



Ramadhan Star Camp (RSC): Learning Astronomy for Kids

Fahmi Fatwa Rosyadi Satria Hamdani

Faculty of Sharia, Universitas Islam Bandung

* Corresponding email: fatwa19@unisba.ac.id

Abstract - Astronomy is a science that persons who like it very little. Most assume that it contains more astronomical calculations are quite complicated elements. Even now, these calculations can be solved with some simple program that can be applied easily. Learning astronomy would be more pronounced if done early, especially for children, such as Ramadhan Star Camp (RSC) at Imahnoong Observatory. The agenda packed with “eduwisata” concept makes children don’t feel bored when presented celestial objects, and other astronomical instruments, also to provide practical astronomy, alteration of the mindset that learning is not difficult. Descriptive analysis method used in this paper, which the data obtained from the questionnaires given to the participants, then processed, classified, and at the final stage concluded. Finally, most of the members are very pleased with the RSC, and they can learn astronomy practice, combined with a series of exciting and fun activities in the concept of “eduwisata”.

Index Terms: Ramadhan Star Camp, Learning, Astronomy

1. INTRODUCTION

Month of Ramadan is often identified with vacation for children. But it’s different with the month of Ramadan 1437 H. Many of the children who use their spare time to study a wide range of new knowledge, especially in the learning of Astronomy with al-Qur’an [1]

The persons who like this exact science is very little, not too much like another science such as physics, biology, geography, history, etc. Astronomy considered too difficult with a variety of different reasons, such as complicated, many calculations, the objects that are too difficult imaged, and so forth. Therefore, through the activities of Ramadan Star Camp (RSC) at the Observatory Imahnoong, especially children who are still in elementary school can follow a series of activities in that agenda.

Learning of Astronomy should combine with a series of other activities, such as raising dairy cows, raising rabbits, singing songs of astronomy, observe sky objects, etc. The aim is to make the children feel happy and not saturated when presented the material on practical astronomy, star maps, celestial objects, and other astronomical instruments. The benefits that can be taken by the children after following the RSC activities is they can become more aware to whom the drafter of this universe, they could be more grateful for the pleasure that has been perceived as a pleasure by seeing the results of the creation of this universe and its contents.

Some learning of astronomy that applied to learners of varying ages been done by some researchers, such as research Hamdani, Sunardi, Melati, and Suyatna [3]-[6] who are doing research on the application of Learning Model of astronomy examines the application of the model Contextual Teaching and Learning (CTL), Liberation model based on inquiry and exploration, science integration, technology, and religion, in the learning of Islamic Astronomy, also Oriented Granting Example to Candidate of Physics' Teachers. From both studies it is known that the learning of astronomy can be developed by learning models that can be adapted to learners. Therefore, this research was conducted to determine as well as analyzing how the process of learning of astronomy for children within the RSC activities at Imahnoong Observatory.

2. METHOD

This research uses descriptive analysis method, where researchers provide an overview and analyze the data collected from questionnaires distributed to participants RSC, before and after the material presented. These data are then processed, classified, and summarized in the form of charts and descriptions (Huberman, 1985, in Alhamuddin, 2016) [7].

3. DISCUSSION

3.1. Learning of Astronomy within the RSC Activities

The RSC is one place to learn about astronomy for children. In accordance with the name, the activities held regularly every month of Ramadan at Imahnoong Observatory Lembang. As presented Fahri (2016), one of the intentions and purposes of RSC is to fill the void of activities for children in the month of Ramadan, with beneficial activities packed in eduwisata concept.

The main topics in the activities of the RSC is practical astronomy, how to introduce to the participants about astronomy science with various kinds of instruments that is easily understood and absorbed. Learning of astronomy begun with the introduction of the universe by using pro and elementary *starynight* software and *Stellarium* software. both astronomical instruments very helpful in introducing of celestial objects and their movements.

Participants consisted of these children are invited to observe celestial objects in the day and night using the telescope provided. Participants were introduced at every material submitted with verses of the Qur'an relating to some material of astronomy, such as the verse that discuss about the number of months in the Hijri calendar:

إِنَّ عِدَّةَ الشُّهُورِ عِنْدَ اللَّهِ اثْنَا عَشَرَ شَهْرًا فِي كِتَابِ اللَّهِ يَوْمَ خَلَقَ السَّمَوَاتِ وَالْأَرْضَ مِنْهَا أَرْبَعَةٌ
 حُرْمٌ ذَلِكَ الدِّينُ الْقَيِّمُ

The number of the months with Allah is twelve months by Allah's ordinance in the day that He created the heavens and the earth. Four of them are sacred: that is the right religion. (Q.S. at-Taubah 9: 36)

Related to the verse, Jauhari [8] provides the explanation the names of months in Islam, the names are Muharram, Safar, Rabī'u al-Awwal and Rabī'u al-Fani, Jumadi al-Awwal and Jumadi al-Sāniyah, Rajab, Sha'ban, Ramadan, Shawwal, Żulqa'dah, and Zulhijjah. The names of these months was based on the condition of Arab society at the time [9]. So it can be easily recognized and applied by the Arabs who have an interest in a certain time.

3.2. Teaching Religious Values in RSC

The various of material presented in this agenda, combined with a variety of interesting and fun activities, such as raising dairy cows, raising rabbits, and experiment on air pressure and temperature. In addition to these activities, the participants also were guided in praying together 5 times in a day and memorize some verses of the Koran relating to the creation of the universe.

In the early stages, participants were treated to stories about the history of hijri calendar, both in terms of astronomical and legal basis that existed in the Qur'an and hadith. This material is delivered using a power point slide tool and some Islamic history videos.

At the next stage, the participants were invited to observe the simulation about the movement of the three celestial bodies that became the object of study in the Islamic calendar system, such as Sun, Earth, and Moon. By using stellarium and starry night applications, the participants helped to understand the object directly more than before, even without using the telescope directly.

At the final stage, the participants are given the opportunity to observe the sky object conditions during the day and the night. During the day, they observe the Sun using a special telescope, and many of them can observe the "tongue of fire" occasionally. As at night, they are invited to observe the Moon and read the star map. What stars are in the northern sky and which stars are in the southern sky. In addition, they are also introduced with some constellations that appear in the night sky right at once.

This is the main attraction in the activities of the RSC, where the participants are not only taught about the astronomy science, but also imparted the religious values that can be applied in everyday activities for their, from tahajjud prayer, sahur and iftar together, read and memorize the Qur'an together, pray in congregation five times, tarawih in congregation, giving alms, helping others, etc.

3.3. Result

Starting from the processed data obtained from questionnaires distributed to the participants, as well as the results of several interviews, the researchers obtain some of the data presented in the following table:

Table 1. The Participant of RSC Imahnoong Observatory Based on Age

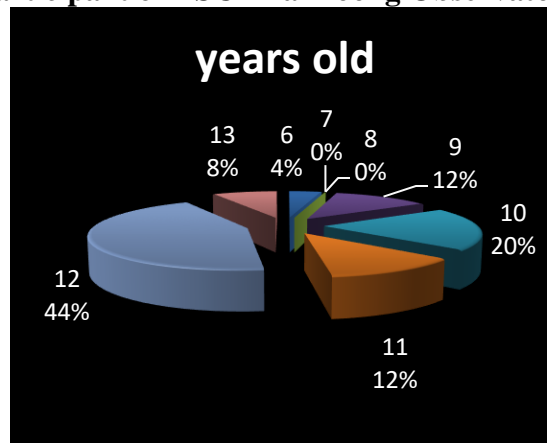


Table 2. The Participant of RSC Imahnoong Observatory Based on Gender

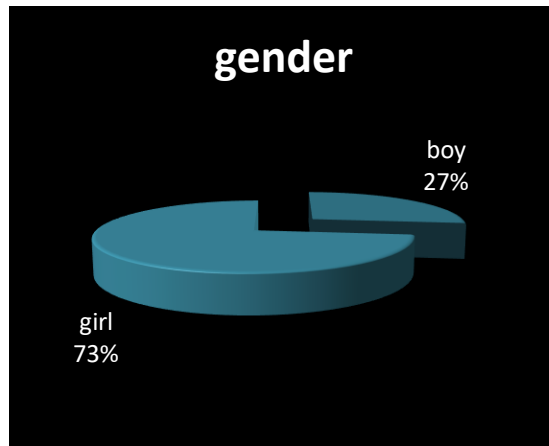


Table 3. The Participant of RSC Imahnoong Observatory Based on Regional

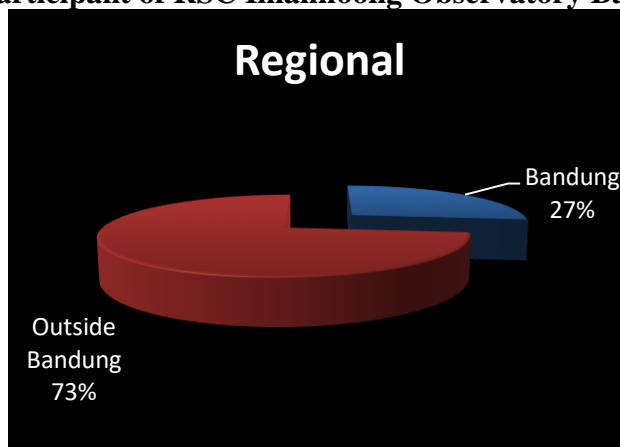


Table 4. The Participant of RSC Imahnoong Observatory Based on Material

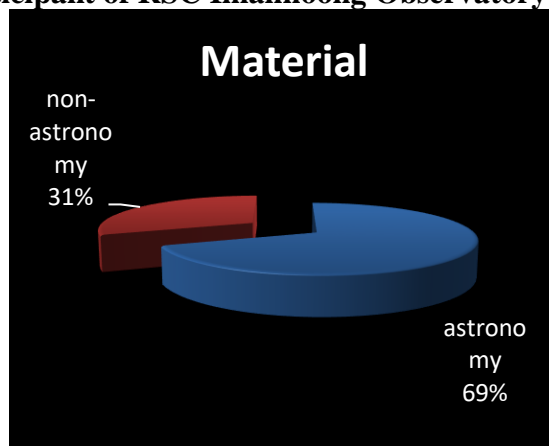


Table 5. The Participant of RSC Imahnoong Observatory Based on Learning Atmosphere

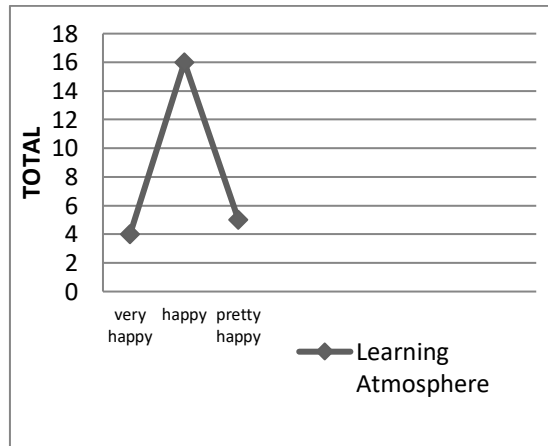
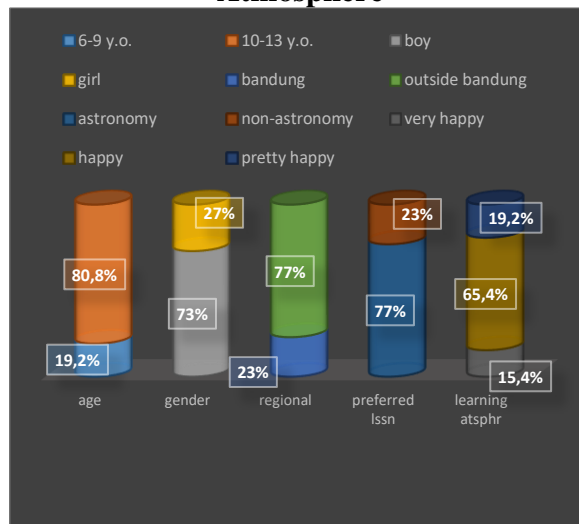


Table 5. The Participant of RSC Imahnoong Observatory Based on Learning Atmosphere



Based on data from the tables above, it can be seen that participants who followed the RSC program in Ramadan 1437 H Imahnoong Observatory in Lembang is known as much as 19.2% between the ages of 6-9 years and 80.8% were aged 10-13 years, 73% were male and 27% female, 23% of which came from the area of Bandung and 77% comes from outside Bandung, 77% liked the material about astronomy and the 23% who like non-astronomy, as well as 15.4 % who feel very happy, enjoyable/happy 65.4%, and 19.2% were pretty happy. From here it can be seen that participants who followed the RSC activities like model of astronomy learning that packed with a variety of other activities.

4. CONCLUSION

The Researcher concluded that learning practical astronomy which packed within the RSC activities in Lembang Imahnoong very effective when combined with a host of other exciting activities. Eduwisata concept that presented in the RSC is really gives a positive value to the participants, where they not only fill the vacancy holiday with traveling, but also they were given education about the positive activities undertaken during the RSC. It also gives a significant effect to the of participants so they can feel fun experiences and eliminate boredom during learning.

References

- [1] Widayanti, E.Y. (2013). Analisis Materi Astronomi pada Pembelajaran Sains (Penyajian Sains Modern dan al-Qur'an). *Jurnal Pendiikan Agama Islam*, Vol. 1 (1), 141-160.
- [2] Ansori, I., Ramalis T.R., & Utama, A.J. (2013). Analisis Kurikulum Ilmu Pengetahuan Bumi dan Antariksa pada jenjang Sekolah Menengah Atas. *Jurnal Wahana Pendidikan Fisika 1*, 76-83.
- [3] Hamdani, Fahmi Fatwa Rosyadi Satria, Alhamuddin, and Putra Bagus Mochammad . "الهلال في القرآن: تسمية الهلال وتطورها عند علماء التفسير المتقدمين والمعاصرين على وجه" *TSAQAFAH*.424-409:(2016) 12.2
- [4] Sunardi, & Santorsa, S. (2010). Multimedia Pembelajaran Tatasurya dengan Pendekatan Inkuiri bagi Kelas X SMK. *Jurnal Teknologi Informasi*, Vol. 6 (1), 37-42.
- [5] Melati, A. (2012). Literasi Pembelajaran Astronomi Berbasis Integritas Sains, Teknologi, dan Religi. *Prosiding: Seminar Nasional Fisika dan Pendidikan Fisika*, Vol. 3 (4). 274-280.
- [6] Suyatna, *Penarapan Model Pembelajaran Berbasis Inkuiri dan Eksplorasi serta berorientasi Pemberian Contoh untuk Calon Guru Fisika.*, diakses pada 26 Oktober 2017. <https://komunitasfisikaunimed.files.wordpress.com/2010/02/penerapan-model-pembelajaran.pdf>
- [7] Alhamuddin, (2016). Desain Pembelajaran untuk Meningkatkan Kecerdasan Majemuk Siswa Sekolah Dasar", *Jurnal Al-Murabbi*, Vol. 2 (2), 180-201.
- [8] Jauharī, T. (1928). *al-Jawāhir fī Tafsīri al-Qur'an*, juz 5, Mesir: Mustafā al-Bābī al-Ḥalbī.
- [9] Hamdani, F.F.R.S. (2016). Penerapan Model Contextual Teaching and Learning (CTL) dalam Pembelajaran Ilmu Falak, *Jurnal al-Murabbi*, Vol. 3 (1), 55-69.