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The Correlation Between Motivation and Learning Style with Elementary School Students Learning Outcomes on Science Subjects in Palu

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Abstract

This research was conducted to determine the relationship between motivation and learning style with the learning outcomes of elementary school students. The results of calculating the frequency of learning motivation were 19.85% who scored 81-127 in the medium category and 80.15% in the high category who scored 128 -175, while the low criterion is 0%. The results of the descriptive analysis of student learning styles revealed that 127 or 47.6% of students had an auditory learning style, 61, or 22.8% of students had a visual learning style, and 79, or 29.6% of students had a kinesthetic learning style. Based on the results of learning science in terms of frequency, 16 people (5.99%) scored 55-59 had low criteria, and those who got 60-69 scored 56 people (20.97%) had moderate criteria. criteria, and students who scored 70 -100 as many as 195 people (73.03%) had high criteria. The statistical test results showed that there was a moderate or quite strong relationship between learning motivation and learning outcomes, there was a weak relationship between learning styles and learning outcomes, there was a very weak relationship between learning motivation and learning styles and science learning outcomes for elementary school students in Palu.

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Introduction

Education is one of the important fields in the country of Indonesia, because education is one of the spearheads in determining the progress of the Indonesian nation, to support this progress it is necessary to prepare quality human resources (HR) through education, in the educational process concerning learning activities with all aspects factors that influence it, teachers as teachers are required to have certain qualification requirements related to knowledge, abilities, attitudes, and personal characteristics so that the process can take place effectively and efficiently. Basically, to support the achievement of learning objectives, this process requires an optimal learning process. With the optimal learning process, it is hoped that students will achieve satisfactory learning outcomes (Ahmad & Rohani, 2015). The essence of education for students is learning. According to Daryanto (2017), learning is a business process carried out by a person to obtain a whole new change in behavior, as a result of his own experience in interaction with his environment. According to Daniel (2015), states that "Learning is a process of change in human personality, and this change is manifested in the form of increased quality and quantity of behavior such as increased skills, knowledge, attitudes, habits, understanding, skills, thinking power, independence, and appreciation". The success-oriented teaching and learning process aims to provide stimulation to students who are the main subjects in learning, to create better teaching and learning conditions determined by at least five variables, they are: students actively, arouse student motivation, the principle of individuality and demonstration in teaching (Usman, 2016).

The purpose of student learning is for students to achieve good learning outcomes. According to Munawar (2009), learning outcomes are the abilities students have after receiving their learning experiences, in addition to learning students must also have motivation and learning styles because by having good motivation and learning styles, students will study harder, be diligent, and have concentration full in the learning process. Encouragement of motivation and learning styles in learning is one of the things that need to be raised in learning efforts at school. Students who have high motivation and learning styles in learning are likely to get high learning outcomes as well.

According to Sardiman (2011), motivation can be stimulated by external factors but that motivation is growing within a person, in learning activities, motivation can be said to be the overall driving force within students that causes learning activities, ensuring the continuity of learning activities and provide direction on learning activities, so that the desired objectives of the learning subject are achieved. Besides motivation, one of the things that can affect learning outcomes is student learning styles. Likewise, what happened in several elementary schools was that student learning outcomes were influenced by various factors including motivation and learning styles (Wulandari. 2007). Learning styles not only create awareness for students but can also be used to inform about strengths and weaknesses. So that students realize these strengths and weaknesses can trigger students to be more motivated. According to Shannon (2008), Based on these findings, teaching students metacognitive strategies is a valuable skill that helps students become more independent learners. College students used to be interested in trying learning style surveys to help them "think about how they think".

Natural Sciences (IPA) in Elementary Schools is a program to instill and develop knowledge of scientific skills, attitudes, and values in students as well as a sense of love and respect for the greatness of God Almighty. The purpose of science in general is to help students understand science concepts and their relation to everyday life. Have the skills to develop knowledge about the natural surroundings and apply various science concepts to explain natural phenomena that must be verified in the laboratory.

Based on the results of observations in several elementary schools in Palu, especially SD Alkhairaat 1 Palu, SD Inpres Boyaoge, and SD Inpres Bumi Sagu, there are several factors that affect student learning outcomes, including motivation and student learning styles. Students have several different learning styles, both visual, auditory, and kinesthetic besides that student motivation in participating in learning is still low, it can be seen from the class atmosphere that students often disturb their friends during the learning process and the learning atmosphere is not conducive and disorderly. So that other students cannot learn optimally, this condition is the cause of low student learning outcomes, especially in science subjects. The objectives of this study are: To find out the relationship between learning motivation and student learning outcomes in science subjects at Elementary Schools in Palu City. and to find out the relationship between learning styles and student learning outcomes in science subjects at Elementary Schools in Palu City. and to find out the relationship between motivation, learning styles, and student learning outcomes in science subjects at Elementary Schools in Palu City.

Materials and Method

This study used correlational research, it is the correlation between the independent variable (X1) learning motivation and (X2) learning style with student learning outcomes (Y), either individually or collectively between the two variables. This research was conducted in elementary schools (SD) in Palu, they are SD Alkhairaat 1 Palu, SD Inpres Bumi Sagu and SD Inpres Boyaoge. Sampling was determined by a saturated sampling technique, namely a male population of 127 students, a female population of 139 students, and the entire population of 267 students who were sampled. The type of data to be collected is quantitative data. Sugiyono (2015) states that quantitative data is data in the form of numbers or qualitative data which is assessed (scoring), quantitative data consists of learning styles, learning motivation, and learning outcomes. Sources of data in this study come from primary data and secondary data. Primary data in this study are motivation and learning style data obtained from questionnaires and mid-semester test scores on science learning outcomes. Secondary data is the number of students as a sample of research, journals, and books. Before testing the hypothesis, the prerequisite test is conducted first which is the normality test and homogeneity test.

Results and Discussion

The results of the calculation of the frequency of learning motivation from all respondents, totaling 267 students, obtained the highest learning motivation value of 168 and the lowest was 109. Data on the percentage of learning motivation is presented in the form of a bar Figure 1 SAs a whole,

the percentage of values and criteria for learning motivation is 19.85% who get a score of 81- 127 in the medium category and 80.15% for the high category, who get a value of 128-175, while the low criteria are 0%. These results indicate that the level of student motivation has a correlation or correlation with student learning outcomes in science subjects in Elementary Schools in Palu.

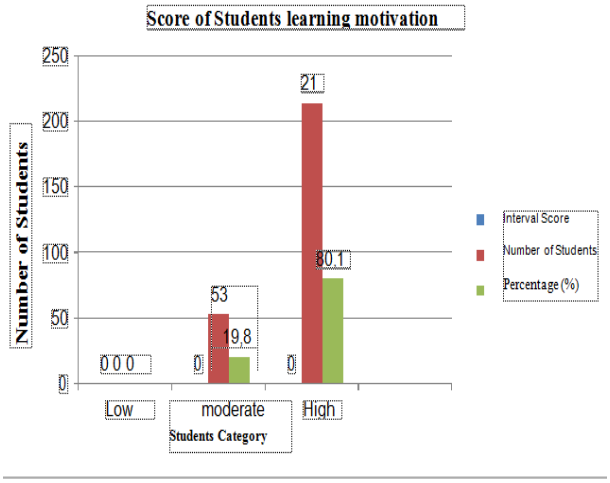

Figure 1. Percentage diagram of student learning motivation

The results of descriptive analysis of student learning styles were obtained from a learning style questionnaire. Based on the highest number of scores, each student is classified into whether it is a visual, auditory, or kinesthetic learning style. The data on the percentage of learning styles are presented in the form of Figure 2. The classification results are 127 or 47.6% of students have auditory learning styles, 61, or 22.8% of students have visual learning styles and 79, or 29.6% of students have learning styles kinesthetic.

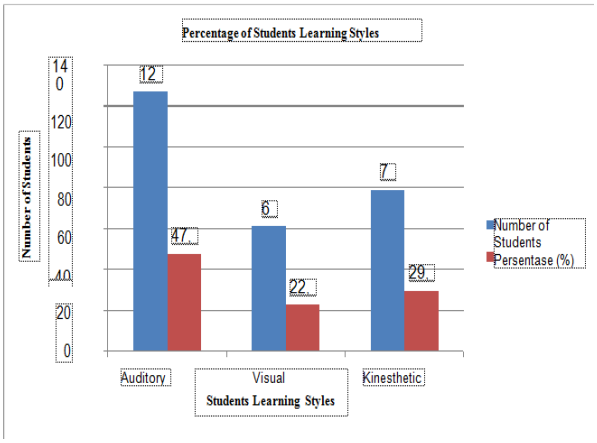

Figure 2. Percentage diagram of student learning style

The results of the calculation of the frequency distribution of student learning outcomes show that the highest score is 90 and the lowest is 75.2 out of 267 respondents, based on the results of learning science in absolute frequency and relative frequency. As for seeing the percentage value of learning outcomes can be seen in Figure 3. The value of learning outcomes obtained, a value of 75.2-79.4, totaling 79 people (29.59%) had low criteria, and those who obtained a value of 79.5 - 85.4 totaling 175 people (65.54%) have moderate criteria, and 13

students who get a score of 85.5–90 (4.87%) have high criteria.

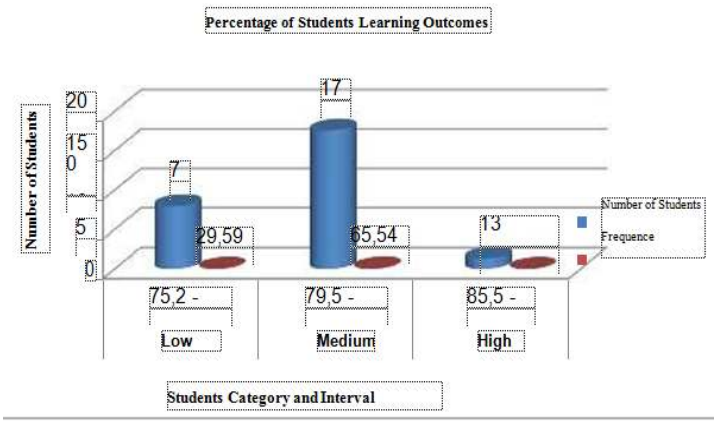

Figure 3. Percentage diagram of learning outcome

Correlation of learning motivation (X1) with student learning outcomes (Y)

The test results on the correlation between student learning motivation and student learning outcomes in science subjects proved that learning motivation had a correlation with science learning outcomes for students in grades V and VI SD Alkhairaat 1 Palu, SD Inpres Bumi Sagu and SD Inpres Boyaoge.

This is shown by the product-moment correlation value of 0.508, which means that the correlation between the learning innovation variable (X1) and the learning outcome variable (Y) is moderate or a fairly strong correlation. The positive coefficient number indicates that the correlation between the learning motivation variable (X1) and the learning outcome variable (Y) is positive, which means that if student learning motivation increases, student learning outcomes will also increase. Based on the explanation above, it can also be said that the learning motivation that exists in students can affect the learning outcomes of each student so if students have high motivation, these students can be more motivated in learning. This corresponds to the opinion of Sardiman (2011) that motivation is a driving force as well as giving direction to learning activities so that the goals desired by the learning subject can be achieved optimally. This was also confirmed by Setyaningrum (2012) states that motivation is something that makes individuals move, giving rise to behavior to do something in order to achieve the expected goals. Motivation to learn is an encouragement to get the best possible result in order to achieve a feeling of personal perfection. Motivation is one of the driving forces to increase students' desire to learn so that students will get better learning outcomes.

According to Hamalik (2014) that motivation is a change in energy in a person which is marked by the emergence of affective reactions to achieve goals. Meanwhile, Gintings (2010) defines motivation in learning as "something that moves or encourages students to learn or master the subject matter that is being followed." Then according to Sugihartono et al. (2010) that motivation is a condition that causes or causes certain behavior and which gives direction and resistance to that behavior. This result is in accordance with the results of previous research conducted by Hamdu & Agustina (2011). that learning motivation has a positive and significant correlation with science learning outcomes in elementary schools, where learning outcomes are influenced by 70.9% by learning motivation, while the remaining 29.1%. This means that learning motivation has a positive and significant effect on learning outcomes in biology.

Student learning motivation on the sub-indicator persistence. Based on the results of the analysis of the questionnaire, several points that trigger the high level of persistence can be seen in persistence in doing assignments in earnest, completing assignments on time with good results and every time there is assignment students do it right away. According to Daniela (2015) that the effort to generate and improve student learning

persistence is to provide students with an understanding of the importance of persistence in learning in obtaining the best learning achievement. Student learning motivation in sub indicator of resilience facing difficulties. Based on the results of the analysis, it is of concern to the high level of students can be seen in the desire to continue to study diligently in order to get good grades, there is a separate satisfaction value if students can work on questions with good grades, and if there are difficult questions found then students will ask the teacher. According to Ambar (2016) that one of the affective aspects required for students to achieve high achievement is the persistence of students in learning, it is necessary to know how much tenacity the students learn and work to achieve their goals. So that a tenacious attitude is one of the attitudes that are instilled in school learning. Measuring resilience is one of the important things in student affective assessment.

Student learning motivation on the sub-indicator is happy to learn independently. Based on the results of the analysis of the questionnaire, several points of concern for the good level of student enjoyment in independent learning can be seen in I like to do the assignments given by the teacher myself, prefer to study alone when the class is over, and always fill empty class hours by doing assignments. This can be seen when students work on assignments given by the teacher, these students still see and ask their friends, asking for their friend's answer sheets. In addition, students are also still afraid to express their opinions when the teacher asks questions during the lesson. According to Ali & Asrori (2014), in the context of the learning process, a negative symptom that appears is a lack of independence in learning which results in learning habits that do not last long and new learning after an exam, skipping classes, cheating, and looking for leaks of exam questions. Therefore, bad learning behavior can affect student learning and in turn, can cause low learning outcomes.

Students learning motivation on the sub-indicators receive lessons well. The results of the questionnaire analysis found among them pleasure in learning because the teacher always gives enthusiasm, and there is pleasure in learning if the teacher uses games in learning. Another thing that makes it negative is that it is boring if the teacher explains the material using several learning methods and when learning is formed in groups so that it is possible to ask their friends. According to Uno (2008), readiness to receive lessons and willingness to learn will arise if students understand the use or benefits of learning activities. Students who have considered learning as a need to get used to and learning activities become something that must be fulfilled.

Student learning motivation on the sub-indicators can defend their opinion. The results of the questionnaire analysis show that the lack of students giving opinions during discussion, but there are also some students who are not only silent and always give opinions during discussion because they try to defend their opinions, and are always firm when having an opinion in front of other friends. According to Hamalik (2014), the factors in a learning situation, such as competition and the desire to defend an opinion, are two things that mutually influence student learning motivation, besides that, there is also the desire and desire to succeed and encouragement of learning needs, expectations of ideals. Ideals will be a conducive learning generator so that learning activities become interesting.

Students' learning motivation in the sub-indicator is not easy to let go of things that are believed to be low criteria of 8.2%, medium criteria of 42.3%, and high criteria of 49.4%. Based on the results of the questionnaire analysis, it is influenced by not easily influenced by friends 'answers, always answers correctly and does not imitate friends' own, has the confidence to get the best score, and always has the highest target minimum score above average. According to Richard (2006), people who are confident, who do not easily let go of things they believe have a positive self-concept, believe in their abilities, because they never close themselves off. Confidence is also the basis of self-motivation to succeed. To be motivated, one must be confident. A person who finds calm and self-confidence must want and be self-motivated. According to Rachmawati & Amin (2014) that learning motivation contributes to student learning outcomes in class IV social studies subjects.

Motivation to learn Students in the sub-indicators like to find and solve problems reach a low criterion of 2.2%, a medium criterion of 31.8%, and a high criterion of 65.9%, this shows that students have good motivation in learning. In accordance with the results of the questionnaire analysis, the students were found very challenged to do questions that are considered difficult by their friends, and happy to get assignments from the

teacher. If in the book there are questions that have not been done, the students will work on them, actively looking for other suitable sources to perfect the tasks I am doing and prefer to work on questions from easy to difficult ones. According to Uno (2008) that to solve the problems faced requires persistence in learning, a child who has been motivated to learn something will try to study it well and diligently, in the hope of getting good results. So it can be said that learning motivation can function as a motivator for children to study diligently to solve problems with pleasure and achieve what they have aspired to achieve.

This illustrates that of the seven indicator variables, the learning motivation instrument has been fulfilled so that it affects student learning outcomes in grades V and VI. SD Alkhairaat 1 Palu, SD Inpres Bumi Sagu and SD Inpres Boyaoge. This is in accordance with research conducted by Rusmiasih (2013) which states that the results of the descriptive analysis of student motivation are included in the high category, this indicates that the motivation variable has a positive and significant effect on learning outcomes. According to Sardiman (2011) that motivation in learning is very important for students to determine their learning outcomes, and if students learn is supported by a strong and clear will, they will definitely be diligent and successful in learning.

The correlation between learning styles (X2) and student learning outcomes (Y)

The results of the test on the correlation between student learning styles and student learning outcomes in science subjects proved that learning styles had a correlation with science learning outcomes for students in grades V and VI SD Alkhairaat 1 Palu, SD Inpres Bumi Sagu, and SD Inpres Boyaoge. This is indicated by the product-moment correlation value of 0.324, which means that the correlation value shows a weak correlation. The positive coefficient number indicates that the correlation between the learning style variable (X2) and the learning outcome variable (Y) is positive, which means that if the student's learning style increases, the student learning outcomes will also increase. This condition can be said that each student is an individual who is uniquely different from one another and no one has the exact same characteristics even though they are twins. Each student has different characteristics from other students. Likewise, the learning styles that each student has are different from one another. Learning style is the way students learn by receiving the knowledge that their teacher gives them. According to Gufron & Risnawita (2013), learning styles not only affect the level of individual success in learning, but learning styles affect cognitive, affective, and physiological factors in presenting some fixed achievement goals regarding how students feel, relate to others, and react to the environment learn.

According to Gufron & Risnawita (2013), learning style is a method that students have to get new information or knowledge, so that in principle learning styles are an integral part of the active learning path. According to Uno (2008), whichever method is chosen, the difference in learning styles shows the fastest and best way for each individual to receive new information. If we can understand the differences in learning styles in each person, it may be easier to guide someone in getting a learning style that is appropriate and gives maximum results for him.

Based on the classification results in Bar Chart 2, it can be seen that there are 127 or 47.6% of students have an auditory learning style. This is influenced by students who always do the assignments given by the teacher themselves and students who prefer to study on their own when class hours are over, and students can complete assignments with their own abilities because they always fill empty class hours by doing assignments. Another thing is that students never imitate their friends' answers because students believe in their own answers. Students also enjoy learning because the teacher always gives encouragement. According to Myers & Dyer (2006), stated that there is no difference in critical thinking skills between students with other learning styles, but it requires additional attention through instructional methods and techniques that improve students' critical thinking skills.

All of the above influences are due to the auditory learning style, which is a learning style that relies on learning activities on the subject matter that is heard. Since auditory students prefer to record, it is because they like to listen to information over and over again. According to Fifi (2017), the auditory learning style relies more on hearing where it is easier for individuals to process and remember it by listening than reading or seeing it themselves. So that whatever method is chosen, the different

learning styles show the fastest and best way for each individual to be able to absorb information from outside himself. (National Academy of Education, 2009).

The results of the classification and bar chart 2 also show that 61 or 22.8% of students have a visual learning style. This is influenced by each student in doing the task by always reading instructions / instructions. Another thing is that students prefer to read assignments by themselves before doing them than read by other friends. Students always record learning material during the learning process so they don't forget easily. And students prefer reading books than listening to information from friends. When viewing a picture, students can easily recognize the picture even if it is played back or changed. Another thing is also influenced by the existence of students often writing in books when talking to friends about lessons, this is done to make it easier to remember. This is in line with research conducted by Syukur & Misu (2016), which states that there is a correlation between learning styles, one of which is visual learning styles, and mathematics learning outcomes of class XI students of SMAN 4 Kendari. According to Gunawan (2016), visual learning style is a learning style that relies on learning activities on the subject matter he sees. In this visual learning style which plays an important role in the way of learning is vision.

The results of the classification and bar chart 2 are also known, that there are 79 or 29.6% of students who have a kinesthetic learning style. This is influenced by each student who always gives an opinion during the discussion, even if there are different opinions, the students will respond because students are not just silent and always give opinions during discussion. But another thing is that each student does not try to defend his opinion during the discussion because students are not assertive when they are arguing in front of friends and are easily influenced by friends' answers. However, students always answer assignments correctly and do not imitate those of their friends, because students have the principle that what they have answered, never hesitate to answer them, and are sure they can get the best score. The results of research conducted by Zahratul et al. (2017), said that if students with an auditory learning style, understand the learning material in depth, the learning outcomes achieved will be satisfactory, and vice versa. However, that learning style will influence a person in absorbing and processing information so that it will affect the learning outcomes achieved. According to Hasrul (2009) Kinesthetic type learning style is a learning style where students tend to learn through motion and touch. Individuals who have a tendency to kinesthetic learning styles will learn better when they are physically involved in direct activities. They learn best when they are physically involved in learning and vice versa. However, that learning style will influence a person in absorbing and processing information so it will affect the learning outcomes achieved. According to Hasrul (2009), Kinesthetic type learning style is a learning style where students tend to learn through motion and touch. Individuals who have a tendency to kinesthetic learning styles will learn better when they are physically involved in direct activities. They learn best when they are physically involved in learning. Vice versa. However, that learning style will influence a person in absorbing and processing information so it will affect the learning outcomes achieved. According to Hasrul (2009), the kinesthetic type learning style is a learning style where students tend to learn through movement and touch. Individuals who have a tendency to kinesthetic learning styles will learn better when they are physically involved in direct activities. They learn best when they are physically involved in learning. Individuals who have a tendency to kinesthetic learning styles will learn better when they are physically involved in direct activities. They learn best when they are physically involved in learning. Individuals who have a tendency to kinesthetic learning styles will learn better when they are physically involved in direct activities. They learn best when they are physically involved in learning.

Based on the findings of research on learning styles (visual, auditory, and kinesthetic), it can be said that the more students optimize their learning styles, the higher their learning outcomes. These results are also in accordance with the results of this study. Learning styles are an important part of learning, because learning styles are the key to developing performance at work, at school, and in interpersonal situations (Harie, 2015), the more familiar a person is with his learning style, the better the results. Therefore, in the process of learning activities, the teacher should further develop his teaching methods so that students can optimize their learning styles.

The correlation between motivation (X1) and learning style (X2) on student learning outcomes (Y)

Analysis of the correlation between learning motivation and style the results of the analysis of the F test summary model obtained an R value of 0.039. The R value indicates that motivation and learning style together have a very weak correlation with student learning outcomes. These results are reinforced by the value of R square (R2) which is equal to 0.002, the value of R square shows the coefficient of determination. When viewed from the significance of the F test value obtained, it is 0.818> α (0.05), it shows that motivation and learning styles have no significant correlation with student learning outcomes. This means that there is no correlation between motivation and learning styles together on student learning outcomes.

This shows that motivation and learning styles together have a weak correlation with student learning outcomes, but can affect student learning outcomes. In realizing better student learning outcomes due to learning styles and motivation, it is necessary to have strategies and encouragement to learn. This strategy is obtained by determining the learning style of each student. Because the learning style is a combination of how students absorb, then organize, and process the information that has been obtained. How determine this learning style is a strategy used by students to be able to achieve better learning outcomes. Because the learning styles between students are different. This is in line with what Sudjana (2015) said that student learning outcomes are influenced by several factors, the factors from within the student itself and factors that come from outside the student or the environment. Motivation and learning styles are one of the factors that each person / student has, but according to the results of observations directly affecting learning outcomes is not only motivation and learning style but there are also other influencing factors which the researcher does not examine. Research results from Chania et al. (2016). Shows that there is no significant and positive correlation between learning styles and student learning outcomes in biology subjects.

The cause of the absence of a correlation between student learning styles and student learning outcomes in science lessons is seen from several sides, they are: teachers, students, and errors in research. According to Syarifuddin (2010), the absence of interaction or correlation between learning styles and student learning outcomes in science lessons can be due to other factors, besides student learning styles as internal factors. Other factors include talent, motivation, student attitudes, health, classroom conditions, and so on. Learning styles can determine children's learning achievement. If given a strategy that suits their learning style, children can develop better (Thobroni, 2015).

Learning styles have an influence on several things, including people with visual learning styles like following illustrations, reading instructions, observing pictures, directly reviewing events, and so on. Kinesthetic learning styles obtain information by prioritizing the senses of taste and physical movements. For individuals of this type, it is easy to learn material in the form of writings, and movements, and it is difficult to learn material in the form of sound or sight. All of the above can affect student learning outcomes. According to Ozbas (2013) that gender has no effect on students who learn through auditory and kinesthetic learning styles, however, gender has a significant effect on visual learning styles however, and the determination of student majors has no effect on student learning styles.

The results of statistical tests show that learning styles have no effect on student learning outcomes. This finding is not in line with the study of learning psychology and the research findings of Wulandari (2007) which reported that there was a positive correlation between learning styles and learning outcomes of class XI MIA students at SMA Negeri I Jambi. However, the findings of other studies suggest that the absence of an effect of student learning styles on learning outcomes is suspected because the learning style boundaries of students are less firm. Visual learning style students have elements of auditory and clinical learning styles. Auditory learning style students, have elements of visual and kinesthetic learning styles as well as students with kinesthetic learning styles, apparently also have elements of visual and auditory learning styles (Purwoko, 2014).

When viewed from the significance of the F test value obtained, it is 0.818 > α (0.05), which shows that motivation and learning styles have no significant correlation with student learning outcomes. This means that there is no correlation between motivation and learning styles together on student learning outcomes. Based on relevant

research, this study is in line with research conducted by Setyaningrum (2012), in his research on the correlation of learning discipline and learning motivation with student learning outcomes, concluding that there is a but very low correlation between learning motivation and student learning outcomes. Motivation to learn has an important role in providing stimulation, enthusiasm and pleasure in learning so that those who have high motivation have a lot of energy to carry out the learning process. Things that can affect student learning motivation to decline, it can arise from himself, the school environment and study time / student learning conditions (Iskandar, 2012).

Conclusions

There is a moderate or strong enough correlation between learning motivation and science learning outcomes of elementary school students in Palu, the value of the correlation between learning motivation and learning outcomes is 0.508. There is a weak correlation between learning styles and science learning outcomes of elementary school students in Palu with the correlation between learning styles and learning outcomes 0.324. There is a very weak correlation between learning motivation and learning styles and science learning outcomes of elementary school students in Palu with a value of 0.039.

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