents' answers to each question prepared by the researcher were: Strongly Agree (118), Agree (162), Neutral (94), Disagree (6), and Strongly Disagree (0). This can be clearly seen in the following table.

### Articulation Learning Model Variable

Based on research results from questionnaire distribution for the Visual

Media variable (X1), respondents' answers to each question prepared by the researcher were: Strongly Agree (213), Agree (118), Neutral (41), Disagree (7), and Strongly Disagree (1). Research results from questionnaire distribution on the Articulation Learning Model variable (X2) indicate that respondents provided varied responses to each question. Based on research results from questionnaire distribution for the Learning Achievement variable (Y), respondents' answers to each question prepared by the researcher were: Strongly Agree (125), Agree (167), Neutral (77), Disagree (11), and Strongly Agree (0).

### Validity and Reliability Testing

#### Validity Testing

Validity testing is used to determine whether an alternative or indicator is valid. The data obtained in research are considered valid when the instrument used directly shows what it refers to. To measure the instrument and assess validity, we first examine the Correlation between the instrument's parts and the total by correlating each item with the total score; this is equivalent to the item's total score. Before testing the instruments, researchers first examine the Correlation between all parts of the instrument used, using the Pearson product-moment formula.

#### Visual Media Variable

		X1.1	X1.2	X1.3	X1.4	X1.5
X1.1	Pearson Correlation	1	.242*	.212	.146	.243*
	Sig. (2-tailed)		.035	.066	.207	.034
	N	76	76	76	76	76
X1.2	Pearson Correlation	.242*	1	.603**	.602**	.609**
	Sig. (2-tailed)	.035		.000	.000	.000
	N	76	76	76	76	76
X1.3	Pearson Correlation	.212	.603**	1	.721**	.739**
	Sig. (2-tailed)	.066	.000		.000	.000
	N	76	76	76	76	76
X1.4	Pearson Correlation	.146	.602**	.721**	1	.924**
	Sig. (2-tailed)	.207	.000	.000		.000
	N	76	76	76	76	76
X1.5	Pearson Correlation	.243*	.609**	.739**	.924**	1
	Sig. (2-tailed)	.034	.000	.000	.000	
	N	76	76	76	76	76
Media Vizual	Pearson Correlation	.469**	.787**	.847**	.875**	.905**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	76	76	76	76	76

**Table 3: Validity Correlations Visual Media Variable**

To identify the validity of the items, the significance value of the Correlation between each item and the total score is shown with the following criteria: If the significance value < 0.05 (5%), it means the item is valid; If the significance value > 0.05 (5%), it means the item is invalid. Brito & da Costa, (2023). Referring to the output results in Table 3, it shows that the significance values (0.034; 0.000; 0.000; 0.000; 0.000) are < 0.05; therefore, all items of the Visual Media variable are valid.

**Item-Total Statistics**

Indikator	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
X1.1	16.37	7.436	.239	.125	.903
X1.2	16.25	5.950	.652	.438	.800
X1.3	16.18	5.566	.738	.590	.775
X1.4	15.88	5.519	.786	.867	.761
X1.5	15.95	5.464	.839	.875	.747

**Table 4: Item Total Statistics Visual Media Variable**

Referring to the output results in Table 4, it shows that the significance values (0.239; 0.652; 0.738; 0.786; 0.839) are > 0.2257; therefore, all items are valid.

**Articulation Learning Model Variable**

**Correlations**

		X2.1	X2.2	X2.3	X2.4	X2.5
X2.1	Pearson Correlation	1	.563*	.625*	.617*	.598*
	Sig. (2-tailed)		.000	.000	.000	.000
	N	76	76	76	76	76
X2.2	Pearson Correlation	.563*	1	.531*	.968*	.544*
	Sig. (2-tailed)	.000		.000	.000	.000
	N	76	76	76	76	76
X2.3	Pearson Correlation	.625*	.531*	1	.519*	.698*
	Sig. (2-tailed)	.000	.000		.000	.000
	N	76	76	76	76	76
X2.4	Pearson Correlation	.617*	.968*	.519*	1	.533*
	Sig. (2-tailed)	.000	.000	.000		.000
	N	76	76	76	76	76
X2.5	Pearson Correlation	.598*	.544*	.698*	.533*	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	76	76	76	76	76
Modelu Aprendizajen Artikulasaun	Pearson Correlation	.793*	.870*	.815*	.873*	.816*
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	76	76	76	76	76

**Table 13: Validity Correlations Articulation Model Variable**

To assess the validity of the question items, we examine the significance value of the Correlation between each item and the total score (last column) using the following criteria: if the significance value is < 0.05 (5%), the item is valid. If the significance value is > 0.05 (5%), the item is invalid (Brito & Costa, 2024). Referring to the output results in Table 4, it shows that the significance values (0.000; 0.000; 0.000; 0.000; 0.000) are < 0.05; therefore, all items of the articulation learning model variable are valid.

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
X2.1	17.34	7.081	.707	.564	.872
X2.2	17.92	5.940	.781	.944	.849
X2.3	17.50	6.120	.691	.568	.871
X2.4	17.88	6.052	.791	.947	.846
X2.5	17.51	6.173	.695	.552	.870

**Table 5: Item total statistics articulation model variable**

The output in Table 5 shows that the significance values (0.707, 0.781; 0.691; 0.791; 0.695) are > 0.2257; therefore, all items are valid.

1. Student Learning Achievement Variable

**Correlations**

		Y1	Y2	Y3	Y4	Y5
Y1	Pearson Correlation	1	.343**	.274*	.291*	.396**
	Sig. (2-tailed)		.002	.017	.011	.000
	N	76	76	76	76	76
Y2	Pearson Correlation	.343**	1	.342**	.953**	.921**
	Sig. (2-tailed)	.002		.002	.000	.000
	N	76	76	76	76	76
Y3	Pearson Correlation	.274*	.342**	1	.290*	.253*
	Sig. (2-tailed)	.017	.002		.011	.027
	N	76	76	76	76	76
Y4	Pearson Correlation	.291*	.953**	.290*	1	.900**
	Sig. (2-tailed)	.011	.000	.011		.000
	N	76	76	76	76	76
Y5	Pearson Correlation	.396**	.921**	.253*	.900**	1

Aproveitamento Estudante Aluno	Sig. (2-tailed)	.000	.000	.027	.000	
	N	76	76	76	76	76
	Pearson Correlation	.600**	.911**	.587**	.877**	.886**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	76	76	76	76	76

**Table 6: Validity Correlations Learning Achievement Variable**

To assess the validity of the question items, we examine the significance value of the Correlation between each item and the total score (last column) using the following criteria: if the significance value is  $< 0.05$  (5%), the item is valid. If the significance value is  $> 0.05$  (5%), the item is invalid (Brito & da Costa, 2023).

The output results in Table 6 show that the significance values (0.000; 0.000; 0.027; 0.000; 0.000) are  $< 0.05$ ; therefore, all items of the learning achievement variable are valid. Another way to identify the validity of the question items is to make a comparison between the  $r$  value (Corrected Item-Total Correlation) and  $r_{table}$ , with the following criteria: If the  $r_{val}$  value  $> r_{table}$ , it means the item is valid, and if the  $r_{val}$  value  $< r_{table}$ , it means the item is not valid. Where:  $r_{table}$  for  $\alpha = 0.05$  (5%) with degrees of freedom ( $df = n-2$  or  $76-2=74$ )

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Y1	16.59	6.858	.391	.221	.847
Y2	16.17	5.504	.849	.935	.717
Y3	16.28	6.736	.340	.189	.871
Y4	16.20	5.707	.795	.915	.734
Y5	16.13	5.556	.806	.869	.728

**Table 7: Item Total Statistics Learning Achievement Variable**

Referring to the output results in Table 7, it shows that the significance values (0.391; 0.849; 0.340; 0.795; 0.806) are  $> 0.2257$ ; therefore, all items are valid.

### Reliability Testing

Reliability is a test we use to determine whether the test or questionnaire we give to respondents, or the questions we use to understand the problem in the referred place, is reliable. The reliability test in this research uses Cronbach's alpha. The reliability test results for each variable are as follows:

Variavel	Alpha	$r_{tabela}$	Kategori
Media Visual X <sub>1</sub>	0.837	0.60	Reliabel
Modelu Aprendizajen	0.886	0.60	Reliabel

Artikulasi X <sub>2</sub>			
Aproveitamento Estudo Y	0.821	0.60	Reliabel

**Table 8: Reliability Testing**

The table above shows that the reliability test value between the Visual Media value (X<sub>1</sub>), the Articulation Learning Model value (X<sub>2</sub>), and the Learning Achievement value (Y) with the following criteria: If  $r_{\alpha} > 0.6$ , it means reliable, and if  $r_{\alpha} < 0.6$ , it means not reliable (Brito & da Costa, (2023). Given that the Alpha Coefficient value is greater than the rtable value of 0.60, each variable in this questionnaire is considered reliable, indicating it is trustworthy to continue the analysis.

### Classical Assumption Analysis

The model used to analyze the data in this research employs simple linear regression and hypothesis testing; the researcher uses the T-test and F-test. Therefore, before continuing with the following data analysis, the classical assumptions are first examined to identify any data errors in the simple linear regression. The results of the normality test are shown in the Normal P-P Plot image below. The results from the Normal P-Plot, as the image shows, display the distribution of the data for the variables or the regression line. Because the points are closer to the line, we can conclude that the data has a normal distribution.

### Autocorrelation/Linearity Test

The linearity test aims to determine whether there is a significant relationship between two variables. This test examines explicitly Visual Media (X) and the articulation learning model in relation to student learning achievement (Y). This test is a criterion in Correlation or regression analysis. When the significance value is  $> 0.05$ , it is considered to have linearity or Correlation, and vice versa. Based on SPSS Version 21 output as follows:

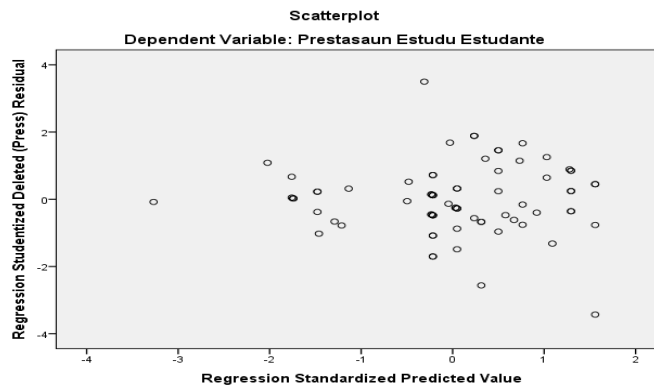
Model	Change Statistics		Durbin-Watson
	df	Sig. F Change	
1	73 <sub>a</sub>	.000	2.069

**Table 9: Autocorrelation/Linearity Test**

Based on the Durbin-Watson test results in the SPSS Model Summary<sup>b</sup> table above, the regression D-score is 2.069. Generally, the Durbin-Watson value is between 0 and 4. Thus, if the Durbin-Watson test statistic is less than 2, then the residuals or errors from the simple linear regression model are not independent, or autocorrelation is present. Therefore, the results show that the Durbin-Watson test statistic in this research indicates that autocorrelation does not occur.

## Heteroscedasticity Test

The heteroscedasticity test checks whether the variance differs from one observation to another. The heteroscedasticity test that is carried out uses the Spearman Rank coefficient test, which correlates the absolute residuals from the correlation results  $<0.05$  (5%), meaning the regression equation is free from heteroscedasticity.



### Graph 05: Heteroscedasticity Test

Based on the output results, the scatterplot shows points that are very clear, and the points are spread in the middle, which we can also see clearly. Thus, the conclusion is that heteroscedasticity does not occur in the regression model.

## Multiple Linear Regression Analysis

Multiple Linear Regression Analysis is used to determine whether there is a significant, positive influence of the Visual Media variable ( $X_1$ ) and the articulation learning model ( $X_2$ ) on student learning achievement ( $Y$ ). To analyze multiple linear regression regarding the significant and positive influence is as follows:

### Multiple Linear Regression Coefficient

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.746	1.509		1.157	.251
	Media Vizual	.665	.083	.662	7.988	.000
	Modelu Aprendizajen Artikulasaun	.235	.081	.241	2.912	.005

**Table 10: Multiple Linear Regression Coefficient**

a. Dependent Variable: Aproveitamentu Estudu Alunu

In the multiple linear regression model  $Y = a + b_1X_1 + b_2X_2 + e$ , the answer is  $Y = 1.746 + 0.665X_1 + 0.235X_2$ . Where:

$a = 1.746$  indicates that the results of Student Learning Achievement at Basic Education Aitemua Branch, before the influence of the Visual Media and Articulation Learning Model, already show an impact with a value of 1.746.

$b_1 = 0.665$ ; meanwhile, the regression coefficient for the Visual Media variable will also affect Student Learning Achievement.

$b_2 = 0.235$ ; meanwhile, the regression coefficient when the Articulation Learning Model variable changes will also affect Student Learning Achievement.

The regression coefficient equation above shows that the Visual Media variable ( $X_1$ ) and the Articulation Learning Model variable ( $X_2$ ) truly affect the Student Learning Achievement variable ( $Y$ ). Looking at the regression coefficient between the Visual Media variable ( $X_1$ ) and the Articulation Learning Model variable ( $X_2$ ), the one that gives a larger impact or is more dominant is Visual Media.

### Korelasaun Liner Mutipla

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.834 <sup>a</sup>	.696	.688	1.683	.696	83.670	2

**Table 11: Korelasaun Linear Mutipla**

a. Predictors: (Constant), Modelu Apendizajen Artikulasaun, Media Vizual

b. Dependent Variable: Aproveitamentu Estudu Alunu

Primary Data analyzed with SPSS 21.

Based on the Model summary table above, the Correlation (R) of 0.834 (83.4%) indicates that the relationship between the Visual Media variable and the articulation learning model on student learning achievement is very strong. Using the Windows Program SPSS Version 21, the results show that the Coefficient of Determination (R Square) of 0.696 (69.6%) indicates that Student Learning Achievement is, in fact, influenced by the Visual Media variable and the articulation learning model variable. The rest, totaling (100% - 69.6% = 30.4%), signifies that other variables influence Student Learning Achievement that are not categorized in this research.

### Hypothesis Testing

#### T Test

The t-test is used to assess the influence of the partial independent variables (Visual Media and Articulation Learning Model) on the dependent variable (Student Learning Achievement). According to the partial test explanation, as follows:

### Influence of Visual Media ( $X_1$ ) on Student Learning Achievement (Y).

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.746	1.509		1.157	.251
	Media Vizual	.665	.083	.662	7.988	.000
	Modelu Apendizajen Artikulasaun	.235	.081	.241	2.912	.005

**Table 12: Koefesiente Regresaun Linnear Mutipla**

a. Dependent Variable: Aproveitamentu Estudu Alunu

*Primary Data analyzed with SPSS 21.*

According to the analysis results above (Coefficients/t), it shows that the Visual Media variable truly has a significant and positive influence on the Student Learning Achievement variable because with a significant t measured value of 7.988 with significance 0.000 which is larger compared to the t table value with  $df = N-2$  ( $76-2=74$ ) signifying (1.665) that t measured  $>$  t table with a confidence level of 95% and error level of 5%. The contradiction between these values leads to the conclusion that  $H_0$  (Null Hypothesis) is rejected and the alternative hypothesis ( $H_a$ ) is accepted, because the t-measured value falls in the rejection region. Thus, it shows that there is a very significant and positive influence of the Visual Media variable on Student Learning Achievement at the Basic Education Aitemua Branch Academic Year 2024.

### Influence of Articulation Learning Model ( $X_2$ ) on Student Learning Achievement (Y)

According to the analysis results above 07 (Coefficients/t), it shows that the Articulation Learning Model variable truly has a significant and positive influence on the Student Learning Achievement variable because with a significant t measured value of 2.912 with significance 0.005 which is larger compared to the t table value with  $df = 2$  ( $76-2=74$ ) signifying (1.665) that t measured  $>$  t table with a confidence level of 95% and error level of 5%. The contradiction between these values leads to the conclusion that  $H_0$  (Null Hypothesis) is rejected and the alternative hypothesis ( $H_a$ ) is accepted, because the t-measured value falls in the rejection region. Thus, it shows that there is a very significant and positive influence of the Articulation Learning Model variable on Student Learning Achievement at the Basic Education Aitemua Branch.

### F Test (Simultaneous Test).

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
1	474.229	2	237.114	83.670	.000 <sup>b</sup>
	206.877	73	2.834		
	681.105	75			

a. Dependent Variable: Aproveitamentu Estudu Alunu  
b. Predictors: (Constant), Modelu Aprendizajen Artikulasaun, Media Vizual

**Tabela 22: Prova F**

*Dadus Prima ne'ebé mak Analiza ho SPSS 21.*

The Simultaneous Test (F Test) is used to determine whether the Visual Media variable and the articulation learning model significantly and positively influence the Student Learning Achievement variable at the Basic Education Aitemua Branch Academic Year 2024. Based on the SPSS ANOVA output, it shows that the F measured value is 83.670 with a significance level of 0.000 compared to the F table value with  $df = 2$  ( $76-2=74$ ), thus the F table value = 4.90, therefore the Visual Media variable and articulation learning model significantly and positively influence simultaneously the Student Learning Achievement variable at Basic Education Aitemua Branch Academic Year 2024.

## RESULT AND DISCUSSIONS

Based on the results above, a clearer discussion will follow regarding the influence of Visual Media and the articulation learning model, which simultaneously and significantly positively influence the Student Learning Achievement variable at the Basic Education Aitemua Branch Academic Year 2024. Thus, the research results show that the Frequency distribution by respondent gender shows Males totaling 34 people (44.7%) and Females totaling 42 (55.7%). This shows that the respondents are predominantly female. Also, the distribution of respondents by age matches the data compiled in the following table.

Based on the results, it shows that respondents by age above show that the total respondents aged 16-17 are 45 people with a percentage of 59.2%, aged 18-19 are 25 people with a percentage of 32.9%, and aged 20-21 are six people with a percentage of 7.9%. This shows that, by age, most respondents are 16-17 years old.

The validity test we use to determine whether the alternatives or indicators are valid or not shows that, from the output results, items with significance values

(0.034; 0.000; 0.000; 0.000; 0.000) < 0.05; therefore, all items from the Visual Media variable are valid. Likewise, the output results show that the significance values (0.000; 0.000; 0.000; 0.000; 0.000) are < 0.05; therefore, all items from the Articulation Learning Model variable are valid. Also, the output shows that the significance values (0.000; 0.000; 0.027; 0.000; 0.000) are < 0.05; therefore, all items from the learning achievement variable are valid.

Reliability is a test that can be used to determine the validity of the test or questionnaire we use to give to respondents, or the questions we use to understand the problem at the referred place. Given that the Alpha Coefficient value is larger than the r table value of 0.60, this indicates that each variable in this questionnaire is reliable, meaning it is trustworthy to continue the analysis.

Based on the Durbin-Watson test results in the SPSS Model Summary table above, the regression D statistic is 2.069. Generally, the Durbin-Watson value is between 0 and 4. Thus, the Durbin-Watson test statistic is less than 2, indicating that the residuals from the simple linear regression model are independent and that no autocorrelation occurs. Therefore, the results show that the Durbin-Watson test statistic in this research indicates that autocorrelation does not occur.

Multiple Linear Regression Analysis is used to determine whether there is a significant, positive influence of the Visual Media variable on the articulation learning model in student learning achievement. In the multiple linear regression model  $Y = a + b_1X_1 + b_2X_2 + e$ , the multiple linear regression equation is  $Y = 1.746 + 0.665X_1 + 0.235X_2$ . Where:  $a = 1.746$  signifies that the results of Student Learning Achievement at Basic Education Aitemua Branch, before the influence of visual media and articulation learning model, already has an impact with a value of 1.746;  $b_1 = 0.665$  meanwhile the regression coefficient when the Visual Media variable will also give change to Student Learning Achievement;  $b_2 = 0.235$  meanwhile the regression coefficient when the Articulation Learning Model variable changes will also give change to Student Learning Achievement.

The model summary shows that the Correlation (R) = 0.834, or 83.4%, indicating that the influence of the visual media variable and the articulation learning model on student learning achievement is very strong (Correlation). The Coefficient of Determination value ( $R^2$ ) of 0.696 (69.6%) means that Student

Learning Achievement is truly influenced by the visual media variable and the articulation learning model variable, and the rest, totaling ( $100\% - 69.6\% = 30.4\%$ ), signifies that other variables influence Student Learning Achievement that are not categorized in this research.

The t-test is used to assess the influence of the partial independent variables (Visual Media and Articulation Learning Model) on the dependent variable (Student Learning Achievement). According to the Coefficients/t analysis results, it shows that the Visual Media variable truly has a significant and positive influence on the Student Learning Achievement variable because with a significant t measured value of 7.988 with significance 0.000 which is larger compared to the t table value with  $df = N-2$  ( $76-2=74$ ) signifying (1.665) that  $t \text{ measured} > t \text{ table}$  with a confidence level of 95% and error level of 5%. The contradiction between these values leads to the conclusion that  $H_0$  (Null Hypothesis) is rejected and the alternative hypothesis ( $H_a$ ) is accepted, because the t-measured value falls in the rejection region. Thus, it shows that there is a very significant and positive influence of the Visual Media variable on Student Learning Achievement at the Basic Education Aitemua Branch.

Likewise, according to the Coefficients/t results, it shows that the Articulation Learning Model variable truly has a significant and positive influence on the Student Learning Achievement variable because with a significant t measured value of 2.912 with significance 0.005 which is larger compared to the t table value with  $df = 2$  ( $76-2=74$ ) signifying (1.665) that  $t \text{ measured} > t \text{ table}$  with a confidence level of 95% and error level of 5%. The contradiction between these values leads to the conclusion that  $H_0$  (Null Hypothesis) is rejected and the alternative hypothesis ( $H_a$ ) is accepted, because the t-measured value falls in the rejection region. Thus, it shows that the articulation learning model variable has a very significant and positive influence on student learning achievement at Basic Education Aitemua Branch in Academic Year 2024.

The Simultaneous Test is used to determine the association between the Visual Media variable and the articulation learning model that significantly and positively influences the Student Learning Achievement variable at the Basic Education Aitemua Branch Academic Year 2024. Based on the SPSS ANOVA output, the F-measured value is 83.670 with a significance level of 0.000 compared to the F table value with  $df = 2$  ( $76-2=74$ ), thus the F table value = 4.90, therefore the Visual

Media variable and articulation learning model significantly and positively influence the Student Learning Achievement variable at Basic Education Aitemua Branch.

## CONCLUSIONS

1. The articulation learning model significantly influences student learning achievement because the t statistic (2.912) > the t table value (1.665) and the p value (0.005) < 0.05; therefore, the articulation learning model has a significant influence on student learning achievement.
2. The use of visual media and the articulation learning model can simultaneously improve learning achievement because the t-statistic value (83.670) > the t significance p value (0.000) < 0.05; therefore, Visual media and the articulation learning model simultaneously have a significant influence on Student Learning Achievement.
3. The Correlation (R) = 0.834, or 83.4%, indicates that the influence of the visual media variable and the articulation learning model variable on student learning achievement is very strong (Correlation). The Coefficient of Determination (R<sup>2</sup>) of 0.696 (69.6%) indicates that Student Learning Achievement is truly influenced by the visual media and articulation learning model variables.

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