

A Cloning Issue of Sacrifice Animals (Qurban) in Biology Teachers' Argumentation in Islamic Organization-Based Senior High Schools

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Abstract:

One of the exciting topics in the socio-scientific issue is cloning. This issue is seen as a debatable issue in religion and science. In the practice of science learning in class, Biology teachers are required to be able to present this topic proportionally. This research aims to study how the arguments of Biology teachers in Islamic organization-based senior high schools in Indonesia face the cloning issue of sacrificed animals. This research was conducted in three Islamic organization-based senior high schools. This research uses the qualitative method by observation process on the learning of cloning topic in the class, questionnaire, and an in-depth interview with Biology teachers of XII grade from the three different schools in Banten Province, Indonesia. Results of the research show that related to the cloning issue of sacrifice (Qurban) animals is not only associated with the religious aspect; there is the existence of specific argumentation patterns in the mind of the teachers. The designs are presented in the frameworks of economic (Organization A), social humanity (Organization B), and knowledge (Organization C). These three frameworks of organization give the primary colors for each teacher's argumentation. Thus, further studies must explore the effects of Islamic organizations on the arguments and the practice of cloning topic teaching at Islamic organization-based senior high schools.

Keywords: *Argumentation, Cloning, Islamic Organization, Senior High School*

INTRODUCTION

In science education, many controversial topics, such as genetic engineering, evolution, cloning, and abortion, are acknowledged. These issues pose problems for science teachers, especially in a religious culture, because of the conflict between the implications of a scientific study of some of these issues and religion (Mansour, 2008). Teachers' worldviews may impact their practice regarding pedagogy, curriculum choices, and the value they assign to or enthusiasm for a curriculum subject (Flanagan, 2020). Argumentation is essential in developing scientific explanations, models, and theories. An expert uses argumentation to correlate evidence as they think by claims they create using data, warrant, and backing (Erduran, 2006; Toulmin, 2003). Referring to sociological studies and scientific philosophy, science teachers determine argumentation as the primary scientific practice which must be learned (Millwood & Sandoval, 2005). A common way to develop scientific argumentation skills is by argumentation on socio-scientific issues, defined as scientific issues with social, ethical, and moral aspects (Belland, Gu, Armbrust, & Cook, 2015; Wan & Bi, 2020). Socio-scientific issues are issues based on scientific concepts and issues, existing controversy, and public discussion, which are greatly influenced by social-political issues. Socio-scientific issues are caused by scientific and social relations (Sadler & Zeidler, 2004). In other words, socio-scientific issues involve social components such as scientific involvement (Gott & Duggan, 2007; Herlanti, Rustaman, Rohman, & Fitriani, 2012).

A study by Wan & Bi (2020) resulted in six main topics as social-scientific trends: issues on the environment, security in health, resources and energy, ecology, biotechnology, and new materials. In biotechnology, one of the topics is the issue of cloning. This progress is still considered since ethical debate involves social and scientific areas. Thus, biotechnology literature is increasingly essential because of advancements in technology applications such as cloning. There are a few studies on the application of biotechnology literature at the time of dilemma reasoning of biotechnology. Along with it, the evidence shows that situational reasoning features can influence how one applies knowledge content when they result in and support argumentation (Shea, Duncan, & Stephenson, 2014).

Worship of Sacrifice (Qurban) is a series of worship in Islam. From the aspect of etymology, sacrifice can mean "approaching or approach." Meanwhile, according to terminology, sacrifice is one effort to approach a servant to their Creator by slaughtering halal animals. It is taken based on the requirement to reach His please (QS Al Maidah, 5: 27). In the moment of sacrifice, almost all Moslem having capability conduct the slaughtering of sacrificial animals, both individually and in the group. At schools, there is also slaughtering the sacrifice animals as a means to educate students (Mahfud, 2014).

The technology of cloning as spectacular progress in biotechnology science enables animal sexual reproduction process as pioneered by Wilmut, Schnieke, McWhir, Kind, & Campbell (1997) by giving treatments in young mammal cells as known by the nuclear somatic cell transfer technology (Page & Ambady, 2004) until to the birth of a sheep which then given name as Dolly. This spectacular invention opened the eyes of experts to make research the development of other animals. It was reported that some successful cloning animals were taken by the core somatic cell transfer technology, among which are white mice, cows, goats, sheep, and pigs (Baguisi et al., 1999; Kato et al., 1998; Keefer et al., 2002; Polejaeva et al., 2000; Wakayama, Perry, Zuccotti, Johnson, & Yanagimachi, 1998; Wilmut et al., 1997). Cloning research development is continuously conducted until it enables animal reproduction with superior characteristics to give advantages to the human being.

There are some examples in the field of farming and agriculture such as cloning of animals with gens to produce healthier milk or meat for consumers, cloning of animals with disease immunity or reducing environmental burden, cloning of goats with less fat dairy, chicken without a feather to reduce the environmental burden from poultry breeders and pigs which the feces contain less phosphor and helping reduce environmental pollution (Thomas, 2003).

This research determines the issue of sacrificing animal cloning for exploring teacher argumentation and reasoning for the cloning on sacrifice animals. This issue leads to cognitive conflicts, so it requires good reason by teachers, good biotechnology literacy, and entire religious understanding to express the arguments about the cloning of sacrificed animals. It is necessary to examine biology teacher arguments in culturally based schools and ones with rich characteristics, such as in Indonesia.

Schools in Indonesia are private and public schools, and there is an increasing number of students attending private schools. Indonesia, as a country with a majority of Muslim citizens, has some educational institutions which characteristic of Islamic organizations. Almost 60% of senior high school in Indonesia is private schools and 90% of the private schools are Islamic ones since Islamic senior high schools are seen as a more critical provider of education service than public schools in Indonesia because they have a large number of students, mainly in urban and remote areas. So the tradition of Islamic schools can be easily found in Indonesia (Muttaqin, Wittek, Heyse, & van Duijn, 2019).

Some Islamic organizations apply education in Indonesia, such as Nadhatul 'Ulama (NU), Muhammadiyah, and Integrated Islamic School Network (JSIT). The schools not only have organizational differences, but private Islamic schools also have ideological differences.

The Muhammadiyah is the oldest public organization in Indonesia. It was established in 1912 in Yogyakarta based on modern Islamic and moderate principles (Suharto, 2014). This is called modernism since it refuses local traditional customs supporting universal and current Islamic practices. For example, in the beginning, it established modern schools replicated Dutch schools by applying classes with grades with the secular subject curriculum by inputting religious education (Burhani, 2005). Nowadays, it is the largest private education implementer operating 4.623 pre-schools and 5.691 educational institutions ranging from elementary schools to universities (Muttaqin, 2017).

The Nahdatul Ulama (NU) has been crucial in implementing education in Indonesia since the end of colonialism (Heyward, 2007). NU was established on 31 January 1926 in Surabaya as Indonesia's biggest Moslem mass organization. A traditionalist is defined as Islamic tradition in the context of Indonesia. NU manages and coordinates about 6.000 education institutions ranging from preschool to universities and higher education (Muttaqin et al., 2019).

The Integrated Islamic School Network (JSIT) was established on 31 July 2003 in Yogyakarta. The integrated general and religious subjects by inputting religious values into almost all issues. Currently, the consortium of JSIT covers 1.926 school members and more than 500 affiliated schools (Muttaqin et al., 2019). As one of the updates in the Islamic education world in Indonesia, integration school offers a secular curriculum that is integrated into the framework of Islamic moral (Bryner, 2013). This school integrates general and religious subjects by inputting religious values into almost all issues. So, the trend of JSIT schools carrying out transnational and modern Islamic concepts has increased interest in Indonesia since its appearance in 2003.

In the secondary education curriculum, there is a learning process on cloning in Biology in XII grade. This topic is one of the most controversial in science and religion. These issues are then seen as a problem for Biology teachers, mainly in terms of faith based on culture, since it can lead to conflicts among scientific study implications from some issues and religion (Mansour, 2008). Therefore, it is necessary to conduct a study on teacher argumentation about cloning topics in Islamic organization-based senior high schools. This research was conducted to answer the following questions; 1. How are the teachers' arguments on the cloning issue of sacrificing animals in Islamic organization-based senior high schools? 2. Is the cloning issue an opportunity or challenge for Biology teachers in Islamic organization-based senior high schools?

This research was carried out at three different Islamic organization-based schools in Banten Province, Indonesia. The research used a qualitative method to study three biology teachers teaching XII classes. The selection of this school as a research site is based on interviews with the key informants, namely the Education Supervisor, who provided an overview of the characteristics of the targeted schools. The research was carried out through an observational process, a questionnaire, and in-depth interviews. The observational due to observing the cloning topic lesson in the classroom through recording using camera video. This recording was intended to make it easier to analyze learning because learning is a complex and fast process (Widodo, 2006). Then, the video was transcribed for analyzing the learning process. The questionnaire was given to three teachers to gain the teachers' identity, knowledge, and perception about cloning. The questionnaire is given to achieve teachers' argumentation about the cloning issue of sacrificing animals. Then, in-depth interviews were conducted to explore teacher's arguments regarding the cloning issue of sacrificing animals. The three teachers were coded anonymously by Teacher 1, Teacher 2, and Teacher 3, which teach in three different Islamic organization-based senior high schools.

DISCUSSION

Comparison of Biology teacher argumentation in three Islamic organization-based senior high schools

The profile of each teacher from the three schools is presented in Table 1.

Table 1. The Profile of Teachers in Each Islamic Organization-Based Senior High School

Teacher Profile	Types of Islamic organization-based senior high schools		
	A	B	C
Initial	Teacher 1	Teacher 2	Teacher 3
Age	40 years old	47 years old	35 years old
Gender	Female	Male	Female
Educational background	Non-education bachelor (S1) (biology)	Non-education bachelor (S1) (agriculture)	Education Bachelor (S1) (biology education)
Teaching experience	16 years	20 years	13 years

Table 1 shows the profile of the teachers in each Islamic Organization-based Senior High School. The teacher's experience in teaching is more than ten years, which means they have adequate experience in education. My educational background is bachelor's in Biology and Agriculture (non-education bachelor) for school A and School B. The teacher in school C has an educational background in biology education. Teachers' worldviews may impact their practice (Flanagan, 2020).

The argument stands for an organism. It has a rougher and more refined anatomy structure in performing physiological functions. One can distinguish the main phases that mark the development of the argument, from initial statements about a problem to the end of a conclusion (Toulmin, 2003). Likewise, in discussing these arguments, we can determine the development of the teacher's argument from the beginning to conclude. In this case, the argument is about the issue of cloning sacrificed animals. The bottom line or baseline as the basis for the teacher can be described as follows:

Teacher 1

Teacher 1 argumentation claim pattern about the cloning issue of sacrificing animals can be seen in the following Figure 1:



Figure 1. Teachers' 1 argumentation claim pattern about the cloning issue of sacrifice animals

Teacher 1, who teaches in an organizational A-based senior high school, expressed an agreement to claim a reason to meet the needs of food as recorded in the following transcription:

"...cloning for animals is used to meet the needs. The need of meat is increasing, but its production is low..."(Teacher 1)

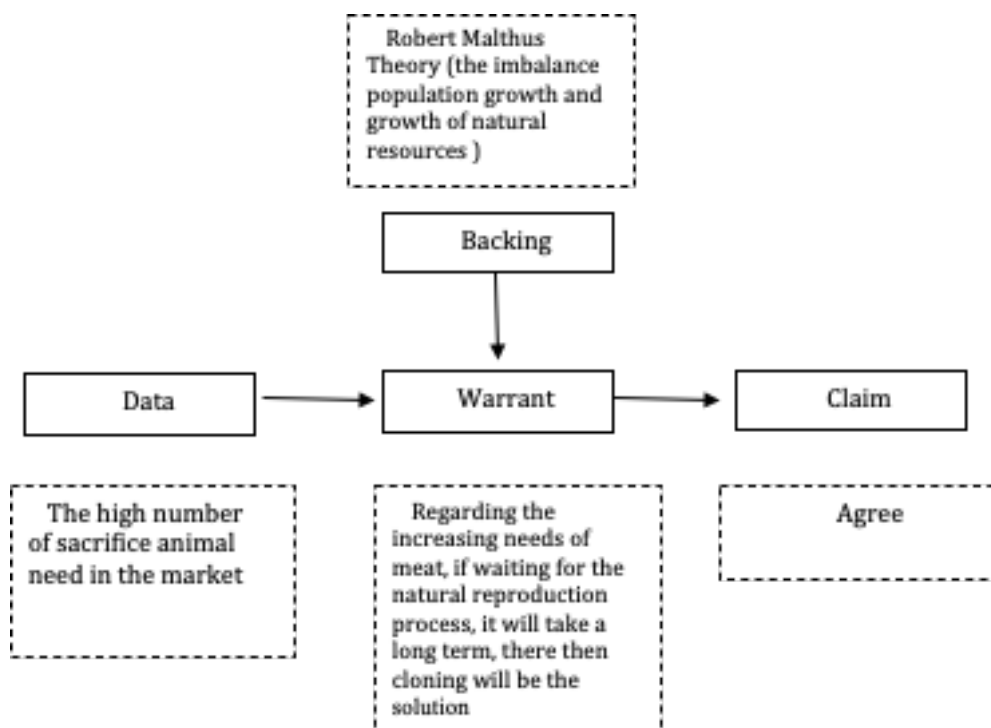
Teacher 1 claim is based on the data about the increasing need for meat, but the production is still low. This data can be from the teacher's experience in the field. Based on the finding (Sadler & Zeidler, 2005), the decision-maker often uses her personal experience as guidance to solve a social scientific dilemma. Increasing meat prices in the market can be caused by the low availability of meat in the market. In this case, Teacher 1 used data from the economic aspect. On another side, Teacher 1 also determined the correlation of cloning animal requirements in Islamic rules as an additional warrant for completing the presented data. This showed that religious proposition as the warrant describing the previous claim and data as expressed:

"... sacrifice animals have requirements, such as obligations to be male, healthy, seen from their eyes, shapes. If as long as the results of the animal cloning can meet the requirements, so it does no matter then..." (Teacher 1)

The main objectives of national education emphasize the aspects of faith and devotion, which means that all educational processes should strengthen the values of godliness by following the religious beliefs they believe in (Sauri, 2010). In this case, Teacher 1 based her belief in an Islamic community on the terms and conditions required for animal sacrifice. As long as the animal cloning results can meet the requirements of the sacrifice, then Teacher 1 claimed to agree. On the other hand, Teacher 1 completed the argument with backing based on Robert Malthus's theory which stated the imbalance between population growth rates and the availability of food items in sacrifice meat; Teacher 1 used this theory to support her claim as she said:

" ... Robert Malthus theory, in this case, needs for meat is in line with the increasing number of population to sacrifice so there is also an increasing number of sacrifice needs..." (Teacher 1)

The scheme of Teacher 1's argumentation can be illustrated in Figure 2.



Source: Adaptation from Toulmin, Rieke, & Janik (1984)

Figure 2. Scheme of Teachers' 1 Argumentation

There are two points as the basis for Teachers' 1 claim on the issue of cloning of sacrifice animals, namely the Islamic law, which is not violated to meet the characteristics of the sacrificial animals and the reasons of public economic and social-cultural issues. Teacher 1 to use economic backing in this case to meet increasingly human food needs along with the increase in human growth rate. This is in line with research by (Sadler, 2004), stating that this category of evidence represents personal perspective related to the environment, economy, and moral commitment. In this case, the economic perspective is the reference used by Teacher 1.

Teacher 2

Teacher 2 argumentation claim pattern about the issue of sacrificing animals can be seen in the following Figure 3



Figure 3. Teachers' 2 argumentation claim pattern about the cloning issue of sacrifice animals

Teacher 2, who taught in an organization B-based school, agreed to claim since there was no prohibition in the religion. The expressed data here was that there was no prohibition on using cloning animals as the sacrifice animals. The expressed warrant to correlate the claim and data is that cloning is one of the ways to reproduce animals sexually and affects the social community. Teacher 2 expressed that this animal cloning will influence the public such as nutrition deficiency, or the people in conflict or war areas, if they waited for sexual reproduction, it would take longer time as in his expression:

"... the meats took from sacrifice animal cloning to be shared to the community with nutrition deficiency, mainly for protein, in any regions who need this food, such as in regions facing disaster or wars..."

(Teacher 2)

The Scheme of Teacher 2 argumentation can be illustrated in the following figure 4

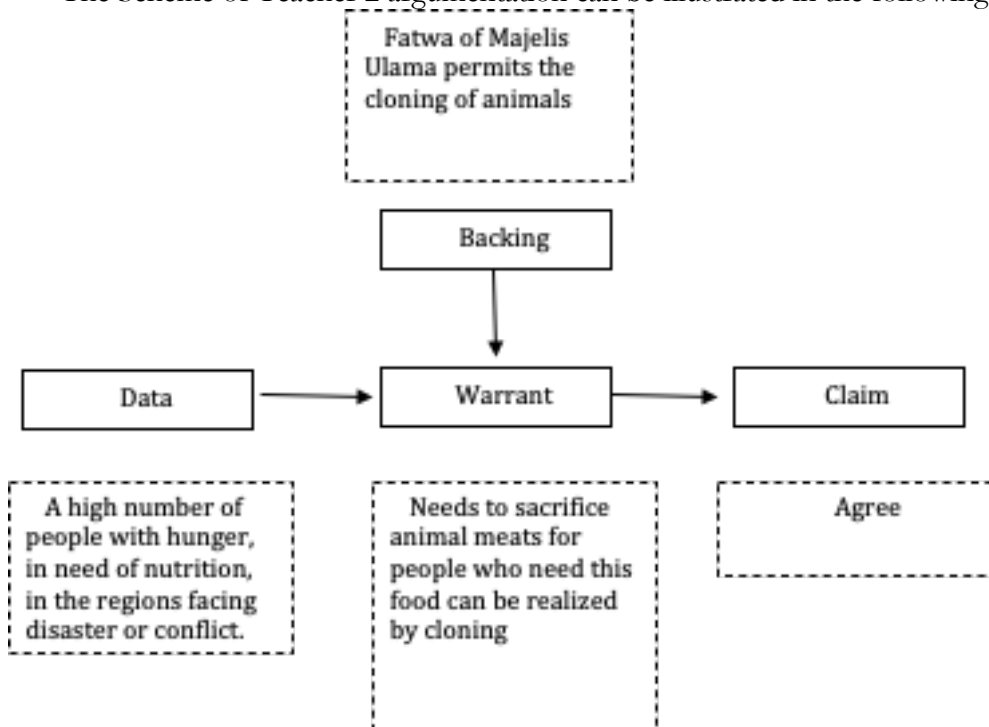


Figure 4. Scheme of Teachers' 2 Argumentation

Teacher 2 gave the opinion that if cloning technology is used, sacrificing animals there will need a shorter production time to meet public needs require this food. In this case, empathy, care, or sympathy is seen particularly in expressing the social-scientific issue (Sadler & Zeidler, 2005). Both heart and compassion have been used alternately in the literature on social knowledge (Eisenberg et al., 1994) and gave emotional reactions covering the sense of care for individual needs. Teacher 2, in this case, used the reason of benefit or advantages of the cloning of sacrificed animals for the public, mainly the one who needs this food, for example, in certain regions. The willingness to help and assist other people who need this matter is in line with the culture of the East in the location where Teacher 2 teaches. To the research results (Bayhakki, Hatthakit, & Thaniwatthananon, 2019), culture is a way of learning, adapting, and sharing with others using identifiable patterns, symbols, materials, and immaterial.

Furthermore, trust in culture, values, and meanings guide one's thinking and behavior in a diverse culture. The argumentation of Teacher 2 is completed by stating the absence of the fatwa of Majelis ulama which gives prohibition animal cloning, as well as the benefits of sacrifice from the social aspect. Statement of Teacher 2 is as follows:

"...there is no fatwa prohibiting the results of cloning to be used to sacrifice animals. So, it may be done as long as there is no prohibition. This will be useful for the interest of public interaction or the interest of worship, all of which can be done as long as there is no prohibition..."(Teacher 2)

Cloning is considered legitimate because there is no ulama prohibition in Indonesia. 'Ulama (Arabic) is a plural form of the word' alim which means a knowledgeable person, scientist, scholar, or expert in the field of Islamic knowledge. Because of the weight of his expertise in studying Islamic sciences, someone can be believed to have the knowledge and authority in the field (Ismail, 2020). Based on these thoughts, Teacher 2 based his opinion on the fatwa of the ulama in Indonesia because ulama are seen as the most competent ones to claim this problem. Along with that, Teacher 2 determined cloning as one of the animal production efforts in a sexual way, as he expressed:

"... one of the efforts for animal reproduction is by cloning seen as a vegetative way, namely asexual..." (Teacher 2)

The evidence above explains for the teacher's claim to agree. Teacher 2, in this case, used emotive and rational reasoning to express his reasons. Emotional sense underlies the opinion of Teacher 2 that cloning of sacrifice animals can help communities in need, especially in conflict areas. In contrast, rational reasoning is based on teachers' knowledge about cloning. This is proven (Perkins & Salomon, 1989) from 30 years of studying cognitive science concluded that decision-making requires a basic understanding of the concepts in question. Teacher 2's basic knowledge of clone 2 strengthens his opinion as he expressed:

" if it only depends on sexual reproduction results, it will be insufficient, so, cloning results can help and give more benefits ..." (Teacher 2)

In the context of socio-scientific issues such as genetic engineering, this claim is analogous to the statement that a person must have basic knowledge of genetic information so that he or she can convey informal thinking (Sadler, 2004), the same with the issue of cloning.

Teacher 3

Teacher 3 argumentation claim pattern about the issue of sacrificing animals can be seen in the following Figure 5:

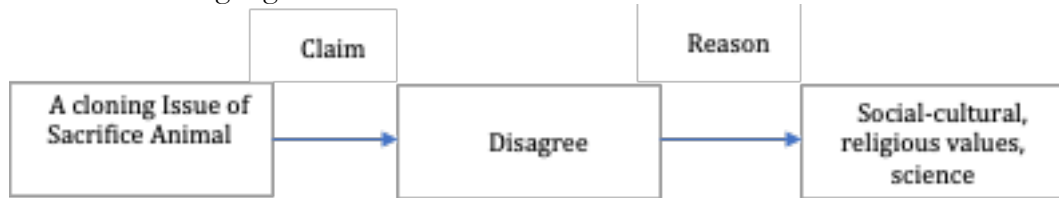


Figure 5. Teachers' 3 argumentation claim pattern about the cloning issue of sacrifice animals

Teacher 3 who teaches in the organization C-based senior high school expressed a disagree claim to the cloning issue of sacrifice animals because the animals for qurbani purposes must be of good quality. The data used to support her claim is from Dolly's sheep cloning trials which have failed, it was known that Dolly's experiment has gone through more or less 270 attempts to succeed. In this case, there have been many problems, moreover for the sacrificed animals that are required to be of good quality. The presented warrant to correlate claims and data are the criteria that must be met by animal sacrifices, which cannot be met by the cloning process. Teacher 3's statement is as follows:

"... the sacrifice animals must be of good quality. From the Dolly's sheep trial results, there were many imperfect results, moreover if it was intended for the sacrificed animals. And it must be clear about the line of descent (*nasab*). It is about the criteria for sacrificing animals, if it is not mistaken..." (Teacher 3)

Teacher 3 completed her argumentation by baking on the hadist on the provision of sacrifice animals tough in this case, it does not mention in detail about the hadist, but the quote is as follows:

".. for sacrifice animal, the quality must be healthy, and other provisions. There is a hadist stating about the criteria of the sacrifice animals..." (Teacher 3)

The scheme of Teacher 3 argumentation can be illustrated in Figure 6.

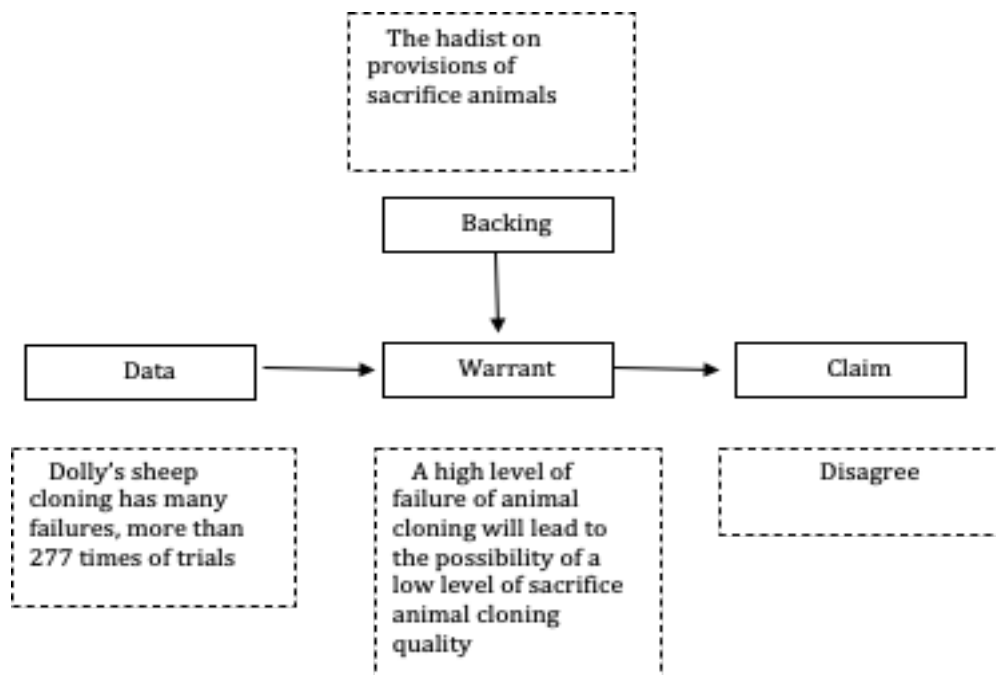


Figure 6. Scheme of Teachers' 3 Argumentation

In this case, the evidence used by Teacher 3 in expressing his claims was about scientific evidence and religious provisions regarding cloning. Teacher 3 determined the data from previous studies regarding the cloning of Dolly sheep, which often resulted in failure and were still incompatible with sacrifice animal criteria. This reason was completed with the Islamic regulations (Syariat) provisions that the sacrifice animals must be animals of a good quality that cannot be met by animal cloning. The reason Teacher 3 used both intuitive and rational reasoning. Feelings and direct reactions greatly influence intuitive reasoning. This reflects a personal response to certain cases or situations. Teachers' 3 direct reaction to cloning problems is related to Islamic law. Meanwhile, rational reasoning is based on reason and logic (Widodo, Saptarani, Riandi, & Rochintaniawati, 2017). The reasoning of Teacher 3 used Dolly's sheep analysis using reasoning and logic as the basis for the given reasons.

Since the birth of Dolly's sheep, the community has pros and cons. There have been taken number of research, such as (Neresini 2000), that examined the Italian press development in a public debate on the cloning issue after the announcement of Dolly's birth, which enables the research to trace and analyze the developing acceptance of mammal cloning as a scientific fact, at least in the level of media. Similar to this matter, there was also an interesting debate about endangering animals as expressed by (Friese, 2013), stating that the cloning of endangered animals was a debatable topic at the zoo, but any people involved in this debate were related to the biological process involved in reproduction in the form of social reproduction such as "family" and "nation-state." Thus, society has to form culture and science, biology, and society simultaneously to create meaningful cloning animals in the future (Fletcher, 2014; Friese, 2013; Qureshi, 1998). Findings from Jones, Howard, Jones, & Rudenko, (2014) that currently are seen as

scientific opinions from experts regarding food safety from cloning or its descent which gives an agree-on claim that there is no arising risk of additional food consumption from the farming or cloning. Thus, it seems that experts are demanded to be able to develop biotechnology research and cloning technology to be studied again by Muslim scholars and scientists, especially in Indonesia so that these technological opportunities in producing animal sacrifices are following the Islamic law. As written by the Indonesian Ulama Council which obliges all parties, especially ulama and umara (government), to encourage the formation (establishment) and support of scientific institutions that research the field of biology and genetic engineering in addition to human cloning following Syariah principles (Majelis Ulama Indonesia, 2000).

In this case, three Islamic organizations with their respective characteristics seem to influence the teachers' argument pattern on the cloning issue. Apart from the religious frame, it turns out that there are the existences of certain argument patterns in the mind of the teachers. These patterns are included in the framework of economics (Organization A), humanity (Organization B), and science (Organization C). These three frames provide great color to each of the teachers' arguments. It means, in the issue of cloning related to religion, the several ideas come out from a teacher thinking, and the religion is not the only one reason for consider it. It seems that it will be interesting to further follow-up these findings in any following studies.

The issue of cloning in Islamic organization-based schools, opportunity or challenge?

Referring to the description of the biology teacher argumentation in Islamic organization-based schools above, it can be seen that there are several data, warrant, and backing expressed by the teachers in their argumentation. Their claims are completed with evidence from various perspectives. The issue of cloning in sacrifice animals as a socio-scientific issue leads to perspective or debate from various aspects. The socio-scientific issue can be defined based on contextual, emotional, and cultural factors (Khishfe, Alshaya, BouJaoude, Mansour, & Alrudiyan, 2017).

It is undeniable that the socio-scientific issue can practice argumentation skills. There have been several previous studies, and it is recommended to be discussed or debated on social scientific issues to improve students' scientific argumentation skills (Anisa, Widodo, & Riandi, 2017; Herlanti et al., 2012; Sandoval, Enyedy, Redman, & Xiao, 2019; Yacoubian & Khishfe, 2018). Then, the issue of cloning of sacrifice animals, endangered animals, and humans has also led to a pro-contra debate among students using reasons from various aspects such as religion, health, social economy, and science (Alindra, Widodo, & Rahman, 2020). Teachers from one of the schools also recognize such issue as an effort to build the argumentation skill, as expressed by several teachers in the following transcripts:

"It is suitable for scientific argumentation topics, for the amateur ones. Since they are still amateurs, they want to know many things and are also interested in the cloning issue. So there will be more and more interesting response.." (Teacher 1)

"... the topic of cloning, there are still many things that have not been agreed upon from the aspect of its biotechnology, that's the interesting point if it is related to the Islamic rule at Islamic schools, then that's why this topic is an interesting one to be used for an argumentative theme..." (Teacher 3)

From the results of observations on the study of the cloning topic as reported (Alindra, Widodo, Rahman, & Riandi, 2020) in the Organization C based-senior high schools, there

are several students' argumentations in the pro and contra debate against cloning, namely as follows:

"... biotechnology cannot be separated from human life, ... we support cloning or multiplication, not we want to compete with God, but want to reduce people who are sad because they do not have children, people who have lost their organs or people who suffer from incurable diseases ..." (Student 1)

The statement of Student 1, who is pro against the cloning above, is refuted by the statement from Student 2 as follows:

"... we less agree for the technology of cloning first, it is not suitable with the essence and nature, both of them are incompatible with religion, although we can help a partner who does not have a child; three, from the aspects of ethics and moral, from the moral perspective, there is a lack of mutual respect from each human as a legitimate partner to have a child... there must be other solutions to have children... it may be by adoption from an orphanage, isn't it?.. we should not use this cloning taken from other people's cells.." (Student 2)

The transcript of the student debate above shows the number of developing student narration related to cloning. The issue of cloning sharpens students' informal reasoning to cloning, both intuitively, emotive and rational (Sadler & Zeidler, 2005). Intuitive reasoning is a type of reasoning that is greatly influenced by the subject's feelings and direct reactions. This reflects a personal reaction to some instances or situations. Emotional reasoning is a type of reasoning influenced by the subject's emotions (sympathy and empathy) and well-being considerations. This type of thinking is rooted in the rational and emotional nature of the subject. Logical reasoning is a type of reasoning based on reason and logic. It is free of subject emotion. These informal learning patterns do not operate independently. In our day-to-day life, we make reasoning before making a decision. People use it often even though they may not be aware of it. Informal reasoning is critical in situations of limited information or complex problem, debatable, and open to a variety of acceptable solutions (Widodo et al., 2017).

From the description above, it can be seen that there are opportunities from the social scientific issue to develop students' argumentation and reasoning skills. Then, how is about the challenge? Indeed, this can be a challenge for biology teachers, especially in Islamic organization-based schools, in organizing the learning on the cloning issue. As revealed in research by (Mansour, 2008) stated that as one of the controversial topics, this can cause problems for science teachers, especially in religion-based cultures, because of the nature of conflicts between scientific studies implications of this topic and religion. Some other issues may not necessarily conflict with religion but with teachers' perspectives or how they interpret religious views on this controversial issue; this can create false contradictions, which can influence their work, and, in turn, it can also influence their students learning. Therefore, there is a need to understand teachers' personal religious beliefs and practices and how their beliefs influence their work in the classroom. Not only in Islamic organization-based schools but Christian-based schools also reveal the emphasis for science teachers in teaching any topics related to religion and science. The findings of this study emphasize the need for Christian school educators and administrators to obtain sufficient information about science and belief or religion issues and to pay attention to differences in learning outcomes and attitudes related to various ideologies and approaches (Bensted, 2018). Along with that, research by Chow (2018) revealed that teachers' religious identity has contributed to delivering learning in the classroom.

CONCLUSION

The cloning issue of sacrificing animals creates cognitive conflict in the mind of Biology teachers in Islamic organization-based senior high schools. The arguments proposed by Biology teachers in Islamic organization-based senior high schools as a response to this issue are not only based on religion but also several other ideas, namely economy, social humanity, and knowledge. The frame of an economy can be found in organization A-based senior high school teacher; the structure of social humanity can be found in organization B-based senior high school teacher; the frame of knowledge can be found in organization C-based senior high school teacher. It seems that Islamic organizational characteristics as an institution guiding the schools give influence on teachers' thinking on the issue of cloning. Thus, it is still necessary to conduct any studies on the influences of Islamic organizations on teachers' arguments on the topic of cloning related to religion.

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