

## The role of religion and culture on student attitudes in science learning

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### Abstract

This research discusses the influence or role of religion and culture on students' attitudes in learning science. The mixed method used in this study is a sequential explanatory approach. The sample in this study used the purposive sampling technique and 6474 students were selected. The instruments in this study are attitude questionnaires and in-depth interviews on culture and religion. Data analysis was carried out in the form of descriptive statistical analysis. Then, the qualitative data were analysed in several stages, namely data reduction, data presentation, and drawing conclusions. Based on the results of interviews and data collection that has been carried out and the discussion described above, it can be concluded that students' attitudes towards science have relevance to cultural aspects that exist in their daily life environment and students' attitudes towards science also have a close relationship with religious aspects that was adopted them. This result is certainly very positive for the affective and religious development of students which of course has an impact on how they interact with fellow humans in the school environment and others.

Keywords: Attitude; culture; religious

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## 1. Introduction

### 1.1 Conceptual and Theoretical Framework

In the modern digital era, the rapid development of science and technology demands changes in all aspects of the world of education. The thing that is most highlighted in the current era is the service of needs and opportunities with the emergence of education reform (Chatmaneerungcharoen, 2019). Education is an activity that plays an important role in humans because human education can change behavior and knowledge for the better (Arquitectura et al., 2015). One component that is the source of a nation or civilisation is education (Krumphals et al., 2019). The quality of education, as one of the pillars of meaningful human resource development, is very important for national development (Diwangkoro & Soenarto, 2020; Tapilouw et al., 2018; Umamah et al., 2020). It can even be said that the future of the nation depends on the existence of quality education that takes place in the present and the professionalism of teachers/educators in providing learning.

Attitudes are thoughts and feelings that help us behave when we like or dislike something. Attitude is the tendency of a person's behaviour both positive and negative towards an object that comes from a person. From the attitude shown, students are able to help teachers identify students who like or don't like learning. Attitude is the first thing that students see whether they like the lesson or not (Yuliani et al., 2021). Attitude is the first thing students see whether they like physics or not. A positive attitude will make students behave well and finish their academics well. Attitudes in the learning process can be realised through feelings of pleasure or displeasure, likes or dislikes, agreements or disagreements. Meanwhile, one of the efforts to improve student attitudes can be made through inquiry-based learning and problem solving (Wintarti et al., 2019). Some of the lessons in junior high school require the involvement of attitudes during the learning process. Based on previous studies, the researcher only discussed attitudes in general and did not specifically discuss students' attitudes towards science learning (Putra et al., 2019; Astalini et al., 2021).

Science learning is an activity carried out by teachers and students to study forms and events related to the universe. Science learning is an interaction between learning components such as educators, students, learning tools or media in the form of teaching and learning activities to achieve predetermined goals and competencies (Irwanto et al., 2018; Marini et al., 2019). Science subjects are included in difficult subjects. So there are still many students who do not like science lessons and show negative attitudes during the science learning process. Science learning outcomes are closely related to responses or attitudes from within students so students need to have a positive attitude in order to achieve good results. In science learning, students are expected to have a positive attitude to support a good learning process (Haenilah et al., 2021; Riantoni et al., 2017). Students who have a positive attitude towards science lessons will show high curiosity and enthusiasm during the science learning process. In addition, students who have a negative attitude when learning science will tend to be indifferent, lazy and would not pay attention to the teacher when studying science (Aryulina & Riyanto, 2016; Hobri et al., 2020; Rao, 2021). To build a positive attitude in learning, it is necessary to involve inculcating religious and cultural values in students in the learning process.

Understanding of religious teachings can be assessed as a stimulus that has an impact on one's religious behaviour. Religious behaviour as an activity based on believed religious values influenced by the intensity an individual's activity, the level of understanding of religious teachings, and the intensity in carrying out activities related to religious teachings (Putu, et al., 2014; Baharun & Zulfaizah, 2018; Muslim et al., 2021). The emergence of religious behaviour is the result of religious stimuli received by individuals, such as knowledge, attitudes and skills in carrying out activities religiously and socially.

Religion has a very important role in human life because religion is a motivation for life and is a tool for self-development and control (Abdul Razak et al., 2019; Fay, 2018; Rohendi, 2020). Therefore, religion needs to be known, understood and practiced by Indonesian people so that it can be the basis of personality and they can become a complete human being. Religion also regulates human relationships, human relationships with harmony, balance and harmony in human life, as both individuals and members of society in achieving outward progress, and spiritual happiness (Hu et al., 2017; Syamaun, 2019; Widjaja, 2019). The results of an interview with one of the religious leaders in Ngestirahayu Village, showed "Efforts to provide religious understanding to teenagers have been carried out, both through religious activities, commemorating religious holidays, and religious lectures such as recitations, etc. good things based on religion. Based on previous studies, the researcher only discussed religion on character in general, but did not specifically discuss the influence of religion on students' attitudes towards science learning.

Culture is defined in two dimensions. First, the result of human activities and creation of the mind (mind) such as belief, art and customs. Culture is a place to increase one's belief in something they believe in, just as someone believes that worshipping a big tree will bring good luck (Irwanto et al., 2018; Muali, 2017). The culture is carried out continuously from generations. Culture is all of the knowledge, attitudes and behavior patterns that are habits owned and inherited by members of a particular society (Setiawan & Sulistiani, 2019; Syahputra, 2020). Culture is something that lives, develops, moves towards a certain point. Another opinion states that culture is the creation of value development which includes everything in the physical, personal and social realms, which is perfected for the realisation of human power and society. Culture is the whole idea, action, and work in the context of people's lives by learning (Aryulina & Riyanto, 2016; Marini et al., 2019; Syahputra, 2020). Culture is the pattern of values, principles, habits and traditions, that are formed in the environment where one lives, then used as a guide to act and behave. The culture applied in the community aims to instil values that refer to changes in the attitude of youth or students in the school environment. Based on previous studies, the researcher only discussed culture on character in general, but did not specifically discuss the influence of culture on student attitudes in science learning.

This research is a very important study for the development of students' affective aspects. It is undeniable that the development of attitudes and religion can affect how students interact in their environment. By combining the surrounding culture, of course the delivery will be more relaxed and interesting to learn. If students already have a good attitude and are religious, it will make the knowledge they get more focused and useful as the concept of learning science itself must be based on ethics which is certainly related to students' attitudes and religion (Xie & Peng, 2018). Therefore, this research is important to carry out in order to achieve human resources who are not only qualified but also ethical and cultured.

## **1.2 Related Research**

This research is basically a study that complements previous studies that have studied the same thing. Research by Jamal and Sarifudin (2015) examines similar things, but the focus of the study is on halal food in Islam. Research by Udoh et al., (2020) also examines the role of culture and religion on poverty in Nigeria. Then the research by Permana et al., (2019) also examined things similar to the objective of the study in the form of health studies from research subjects, this is also in line with the research by Jaja et al., (2020) who also examined similar things, by studying the impact of the Covid-19 pandemic. The above mentioned research has the convenience of taking the role of culture and religion in influencing several aspects, but for the research conducted by the author only focuses on students' attitudes towards science learning.

### 1.3 Purpose of The Study

It is based on the background that has been about attitude, culture and religion research. In previous studies only discussed s the influence and role of culture and religion in education but not specifically the influence or role of religion and culture on students attitudes in science learning. Thus, the purpose of this research is to find out the influence or role of religion and culture on students' attitudes in learning science.

## 2. Method and Material

### 2.1. Research Model

The mixed method approach used in this study is an explanatory approach. The explanatory mixed methods design is a combination research method that combines quantitative and qualitative research methods sequentially (Maison et al., 2018). This type of research is a mixed methods research with an explanatory model (Sim & Wright, 2002; Srivastava & Rego, 2011; Sanjaya, 2013, Creswell, 2014). In this study, the population was from schools located in Muaro Jambi, Batanghari, and Jambi City.

### 2.2. Participants

In this study, the population was from schools located in Muaro Jambi, Batanghari, and Jambi City.

**Table 1.** Research population

No	Sector	Total student
1.	Muaro Jambi	2045
2.	Batanghari	1132
3.	Jambi city	3297
	Total	6474

The sample in this study used the purposive sampling technique. Purposive sampling is a type of sampling in which a research more a less handpicks case (Stommel & Wills, 2004; Schnei et al., 2016; Bell, Bryman & Harley, 2019). The main reason for using this sampling technique is because we want to examine a population with predetermined characteristics. Overall, from the sample used alone, there were 6474 students from three different regions in Jambi province.

### 2.3. Data Collection

The instruments used are a questionnaire and interview. Where the questionnaire used consists of three sections, namely the students attitude in towards science subjects, the learning creativity and hard work. Questionnaire on students' attitudes towards science subjects was adopted by researcher from Astalini and Kurniawan's (2019). The statements contained in this questionnaire were 56 statements, covering 7 indicators. The instrument includedclosed question which already provided answers on a Likert-type scale. The Likert scale used consists of five choices, namely Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The table 2 shows grid of research instruments on student attitudes in science subjects:

**Table 2.** Grid of Student Attitude Questionnaire Instruments in Science Subjects

Indicator	No. Item	
	(+)	(-)
Social Implications of Science	1, 14, 27, 39	7, 20, 32, 45, 53
Attitude Towards Science Investigation	2, 41	9, 22, 34, 47, 55
Adopt Scientific Attitude	3, 26, 28	10, 23, 35, 48
Fun in Learning Science	4, 17, 29	11, 24, 36, 42, 49, 56
Interest in increasing the time to study science	5, 18, 30	12, 25, 37, 43, 50
Interest in a Career in Science	13, 19, 26, 38, 51	6, 31, 44, 52

The category of student attitudes towards science subjects is shown in Table 3 with seven indicators, namely the implications of social attitudes, scientific normality, adoption of scientific attitudes, pleasure in learning science, interest in a career in science and interest in increasing science learning time.

**Table 3.** Category of student attitudes towards Science

Category	Interval Indicator		
	Implications of social attitudes towards science, pleasure in learning science, and interest in a career in science	Attitude towards inquiry in science and Adoption of scientific attitude	Interest in increasing the time to study science
Not Very Good	9.0 – 16.2	7.0 – 12.6	8.0 – 14.4
Not Good	16.3 – 23.4	12.7 – 18.2	14.5 – 20.8
Enough	23.5 – 30.6	18.3 – 23.8	20.9 – 27.2
Good	30.7 – 37.8	23.9 – 29.4	27.3 – 33.6
Very Good	37.9 – 45.0	29.5 – 35.0	33.7 – 40.0

The category of student attitudes in science subjects is shown by 3 indicators, namely the implications of social attitudes, interest in a career in science and interest in increasing science learning time. Then for the interview instrument in the form of 4 questions that complement and explore the results of descriptive statistics.

#### 2.4. Data Analysis

In this student attitude variable, data analysis was carried out in the form of descriptive statistical analysis. Descriptive statistics are descriptions or presentations of large numbers in this case in the form of summary frequencies, for example mean, median and mode (Cohen, Manion & Morison. 2007). Furthermore, interview data were used as reinforcement from the results of the descriptive statistical analysis that had been carried out. Data collection begins with selecting the sample used by

category, then giving students a science attitude questionnaire, and conducting a literature study which is strengthened by reinforced interviews with students. Data is processed in two ways, for data in the form of numbers which are processed using descriptive statistics in the form of mean, mode, median, and percentage. While qualitative data is processed in several stages, namely data reduction, data presentation, and drawing a conclusion (Miles & Huberman, 1994).

### 3. Result

Before taking The results of this descriptive statistical analysis were used to determine the mean, median and mode values as well as to determine the attitudes of junior high school students in Muaro Jambi, Batanghari and Jambi City districts. There are seven indicators studied in this study, the following are the results of descriptive statistics contained in the following table;

**Table 4.** Descriptive Statistics of the Attitudes Indicators of the Social Implications of Natural Science

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	9.0 – 16.2	48	2.34	20.67	20	20	Not Very Good
	16.3 – 23.4	243	11.88				Not Good
	23.5 – 30.6	634	31.00				Enough
	30.7 – 37.8	829	40.53				Good
	37.9 – 45.0	291	14.22				Very Good
Batanghari	9.0 – 16.2	48	2.34	20.67	20	20	Not Very Good
	16.3 – 23.4	243	11.88				Not Good
	23.5 – 30.6	634	31.00				Enough
	30.7 – 37.8	829	40.53				Good
	37.9 – 45.0	291	14.22				Very Good
Jambi City	9.0 – 16.2	0	0.0	23.35	23	23	Not Very Good
	16.3 – 23.4	73	2.21				Not Good
	23.5 – 30.6	676	20.5				Enough
	30.7 – 37.8	1743	52.86				Good
	37.9 – 45.0	805	24.41				Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of the attitude indicators of the Social Implications of Science in Muaro Jambi Regency from 2,045 students have a mean value of 20.67; the median is 20 and the mode is 20 and shows the dominant category is good with 829 students (40.53%). Analysis of the attitude indicators of the Social Implications of Science in Batanghari Regency from 1,132 students have a mean value of 24.54; the median is 24 and the mode is 24 and shows the dominant category is good with 601 students (53.09%). Analysis of the attitude indicators of the Social Implications of Science in Jambi City from 3,297 students have a mean value of 23.35; the median is 23 and the mode is 23 which shows the dominant category is good with 1743 students (52.86%)

**Table 5.** Descriptive Statistics of the Attitude indicator of Interest in Increasing science learning time

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	8.0 – 14.4	19	3.27	20.67	20	20	Not Very Good
	14.5 – 20.8	361	17.65				Not Good
	20.9 – 27.2	884	43.22				Enough
	27.3 – 33.6	583	28.50				Good
	33.7 – 40.0	114	5.57				Very Good
Batanghari	8.0 – 14.4	26	0.53	20.67	20	20	Not Very Good
	14.5 – 20.8	105	9.27				Not Good
	20.9 – 27.2	375	33.12				Enough
	27.3 – 33.6	509	44.96				Good
	33.7 – 40.0	137	12.1				Very Good
Jambi City	8.0 – 14.4	24	0.2	23.35	23	23	Not Very Good
	14.5 – 20.8	112	3.7				Not Good
	20.9 – 27.2	1010	30.63				Enough
	27.3 – 33.6	1597	48.43				Good
	33.7 – 40.0	560	16.9				Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of the attitude indicator Interest in increasing science learning time in Muaro Jambi Regency from 2,045 students have a mean value of 19.78; the median is 19 and the mode is 19 and shows the dominant category is sufficient with 884 students (43.22%). Analysis of the attitude indicator Interest in increasing science learning time in Batanghari Regency from 1,132 students have a mean value of 26.75; the median is 26 and the mode is 26 and shows the dominant category is good with 509 students (44.96%). Analysis of the attitude indicator Interest in increasing science learning time in Jambi City from 3,297 students have a mean value of 24.75; the median is 24 and the mode is 24 and shows the dominant category is good with 1597 students (48.43%).

**Table 6.** Descriptive Statistics of the Attitude indicator of the Interest in a Career in Science

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	9.0 – 16.2	53	2.59	17.36	17	17	Not Very Good
	16.3 – 23.4	333	16.28				Not Good
	23.5 – 30.6	830	40.58				Enough
	30.7 – 37.8	630	30.80				Good
	37.9 – 45.0	199	9.73				Very Good
Batanghari	9.0 – 16.2	11	0.9	20.56	20	20	Not Very Good
	16.3 – 23.4	84	7.42				Not Good
	23.5 – 30.6	478	42.22				Enough
	30.7 – 37.8	492	43.46				Good
	37.9 – 45.0	127	11.21				Very Good
Jambi City	9.0 – 16.2	10	0.3	20.64	20	20	Not Very Good
	16.3 – 23.4	176	5.33				Not Good

23.5 – 30.6	1401	42.49	Enough
30.7 – 37.8	1356	41.12	Good
37.9 – 45.0	354	10.73	Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of the attitude indicators of Career Interest in the Science field in Muaro Jambi Regency of 2,045 students have a mean value of 17.36; the median is 17 and the mode is 17 and shows the dominant category is sufficient with 830 students (40.58%). Analysis of the attitude indicators of Career Interest in the Science field in Batanghari Regency from 1,132 students have a mean value of 20.56; the median is 20 and the mode is 20 and shows the dominant category is good with 492 students (43.46%). Analysis of the attitude indicators of Career Interest in the Science field in Jambi City from 3,297 students have a mean value of 20.64; the median is 20 and the mode is 20 and shows the dominant category is sufficient with 1401 students (42.49%).

**Table 7.** Descriptive Statistics Attitude indicators Adoption of scientific attitudes in the field of science

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	7.0 – 12.6	0	0,0	24.84	25	25	Not Very Good
	12.7 – 18.2	90	3,19				Not Good
	18.3 – 23.8	1080	38,36				Enough
	23.9 – 29.4	1386	49,23				Good
	29.5 – 35.0	256	9,09				Very Good
Batanghari	7.0 – 12.6	0	0.0	26.54	27	27	Not Very Good
	12.7 – 18.2	12	4.47				Not Good
	18.3 – 23.8	51	19.02				Enough
	23.9 – 29.4	154	57.46				Good
	29.5 – 35.0	51	19.02				Very Good
Jambi City	7.0 – 12.6	0	0.0	31.01	31	31	Not Very Good
	12.7 – 18.2	6	1.24				Not Good
	18.3 – 23.8	180	37.34				Enough
	23.9 – 29.4	238	49.37				Good
	29.5 – 35.0	58	12.03				Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of attitude indicators for the adoption of scientific attitudes in science in Muaro Jambi from 2,815 students had a mean value of 24.84; the median is 25 and the mode is 25 and shows the dominant category is good with 1386 students (49.23%). Analysis of attitude indicators The adoption of scientific attitudes in science in Batanghari from 268 students has a mean value of 26.54; the median is 27 and the mode is 27 and shows the dominant category is good with 154 students (57.46%). Analysis of the attitude indicators of the adoption of scientific attitudes in science in Jambi City from 482 students had a mean value of 31.01; the median is 30 and the mode is 30 and shows the dominant category is good with 238 students (49.37%).



**Table 8.** Descriptive Statistics Attitude indicators of pleasure in learning science

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	9.0 – 16.2	8	0.2	25,67	26	26	Not Very Good
	16.3 – 23.4	106	3.7				Not Good
	23.5 – 30.6	835	29.66				Enough
	30.7 – 37.8	1354	48.09				Good
	37.9 – 45.0	512	18.18				Very Good
Batanghari	9.0 – 16.2	6	0.2	23.87	24	24	Not Very Good
	16.3 – 23.4	29	10.82				Not Good
	23.5 – 30.6	116	43.2				Enough
	30.7 – 37.8	81	30.22				Good
	37.9 – 45.0	36	13.43				Very Good
Jambi City	9.0 – 16.2	0	0.0	27.85	28	28	Not Very Good
	16.3 – 23.4	16	3.3				Not Good
	23.5 – 30.6	175	36.3				Enough
	30.7 – 37.8	248	51.4				Good
	37.9 – 45.0	48	9.95				Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of the attitude indicators of the Enjoyment of Learning Science in Muaro Jambi from 2,815 students have a mean value of 25.67; the median is 26 and the mode is 26 and shows the dominant category is good with 1354 students (48.09%). Analysis of the attitude indicators of the Enjoyment of Learning Science in Batanghari of 268 students have a mean value of 23.87; the median is 24 and the mode is 24 and shows the dominant category is sufficient with 116 students (43.2%). Analysis of the attitude indicators of the Enjoyment of Learning Science in Jambi City from 482 students have a mean value of 27.85; the median is 28 and the mode is 28 and shows the dominant category is good with 248 students (51.4%).

**Table 9.** Descriptive Statistics Attitudes of indicators of investigation of science

	Interval	Total	%	Mean	Median	Modus	Category
Muaro Jambi	7.0 – 12.6	11	0.3	22,73	23	23	Not Very Good
	12.7 – 18.2	236	8.41				Not Good
	18.3 – 23.8	1409	50.05				Enough
	23.9 – 29.4	998	35.45				Good
	29.5 – 35.0	161	5.7				Very Good
Batanghari	7.0 – 12.6	0	0.0	21.67	22	22	Not Very Good
	12.7 – 18.2	14	5.22				Not Good
	18.3 – 23.8	137	51.11				Enough
	23.9 – 29.4	101	37.68				Good
	29.5 – 35.0	16	5.97				Very Good
Jambi City	7.0 – 12.6	0	0.0	32.45	33	32	Not Very Good
	12.7 – 18.2	29	6.01				Not Good
	18.3 – 23.8	36	7.46				Enough
	23.9 – 29.4	192	39.83				Good
	29.5 – 35.0	225	46.68				Very Good

Based on the results of the table above, it can be seen that the results of the descriptive analysis of the attitude of the investigation indicators towards science in Muaro Jambi from 2,815 students have a mean value of 22.73; the median is 23 and the mode is 23 and shows the dominant category is sufficient with 1409 students (50.05%) were categorized as moderate. Analysis of the attitude of the investigation indicators towards science in Batanghari from 268 students have a mean value of 21.67; the median is 22 and the mode is 22 and shows the dominant category is sufficient with 137 students (51.11%). Analysis of the attitude indicators of the investigation of science in Jambi City from 482 students have a mean value of 3.45; the median is 33 and the mode is 32 and shows the dominant category is very good with 225 students (46.68%).

Interviews were conducted as a reinforcement of the results of the descriptive statistical analysis that had been carried out. The following are the results of the interviews that were conducted;

- Q1: In the 2013 curriculum and the revised 2013 curriculum, which includes independent learning, actually wants to humanise humans, but if you look at the reality until now, it still cannot be implemented properly in schools, besides that environmental conditions are good in schools, communities and other parties. parties used by students to become role models, can indirectly provide prevention efforts in the occurrence of moral degradation, character and behavioral attitudes. What do you think of Pak Kyai's point of view, in terms of the religious context, as well as the weaknesses and strengths of all education in the province?
- A1: with the effort in the form of a clash of religious values with the law if too disciplined in upholding religious values can conflict with the rights of the school environment. So the discipline does not dare to be applied to children or students. In addition, the curriculum is very minimal, where the K13 curriculum emphasises more on character, but when viewed in its implementation which only has 2 hours of lessons per week so that it can cause the character of students, especially in Jambi to be negative, it can be caused by the inability of an institution to support this and the essence of religious education which is only a formality of the curriculum. Actually, science is a positive thing, but when it is conveyed to the brain, this knowledge can be a positive thing or a negative thing depending on the disturbing factor, so in this case a good character or attitude is needed in seeking knowledge. Therefore, if there are children or students who have negative attitudes or morals, it is necessary to handle religious education.
- Q2: Through such conditions, it means whether we really have to overhaul the curriculum or add a workshop for teachers or allow for other solutions that are actually more effective, solutions that are not only instantaneous but directly have an impact that can be short-term or long-term. For long term, what is the solution?
- A2: Boarding systems or pesantren can be a solution to build future generations. Education in terms of religion generally can accommodate children who are able, moderate and less. Underprivileged children are subsidised by capable children so that they can jointly guarantee future educational solutions, so that the religious values of Karimah are embedded. Without it there will be a lost generation. Lost his religion, moral spirituality, and aesthetic morals. Muslim families must also make strategies to create conditions that lead to religion. For example, by going to tahfidz lodges in Jambi or integrated Islamic schools. Currently religion is considered a subject no longer sitting on religious values. We often encounter children with low abilities but with good character succeed in the end rather than the other way around.

Q3: How is the process of assimilation between community behavior patterns to teach children to behave at both school and in the community?

A3: The value of religion itself cannot be applied 100% in society due to several factors such as ethnic, cultural, and religious differences. This can be tied through the existence of adat which can reach all elements of society. However, what is now a problem is that there are many customs that exist but are not built in the smallest community institutions such as RT etc. It should be when each appointed a customary institution, there must be a person who understands adat. Where this custom itself will later function as a court, if there is something that can be resolved by custom then there is no need for another court. But in reality, nowadays there are often misleading functions of adat, where this is inversely proportional to the fact that adat is taught until higher education. Customary law itself can be said to be clear because many religious values are included in customs, for example, the integration of Islamic law in the form of hadith or the Koran in local regulations. This shows that there are no customary values that conflict with religious values and any religion teaches about goodness. However, when viewed from the implementation, state law is often enforced differently from customary law which is more familial. What is used in customary values is religious values, so if someone is not civilised, it can be said that the person is not religious.

Q4: How is science viewed from the standpoint of monotheism?

A4: In a work by Imam Arazi which explains about the earth and all the planets rotating on their axis according to their respective orbits. The connection between this thing and monotheism is when if Allah mentions that when the orbit is crossed, there will be chaos throughout the planet. That is the relationship with monotheism. Therefore there is a general rule of thinking about God's creation, not thinking about His God. Another example is when you see an object in front of you, is it red, or any other colour, how do you see it? To answer this question, there are 3 elements that help the answer. The first is a light, the second is an element of air, and the third is wind. When the three elements become one we can see objects in front of us in physics. Meanwhile, from the side of tassawuf there are two forms, namely more to morals and ethics. people who are aware of physics, are aware of their God so that when we deepen them, we have ethics that will later have something to do with tassawuf. In science there are religious ethics that are included in his life in relation to being aware that we have a responsibility to humans and a responsibility to science and a responsibility to God. until the three responsibilities are combined into us, this is what is called the Sufism framework.

#### 4. Discussion

From the results of the analysis above, the researcher then uses the results of the interviews that have been conducted with several experts as a supporter of the results of the descriptive analysis of students' attitudes towards science learning. The K13 curriculum emphasises more on the character of students, but when seen in reality is that K13 only has minimal lesson hours each week, causing the character of students, especially in Jambi, to be negative (Ainiyah, 2013; Sumarno, 2016; Purnanto et al, 2020; Mithen et al, 2021). Character education must be the initial foundation in the nation's character education to create a generation that has good character (Cheung et al., 2018; Omer, 2015; Singh, 2019; Mukhliso, 2020). High knowledge without being accompanied by good morals can cause a person to only focus on worldly life. A good school is not based on how much it costs but how much moral value is instilled in students. Therefore, if there are children who have negative attitudes or morals, it is necessary to emphasise religious education.

The first question regarding the initial concept of the interview was conducted on Prof. Hermanto which reads "What is the relationship between attitude and religion, namely the law of fiqh". According to Prof. Hermanto's view, natural sciences, especially in student attitudes, are study material on religion, in Contemporary Fiqh. Contemporary Fiqh is a contemporary Islamic study that tends to be based on world problems that often occur and in the hereafter (Hasan & Alhabsi, 2011; Elihami, 2020; Nazarudin et al, 2021). Contemporary Fiqh is viewed from the attitude that can be seen from the behaviour of students and the sense of responsibility of students for what they do, for example, there are recommendations for maintaining cleanliness. In fiqh, one of the attitudes that students must obey the rule is not to litter. When this is done, students not only have a good attitude but also carry out religious law.

The next question regarding children's attitudes in terms of the culture and religion of the community reads "How is the assimilation of the assimilation process between community behavior patterns in order to teach children to behave well at school and in the community". According to Prof. Muchtar's view, religious values cannot be applied 100% in society due to ethnic, cultural, and religious differences. This can be maximised by the existence of customs that can reach all elements of society. Some experts argue that the maximum application of religious values does not only complement religious values, but also binds diverse elements of society (Wulandari, 2019; Mofidi, 2019; Lu & Wu, 2020). With the existence of these customary values, it can be used to build norms in accordance with religious values in an area. . Where this custom itself will later function as a court, if there is something that can be resolved by custom then there is no need for another court. But in reality, nowadays there are often misleading functions of adat, where this is inversely proportional to the fact that adat is taught until higher education. Customary law itself can be said to be clear because many religious values are included in adat, for example, the integration between Islamic law in the form of hadith or the Koran in regional regulations in certain areas. This shows that there are no customary values that conflict with religious values and any religion teaches about goodness.

The next question reads "How is the social behavior of children with peers and in their environment based on religion which in its application only examines theoretically, not contextually?. According to Prof. Maisa's view, education today is not the same as education in the past. This is in accordance with one hadith which reads "Educate your child because he will not live like your era" (HR Ali Bin Abi Talib). Based on this, an education that discusses children's behavior is very much needed or what is commonly called character education (Hasibuan et al, 2018; Chowdhury, 2018; Youn-Kyoung, 2019). Character education itself has been instilled from an early age in the family environment which is a strong reason for parents to be able to provide strong religious education (Alutu & Adubale, 2020; Melia, 2021; Jhon et al, 2021). In addition to this, another factor that significantly influences the curriculum is the applied curriculum. The curriculum in Indonesia in its application only focuses on theoretical studies and does not maximise its practice (Meganti, 2015; Power et al, 2018; Ilhan, 2021). According to Prof. Maisa's view, ideally the curriculum contains 60% theoretical and the remaining 40% is practical. If this can be carried out optimally, it can produce a young generation who is smart and also has a strong character. This is in accordance with the command in the Qur'an letter An-Nisa verse 9 which reads "Do not leave your child behind you in a weak state".

In this study there is a relationship between attitudes and culture in society. "Culture" comes from Sanskrit, which is the plural form of buddhi which means "mind" or "reason". The word "culture" is a plural development of "cultivation" which means "power of the mind". Culture contains a very broad understanding, which includes understanding the feelings of a nation that is complex, based on knowledge, belief, art, morals, law, customs (habits), and other traits obtained from community

members. Culture is all of the knowledge, attitudes and behavior patterns that are habits owned and inherited by members of a particular society. According to the Big Indonesian Dictionary, the KBBI is defined in two dimensions: first, the results of activities and the creation of the human mind (mind) such as beliefs, arts and customs. Culture is a place to increase one's belief in something they believe in, just as someone believes that worshipping a big tree will bring good luck. The culture is carried out continuously from generations.

The influence of a positive external environment culture on student attitudes in the school environment, is that students have a polite behaviour towards teachers, friends, and have a good personality. The habit of good attitudes will become a character of students over time. Character can be interpreted as a basic value that builds a person's personality and one of the influencing factors is the environment. A person's character is manifested in the attitude of everyday life. Attitude is a way of thinking for each individual to live and work together, both in the family, community, nation and state environment (Marsigit et al., 2019). A person with good character is an individual who can be responsible for what he does in his daily life. Personal attitude that is not good is that the individual is not responsible for what he does through actions or words. A person's character is often considered as the uniqueness of his defining characteristics, the character of this attitude can be formed from the surrounding environment in childhood to adulthood.

In addition to being viewed from the cultural aspect, this study also includes elements of religion. Religion is an inseparable part of the national education system, its existence is very urgent in the context of realising national education, especially to form human beings who believe and fear God Almighty. Quoted from Law No. 20 of 2003 concerning the national education system, it explains that the purpose of national education is to develop the potential of students to become individuals who believe and fear God, have noble character, are capable, creative, independent, healthy, democratic, and responsible (Okagbue et al., 2021; Sinaga et al., 2020). Religion basically aims to increase students' belief (faith), appreciation, understanding, and behaviour regarding religion where the hope is that it will make students more trusting and pious to Allah SWT with noble character in daily life and in the state (Diani et al., 2021; Kristanto et al. al., 2019; Riantoni et al., 2017). Religion is physical and spiritual guidance based on religious laws leading to the formation of the main personality according to religious standards. In another sense, it is often said that the main personality is the term religious personality, namely a personality who has religious values, chooses and decides and acts based on religious values, and is responsible in accordance with the religious values adopted (Buyung & Nirawati, 2010). 2018; Okagbue et al., 2021; Sugianto, 2017). Religion is expected to be able to fortify students from various negative environmental influences, as well as to become social agents (social agents) towards a more civilised society (civil society). However, recently people have begun to question the effectiveness of the implications of applying religious values in the context of forming student attitudes.

The phenomenon in society shows that in general the results of inculcating religious values that affect student attitudes in schools today have not satisfied many parties, and are even considered to have failed. Religion is considered to still seem oriented towards religious teaching that is cognitive and rote in nature, less oriented to aspects of practicing religious teachings (Astalini et al., 2018; Putra et al., 2019). Among the indicators that are often put forward, that in people's lives, there are still many cases of community actions that are contrary to religious teachings. The existence of violence and violence carried out among youth, students and students is still widely reported in the mass media (Irwanto et al., 2018; Marini et al., 2019). Similar to immoral behaviour are cases of pregnancy out of wedlock and the number of youths involved in drug use which greatly affects students' attitudes while

in the school environment, this shows that there is an inadequate appreciation of the values of religious teachings in people's lives. In connection with the above mentioned phenomenon, there are several student behaviors that are not in accordance with religious teachings that the researchers found in several literature studies. This is based on the results of a systematic review of the views and influences of religion, especially Islamic religion on students' attitudes that students show behaviors such as often coming to late school.

In its implementation in the field of education, the role of religion is often very minimal because in schools that focus mainly on pursuing cognitive aspects and affective and conative-violative aspects. This has an impact on the practice of knowledge from students not accompanied by their practice in everyday life, if the individual is immoral, this is certainly contrary to the purpose of religious education, namely education. From here, it is necessary to have a role for religion, especially Islam, which not only emphasises the knowledge (cognitive) aspect, but more importantly, Islam is able to provide intensive guidance that affects the psychomotor and affective aspects of students. These three aspects must go hand in hand. In the cognitive aspect, the values of religious teachings are expected to encourage students to develop their intellectual abilities optimally. While the affective aspect, it is hoped that the values of religious teachings can strengthen religious attitudes and behavior. Likewise, the psychomotor aspect is expected to be able to instil religious attachment and skills.

There are many similar studies on the same thing but there are some differences in the implementation. Research by Devine et al., (2019) shows that the role of culture and religion can affect a person's happiness, especially in Bangladesh, this is similar to research from Smith et al., (2019) which examines things similar to the object of his research in the form of how entrepreneurship student. And in addition to the research of Baqutayan et al., (2021) suggests that the role of culture and religion can create women who have a high leadership spirit, so from the research that has been described it can be seen that there has been no similar research examining the role of culture and religion on attitudes in science learning.

The novelty of this study can be seen from the sample used, this study used a large sample size, in contrast to the research by Solihin et al., (2020) which used a sample of only hundreds of people. This research also examines student attitudes with 6 indicators, namely indicators of social implications of science, indicators of interest in increasing science learning time, indicators of interest in a career in science, indicators of adoption of scientific attitudes, indicators of learning pleasure in science and indicators of investigation into science. This research was conducted in three districts in Jambi Province, namely Muaro Jambi Regency, Batanghari Regency and Jambi City. And this study relates the results of the description of students' attitudes to culture and religion about science lessons. With research on the discussion of science attitudes in terms of cultural and religious aspects, it will improve students' attitudes in monotheism by applying tassawuf to be applied to students, which is expected later that students can have a responsible attitude and increase their responsible attitude towards what they do. This research can also be a reference for science teachers to incorporate cultural and religious aspects into their daily lives in the science learning process. This is different from the research from Yahya & Boag (2014) which examines that religiosity can be associated with more specific things such as marriage.

This research basically has a real contribution to science learning, especially in the religious aspects of culture, and attitudes towards science. This research is useful for teachers to find out how science learning can be carried out efficiently or effectively (Kamid et al., 2021). This research can also help students, especially those who are interested in learning science, teachers can guide students to have a career or continue their studies related to science. As for the students themselves, this can be a

reference that science can basically be applied in everyday life so that in this case it can help students develop talents so that they can help the economy of students and their families to be even better.

Then for its contribution to the development of student attitudes, it can be seen how students respond to the ongoing science learning. This scientific attitude can make students able to be critical and creative, this of course has an impact on student learning outcomes and the development of their studies in the future (Çetin & Türkan, 2022). This scientific attitude can also make students tend to better understand how God's creation makes the students' religiousness increase, students' thinking will also be wider and deeper so that they will not be affected by bad cultures or influences that can damage themselves, others, and the state.

This research is limited to 6 aspects of students' science attitudes and interviews that explore students' culture and religion. This study did not use hypothesis testing or similar and the sample used was only students in 3 areas in Jambi province. Therefore, for further research, the researcher hopes to be vary and develop again the aspects that have been used previously.

## 5. Conclusion

Based on the results of interviews and data collection that were carried out and the discussion described above, it can be concluded that students' attitudes towards science have relevance to cultural aspects that exist in their daily life environment and students' attitudes towards science also have a close relationship with religious aspects that adopted by students. The better the student's attitude towards science, the better the cultural behavior and religious character possessed by the student.

## 6. Recommendation

This research can be developed and varied again by changing or adding other research variables such as cognitive and affective variables. In addition, the author also suggests adding pretest and post-test questions so that the effectiveness of the model used in practice can be seen. The analysis of the data used is only limited to descriptive statistics so that for further research it is recommended to add the hypothesis test as well.

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