

DINAMIKA ILMU

Vol. 20 No. 2, 2020

P-ISSN: 1411-3031; E-ISSN: 2442-9651

doi: <http://doi.org/10.21093/di.v20i2.2549>

Students' Reflection towards the Integration of Tawhidic Science in the "Pandang Alam" Camp

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Abstract

The purpose of this study is to observe students' reflection towards the integration of Tawhidic Science at the program "Kem Pandang Alam", at Tanjung Tuan Wildlife Reserve and several other locations nearby Tanjung Tuan, Teluk Kemang and Si Rusa, Port Dickson, Negeri Sembilan Malaysia. The respondents of this study were 32 students from tahfiz schools and tahfiz science schools (15 boys and 17 girls). These students were exclusively selected candidates from their respective schools. Data were analysed based on constant comparative analysis. The finding reveals that there were seven themes including greatness of God's knowledge; nature as the source of knowledge, education and lesson; improvement of faith; self-development, the formation of identity, the increase of awareness, and the closer of social relations. The implication of this study is to expose these students the importance of the integration of Tawhidic Science where science and religion are inseparable from everyday life.

Keywords: camp, integration, tawhidic science

A. Introduction

Education is one of the main agenda in building a nation (Hasmori, Sarja, Norihan, Hamzah, & Saud, 2011). Thus, education is the main field into forming good attitude, value and the minds of younger generation. Thus, education is one of the key focus in shaping the attitudes, values and mindsets of the young generations to embrace the use of science and technology in the field of work and everyday life. As the result, it will generate a generation of nation's skilled, technical and professional workforce. STEM education plays an important role in producing high-quality and innovative human capital that can meet all challenges. According to Kuenzi (2008), STEM education has become a major focus for most modern countries. This is because STEM education is important for the future of a nation (Carter, 2013; Oh et al., 2013). For these reasons, intensive researches and studies on students' performance in science, technology, engineering and mathematics (STEM subjects) have been long studied (Considine, 2013).

However, students' interest in science subjects is deteriorated and at an alarming level. Although the Malaysian government has introduced the 60:40 policies for Science / Technical: literature in education since 1976 and started introducing the policy in 1970 (PPPM 2013-2025, KPM 2013). However, the ratio of Science students is 60% has not been achieved. This is because the deterioration in participation, achievement of science and mathematics of Malaysian school students has shown a decline. This is based on the report of Trends in International Mathematics and Science Study (TIMSS) in 1999, 2003 and 2007, science and mathematics scores of 14-year-old students are declining, it is found that only 3% of Malaysian students are in the highest group in 2007 but in 1999, 5% of Malaysian students are in the highest group.

In addition, the collapse of human values in the rapid development of science and technology is also a concern for the government. One of the reasons is that Western civilization has dominated knowledge which has deviated and distorted many knowledges from the proof of Allah SWT. This is because the Western agenda has affected the morals of students and found that the adolescents' morals are getting worse and able to inhibit the development of the country (Bedu, Katip, Sahid, & Mansor, 2008). As a result, Muslims today are seen as a nation that is tired, weak, poor and always a follower of other developed nations in the world (Alwi, 2009).

Besides, science shows a lack of the real spiritual and monotheistic values (Othman, 2011). Meanwhile, the previous Islamic civilization where the glory days are due to the science mold based on monotheism. The fall and rise of a civilization is not because the civilization is backward with science and technology, but the fall and rise of a civilization is due to the loss of human values, noble values and human identity due to a series of

development that emphasizes physical and material development and neglects the human value system (Othman, 2013). As a result, the education of the Islamic generation without being based on monotheism will produce a generation that is only intellectually excellent but not spiritually excellent.

Moreover, the science curriculum of this country from low to high level shows the delivery of scientific knowledge content that is only limited to the science of reason without being associated with the aspect of the Oneness of God (Dakir, 2012; Nordin & Iksan, 2012). This is because the concept of integration of science and monotheism in Malaysian schools still does not fulfill the true concept of Tawhid Science. This is because, the Education of Islamic Religious and Science subjects are still taught separately while the fact that science is knowledge that proves the truth of monotheism and it is ad-din that covers every aspect of life including science (Rashid, Norbi, Gee, Ramasamy, & Iksan, 2014). Although Islam places great emphasis on spiritual and moral development, yet mental, physical, social sciences and practical majors in science and technology are not neglected (Hassan et al., 2011). This is because, Islam views information or knowledge as something sacred because all knowledge is a manifestation of God to human beings (Umar, Hassan, & Basir, 2011). With the application of *Tawhidic Science*, truth and justice at various angles are prioritised (Salleh & Yusof, 2009). Exposure to the used of Qur'an and Sunnah as the main reference can also be used compared to the previous that only applying contemporary references based on the theory applied and become a scientific practice (Rahim et al., 2014). This is relevant with the main features of the work culture of *Tawhidic Science* that want to be applied which is to integrate between the dimensions of material, intellectual, humanity and spirituality in the work of science (Rahman & Othman, 2010).

Therefore, to become a developed country, science must be emphasized among the people, in conformity with the goals of science education which emphasizes the efforts towards creating a literate society as well as cultivating science in every dimension of life (Samat, Kamaruddin, & Azid, 2012). So, through the integration of *Tawhidic Science*, this is a platform for spiritual and moral development as well as the formation of adolescent morals can be mobilized. Through the integration of *Tawhidic Science* can also generates *Ulul Albab* in the future who have the ability to think critically, solve complex problems, and lead the progress in science and technology while always allowing the Oneness of Allah SWT. This is because *Ulul Albab* generations are assured to fulfill the aspirations of the National Education Philosophy.

Tawhidic Science is the science centred on the concepts of Tawhidic and God as the Creator. Hence, all scientific endeavours carried out by human beings are governed by the syariah. The Tawhidic Science conceptual framework highlights five entities; Godliness

humanity and nature, complemented by the Quran and Sunnah which Muslims regard as revealed sources of reference. It shows the linkages between the different entities, which subsequently defines the scope and limitations of scientific activities that can be probed by the scientific community. The content of the Quran is known to contain dimensions of intellectuality and spirituality (Salleh, 2008).

The Introduction of Tawhidik Science Course is a course that fulfils this concept. This course aims to exposure the students related to the integration of knowledge of revelation (al-Quran and Sunnah) in any field of knowledge (Othman, 2014). Therefore, one of the tasks given to aim this objective is a field work named "Pandang Alam" Camp. The Students will learn natural science by feeling the greatness of God while doing the task.

The main feature of the Tawhidic Science work culture is that it integrates the various dimensions; materialistic, intellectuality, humanity and spirituality in scientific activities. These activities are seen as a way for human beings to know the Creator, and as an ibadah, which can enhance belief in God and God-consciousness of an individual. Scientific activities are also a strategy for human beings to conduct their tasks and responsibilities as khalifah Allah. Human beings are driven to unearth the secrets of nature for the purpose of benefiting from the presence of natural material resources to fulfil life necessities, whilst at the same time, acting within the limits that ensure the safety and harmony of life (Othman, 2014). This concept of Tawhidic Science should be felt by students while experiencing in the "Pandang Alam" Camp program. Thus, the purpose of this study is to examine students' reflections on the integration of Tawhidic Science in "Pandang Alam" Camp. Next, this paper goes a little bit into the concept of Tawhidic Science because the framework of Tawhidic Science concept is being used as a basis to discuss the findings of the study.

B. Concept of Tawhidic Science

Tawhidic Science or Islamic Science is a knowledge of the nature that is submissive and within the scope of the philosophy of surah al-Ikhlâs in the Qu'ran (Othman, 2013). In the concept of monotheism that underlies the view of nature is the belief in the existence of god, a supreme power that is unmatched by him (Salleh, 2010). In short, the framework of the concept of monotheism contains 3 main entities as shown in Figure 1 namely God (God), man and nature. Four types of relationship can be seen from this model, namely (i) God with man, (ii) man with nature (iii) nature with God and (iv) man with man. God is the Creator of man and nature. Therefore, all divine commands and prohibitions must be obeyed by human beings. Therefore, human beings have been provided with Al-Quran and As-Sunnah which are the highest source of human beings and Muslims in particular. Whoever makes

other than the highest source in their lives, surely it will find weakness, disappointment, and misguidance.

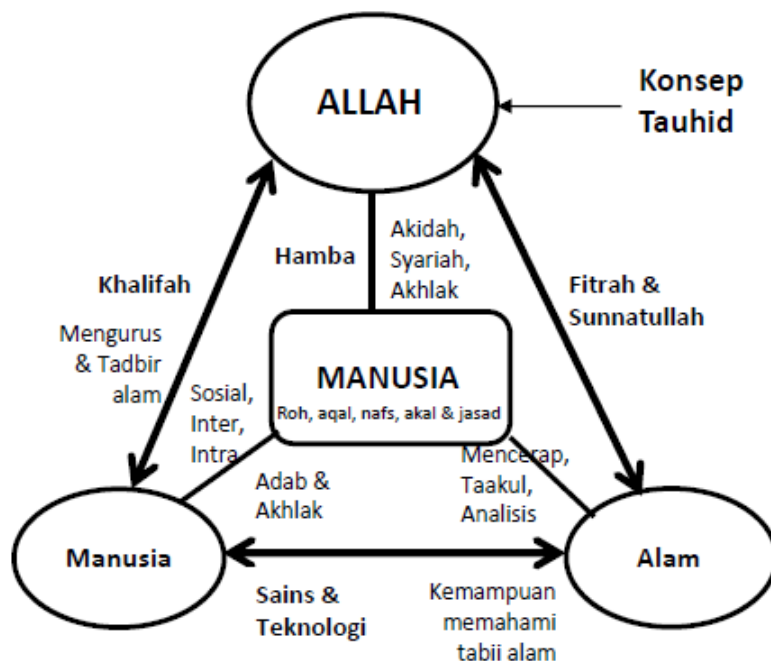


Figure: 1 Basic entities in the framework of *Tawhidic Science* (Source: Othman, 2013)

1. The Relationship between God and Man

The main relationship between man and God is that man is a servant of Allah (Othman, 2013). Therefore, man should always obey every inch of God's prohibitions and commands as the Creator of man. Based on the model shown in Figure 1, there are two main things that highlight the relationship between God and man, namely man as a servant and caliph. The intended servant is always obedient to Allah SWT as a whole expressed in three entities namely (i) faith which is the philosophy, concept and basic belief of a Muslim's life, (ii) sharia which is a rule that must be obeyed by every Muslim based on the teachings of al -Qur'an, the sunnah of the Prophet SAW and what is agreed by the scholars, and (iii) morality that is the pure values outlined by the Qur'an and emulated by the Prophet SAW (Othman, 2013). The caliph referred in this model is a human being sent by Allah as His caliph. As the caliph of Allah, the function of man as a servant of Allah is to flourish life and nature in a situation that insures safety for all stakeholders (Salleh, 2010). As the duty of man is the caliph of Allah has been mentioned in the Qur'an in Surah Al Baqarah verse 30.

2. The Relationship between Man and Nature

Through this relationship, human beings must use the blessings given by God by observing and absorbing the nature and take lessons from the creation of God's nature on this earth. Since this world is the entrustment of Allah SWT to human beings, as a pious servant human being must take care and manage it, take advantage of it and work hard to prosper it (Othman, 2013). There are some examples of holy verses of the Qur'an about the relationship between man and nature, among them in Surah al-Mulk verse 15, Surah al-Isra 'verse 12, Surah Al-Baqarah verse 29 and Surah al-Anbiya verse 30.

3. The relationship between nature and God

The relationship between nature (all beings in this world) and God is manifested in the form of *fitrah* and *sunnatullah* (God's fate) (Othman, 2013). Man must believe that this universe was created by God. It is God who has created all things, the sky and the earth and all that is between them in six seasons, then He sits on the throne, subjecting the sun and the moon. Allah spread the earth and made on it mountains and plants (Salleh, 2010). In conclusion, nature and divinity are inseparable. Everything related to nature belongs to God. Regarding the relationship between nature and God the following verses can be referred to Surah Al-`Ankabut verse 61, Surah Taha verse 50 and Surah al-Furqan verse 2.

4. The relationship between man and man

The relationship between human beings and human beings requires the relationship between fellow human beings known as interpersonal relationships and human relationships with oneself known as intrapersonal which is done to improve self-performance (Othman, 2013). Interpersonal relationships need to have good social relationships between fellow human beings. For example, gotong royong to clean the mosque, bathe the corpse and visit the sick. While intrapersonal relationships are related to all individual practices such as dhikr, praying, giving charity and fasting. Thus, interpersonal and intrapersonal relationships between fellow human beings are done without neglecting human relationships with their God (Othman, 2013). Qur'an contains many verses that show the relationship between man and man. The examples are as in Surah al-Hujurat verse 6, Surah As-Saff verse 2 and Surah As-Saff verse 3.

C. Research Methodology

This study is a qualitative study about the student reflection on the integration of *Tawhidic* Science in "Pandang Alam" camp organized under the Science *Tawhidic* Course. The research participants consisted of 32 students, which is 15 male students and 17 female

students. They are from Tahfiz and Tahfiz Science schools among form 1 and form 2 students. The selection of research participants is implemented based on nominations by the school where they are an exclusively selected cohort of students whereas the main criteria for student selection are among Tahfiz students who have reached the level mastery and indicate a tendency to be interested in the field of STEM or possess the inventor or innovator characteristics.

The Journal of Reflection was analyzed by Constant Comparative Analysis which the theme formed through this analysis. The themes formed based on how the participants integrated the concept of *Tawhidic* by experiencing the activities in "Pandang Alam" Camp. The themes formed do not reflect the frequency of the excerpt found from the participants.

D. Study Findings and Discussion

Based on the findings of the study, there are a total of seven themes highlighted as a result of students' reflection. This theme is the greatness of knowledge of God; nature as a source of knowledge, education and lessons learnt; increase in faith, self-development (self-improvement); identity formation; increased awareness; and the closure of social relations.

1. The greatness of God's knowledge

Through this camp, research participants felt the integration of *Tawhidic* Science had opened their eyes and minds to see and deepen the greatness of God's knowledge. Although some of the research participants are in the group of students of Tahfiz School and Tahfiz Science, but this new knowledge improves understanding and learns al-Quran soulfully. New spirit that exists in the participants are not reduced. It is shown through the following expressions.

"This shows that Almighty God created this universe very beautifully." (Po8)

"I am exposed to the greatness of the verses of the Qur'an for the development of technology." (P10)

"I understand and feel the spirit of the Quran in my soul better. Everything I see, hear and feel is all written in the Quran. There is no other word that can be uttered except Masya'Allah and Alhamdulillah. Feeling very great." (P17).

"Science will make us think a lot about the creation of the Almighty Creator. Science can bring us closer to our creator." (Lo8)

In addition, research participants also stated that science and religion are inseparable because they have common interests. The story of the occurrence of science in the Qur'an shows the relationship between these two aspects are interrelated. For example, the occurrence of rain is narrated in Surah An-Nur verse 43.

"It is very important because science and religion are inseparable. If science and religion are combined, al-Quran can help to find answers to every question about nature." (L02)

When there is a connection between science and ad-Din (religion or way of life), in fact we can explore more discoveries than science alone. For example, in the Qur'an there are scientific events that are presented in implicit language. So when we study the verse, surely we can find what we see and do not see. In addition, when we are close to Allah (God the Inspirer), In Sya Allah, Allah will inspire us." (L09)

2. Nature as a source of knowledge, education and lessons

Al-Quran is a source of knowledge reference for human beings, especially Muslims where the source of knowledge includes knowledge about nature. From al-Qur'an, human beings can know and understand various aspects related to nature. For Muslims, the basics of science or science epistemology can be obtained from al-Quran (Salleh, 2010). Epistemology is about issues related to resources, acquisition, creation and knowledge dissemination in certain fields (Salleh, 2010). Based on the results of this study, nature can increase students' interest and awareness of natural science. Some of the examples of student expressions are as follows.

"It's fun to explore the diversity of flora and fauna and have a new knowledge." (Po6)

"I am a person who really likes activities like jungle trekking. But this activity is more meaningful to me because I have managed to acquire new knowledge that I have never known all this time. I have learned a lot of knowledge and look forward to learning more in the future. Too much knowledge needs to be dug up and practiced for the benefit of the *ummah*." (Po7)

"It is great to be able to explore various new knowledge. For example, being able to see and differentiate between flora and fauna, knowing the verses of al-Qur'an about ants and termites." (P10)

The views of the study participants show that they can improve their knowledge by doing activities in this camp such as jungle trekking. They also gain awareness where they want to always improve their knowledge in the future to be practiced for the benefit of the *ummah*. In addition, the nature of gratitude is also highlighted by the students. Through the natural phenomena that can be felt with the five senses, they do not forget to always be grateful to the Divine.

"In my opinion, there are various types of flora and fauna for this activity and it also can be very knowledgeable. Be grateful." (P13)

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"In my opinion, this activity shows various types of flora and fauna that make me aware and should be grateful for what God Almighty has created for us humans. But, it is human beings who ruin it. If I was the one who ruined it I guess, now I am a cruel person. Therefore, I am very grateful because I learned and explored nature." (P16)

3. Improvement of faith

Both revelations (al-Quran & Sunnah and nature) should be used either for the purpose of obtaining information, guidance, reminders and good news (Salleh, 2010). These two revelations have become the main source for human beings in increasing faith. Accordingly, when participants are exposed to the integration between religion and science, then all science activities performed should enhance participants' relationship with God. The increasing of participants' faith can be shown in the participants' expressions as follows:

"The second activity gave me the awareness to always study about the power of God in order to increase my faith and develop Islamic *da'wah*. As we know, most European scientists have embraced Islam after studying science and the Quran. If they can, why can't we?" (P07)

"This module makes me realize that God is the Creator. It can increase faith and piety to God. I feel very proud to be able to see His beautiful creation." (L03)

"Science and religion are inseparable. A scientific study depends on God's permission." (L04)

"Every scientific fact will not happen without God's permission like a flying bird." (L05)

4. Self-development

Due to the appreciation and awareness of the integration of *Tawhidic Science*, the effect is that the participants strive to improve their worship practices to be better than before.

"Daily Worship Module helps in improving my worship." (L04)

"The Daily Worship Module helps me a lot in practicing Islam (worship). It also improves my worship practice". (L12)

Apart from that, the participants also felt remorse for their previous ignorance where they wasted water while performing ablution.

"I just noticed how much water I have wasted while performing ablution. I will try to improve my ablution. " (P06)

"I was amazed by the prayer biomechanics module. Modules that I feel are not found elsewhere. As for wudu', I feel very sad because before this I always wasted water during ablution while wudhu' is circumcision. I hope I can make a difference." (P17)

"Although the time is not enough, I have received a lot of information about ablution, ruku 'and others. I hope to improve all the pillars of the perfect gap." (L03)

In addition, the participants also felt confident in their Islamic worship practices after attending the "Kem Pandang Alam". With the exposure of the daily module of worship, participants felt their worship was more perfect and felt confident to perform. Besides the participants also want to give and share new knowledge that they just got.

"I feel that when using this module, daily worship will be more perfect. I will do my best in worship for the hereafter. Thank you." (L01)

"I am aware of my mistake in prayer. I will take care of my prayer practice." (L13)

"I realize that al-Qur'an is important in science to prove that al-Qur'an is true. *Insyah'Allah* I will be the best among the best." (P13)

"*Insyah'Allah*. The lesson is that this module will correct my mistakes in worship." (P15)

"This module is very good for me to change and improve my Islamic practices. With what I have learned and practiced, *Insyah'Allah* I will share with other friends. I am very satisfied with this program even though at first I felt bored." (P16)

5. Formation of Identity

Identity means a unique and special nature or characteristic (in terms of customs, language, culture, religion, etc.) that is the core and symbol of a person's personality or identity, a nation. The best identity is based on religious teachings, especially the Islamic religion (Salleh, 2010). This is because only religion can warn people of something whether it is good or bad. As a result, religion stimulates a person towards the construction of noble morals. Based on the reflection of the study participants, the following shows the expression of participants in forming their identity.

"My opinion on the Physical and Spiritual Construction Module is that it is very important to build identity and can be healthy spiritually and mentally. Sunnah food can definitely prevent getting diseases." (P13)

"The combination of science and religion plays an important role not only in the field of education, but also other fields that have to do with life. As we know, the field of science is a field of logic and study while religion includes sharia and various branches are very long to elaborate. Through this combination, we can absolutely produce the professional and quality preachers in developing Islamic *da'wah* in a clearer direction. This activity also educates the power to be more creative in dealing with a problem." (P07)

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"In my opinion, for the sake of our well-being, we need to build Muslims who truly understand Islam while gaining skills until we become the reference of the world (ustaziyatul alam) - two things that need to go along." (L09)

These can be seen through the "Pandang Alam" Camp, the identity of the participants can be strengthened through the activities they have carried out. Research participants are also aware that through the integration of science and religion not only produce professional and quality preachers, but also become a world reference as well as become more creative individuals in dealing with a problem. In addition, through activities in this camp, it may increase the motivation of participants where they get high confidence and try to become an individual with a job who applies the religious aspect. They also strive to be excellent caliphs on this earth.

"I can now speak in public and aspire to be a successful Islamic architect in the future." (L15)

"My opinion is that this module has the right characteristics for me to try and strive to be a caliph." (P16)

6. The Increase of Awareness

The practice of science based on monotheism has built and consciously nurtures one's nature as a servant and caliph of Allah. With their awareness, their belief in the divine grew stronger. This belief affects a person's movement of action only when it means something to that person and the movement of action includes activities in science and technology (Salleh, 2010). The following shows the increased awareness of the participants through their expressions.

"I feel very grateful after learning how to save the water while performing ablution because all this time I have been wasting it too much. However, it's still not yet including waste in terms of time, sustenance, food, opportunities and others. Therefore, I would like to thank the organizers for giving me so much exposure." (P07)

"The Daily Worship module gives me awareness of the importance of using ablution water and my prayer practice. For example, do not waste water while performing ablution." (P10)

"In my opinion, the daily worship module is a module that has a big impact on me because I just realized my mistake in ablution, I wasted too much water and yet I have increased my knowledge of Islamic practices that related to science. I feel very happy

to be able to add some knowledge and correct my ablution steps. I hope all Muslims can correct their way to perform ablution too." (L02)

The awareness gained by the research participants is more focused on awareness of wastage of water during ablution. They realize that all this time they have wasted too much water during performing the ablution. Daily Worship module has had a big impact on the participants where they try to practice how to save the water while taking ablution and try to correct their ablution. Besides, the participants also realized that the *sunnah* food has many advantages. In addition, aspects of identity awareness were also discussed by study participants. Through the Ana Khalifah module, study participants gained awareness of their identity on this earth.

"This module gives me the consciousness that *sunnah* food has many advantages. I used to be not interested in *sunnah* food but after eating it, I love it and wish to practice it. I am grateful because I was exposed to this *sunnah* food at a young age."
(P16)

"The Ana Khalifah module has given me an awareness of who I am on this earth."
(L15)

7. The Cosure of Social Relations

Interpersonal relationships require good social relationships between fellow human beings (Othman, 2013). With the implementation of the "Pandang Alam" Camp, research participants gained an awareness of the relationship between humans and humans is important.

"The module is very fun. SIFIRA activities have fostered a spirit of cooperation. (Po6)

"This module also gives us cooperation in group work." (P13)

Research participants learned the spirit of teamwork from SIFIRA activities. This attitude of cooperation must always be nurtured to produce a strong Muslim community. In addition, research participants realized that unity is very important in achieving success. Therefore, by living in congregation it brings many benefits. For example, educate each other, remind, apply, appreciate and understand.

"The module really educates me to be a real caliph. This is because, while undergoing SIFIRA activities, I realized that unity is very important in achieving a success." (Po7)

"Young people are very good at implementing the Ana Khalifah module. In our religion, we must live in congregation because it contains a lot of advantages. It can educate, remind, apply, appreciate and understand everything such as ablution and so on." (P12)

E. CONCLUSION

The collapse of humanitarian values in society are in line with the rapid development of science and technology triggered a great concern to the country. This is because the impact on the morals of adolescent students is getting worse and able to inhibit the development of the country. Therefore, various efforts need to be actively implemented in order to solve this problem. One of them is to reveal the integration of *Tawhidic Science* in education. The purpose is to build a Muslim community that has a scientific mold based on monotheism. Therefore, to become a developed country, science must be emphasized among the people in line with religion to create a literate society as well as to cultivate science in every dimension of life.

Acknowledgements

This research was partially supported by Faculty of Education, Universiti Kebangsaan Malaysia Fund under the Dana Penyelidikan FPEND (Reference Number: GG-2019-047).

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