A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

Muchamad Arif Al Ardha1*, Chung Bing Yang1, Wei Jhe Lin1, Nurhasan Nurhasan2, Setiyo Hartoto2, Nanik Indahwati3, Dwi Cahyo Kartiko2, Heryanto Nur Muhammad2, Taufiq Hidayat2, Fifukha Dwi Khory2, Kolektus Oky Ristanto2, Ainun Zulfikar Rizki2

1Department of Physical Education and Kinesiology, Hua Shih College of Education, National Dong Hwa University, Hualien 97401, Taiwan
2Department of Physical Education, Sport Science Faculty, Universitas Negeri Surabaya, Surabaya 60231, Indonesia

ABSTRACT
Sedentary behavior and obesity are becoming international concerns. Children spent less time in physical activity and sports due to several reasons. Changing children’s behavior should involve a holistic approach. Furthermore, multiple intelligence could contribute to promoting active children's behavior. This study aimed to evaluate the content of the sports summer camp curriculum which was developed by multiple intelligence theory. Moreover, the effect on children's behavior was observed in the implementation of the curriculum. This research was conducted by a qualitative-quantitative combination research design (mixed method). There were 82 elementary school students (age 9.70 ± 1.18 years old) who participated as a research sample with the approval of their parents. As a result, there were eight intelligence profiles that were implemented into this curriculum. The intelligence was bodily-kinesthetic, linguistic, logical-mathematical, musical, visual-spatial, interpersonal, intrapersonal, and naturalist. Furthermore, based on their multiple intelligence profile, bodily-kinesthetic performed excellently in every activity. In addition, there is no significant difference in students' involvement among multiple intelligence groups during the summer camp (Sig. >0.05). In conclusion, each intelligence was involved in the activity. Furthermore, each multiple intelligence group could involve in every activity.

INTRODUCTION
Sedentary behavior is related to obesity and low physical fitness level (Pepera et al., 2022). It increases the risk of health complications problem (Calcatera et al., 2021). Sedentary behavior is not only associated with health and well-being but also cognitive and social-emotional (Kuzik et al., 2022). Furthermore, sedentary behavior and obesity are becoming international concerns (Kanellopoulou et al., 2022). Behavioral activity among the population were influenced by a complex reason, on of them is the covid 19 pandemic (Hernández et al., 2022). Screen-based activities were also the most dominant reason for children to be sedentary (Saunders, McIsaac, et al., 2022).

There are recommendations to overcome sedentary behavior, organized physical activity such as physical education class and leisure activity plays an important role to change sedentary behavior (Materová et al., 2022). Physical activity in the physical education class effectively reduces obesity (Podnar et al., 2021). Furthermore, children who participate in sports extracurriculars as their leisure activity showed better health and physical fitness than sedentary

Article Info
Article history:
Received 15 January 2022
Revised 4 February 2022
Accepted 5 March 2022
Available Online 31 March 2022

Keywords:
Content analysis
Multiple intelligence theory
Sports summer camp curriculum

https://doi.org/10.46627/sipose
children (Kanellopoulou et al., 2021). However, students could not participate in physical education classes and sports extracurricular activities during the summer vacation. It potentially increases the risk of them being sedentary in their home. Summer camp is one of the activity options which allow the students to do physical activities.

Summer camp is a common activity in many countries in the world. Summer camp is defined as an activity that is held during summer vacation. The activities mostly are designed purposely to educate and entertain the participant. Some of them are specifically designed on specific criteria i.e., professional community (Nadelson et al., 2022), profession (Rugh et al., 2021), religion, etc. Summer camp has the benefit to improve the participants’ knowledge in science, and culture, (Hsu & van Dyke, 2021). Furthermore, participants will develop their social-emotional experience (Warner, Sibthorp, et al., 2021) due to the new environment which involved many new friends and nearly one million staff who worked as a seasonal staff every year (Warner, Godwin, & Hodge, 2021). This study aimed to evaluate the content of the sports summer camp curriculum which was developed by multiple intelligence theory. Moreover, the effect on children's behavior was observed in the implementation of the curriculum.

**Multiple Intelligences Theory**
There are some definitions of intelligence (Macnamara, 2016). One of them is defined by Howard Gardner, He stated that intelligence is a type of potential or ability to create or generated in one or more cultural contexts in terms to solve problems (Gardner, 1999). He divided the intelligence becomes 8 specific parts. There is linguistic intelligence (sensitivity to the spoken and written word and the ability to master languages), logical-mathematical intelligence (the capacity to analyze problems logically and scientifically), musical intelligence (skill in the performance, composition, and appreciation of music), bodily-kinesthetic intelligence (as exemplified by dancers, surgeons, and artists), spatial intelligence (characteristic of pilots, graphic artists, and architects), interpersonal intelligence (a talent for understanding and relating to other people) and intrapersonal intelligence (the capacity for understanding oneself), and naturalist (the ability to recognize and understand nature phenomena).

According to (Gardner, 1983) every person was born with those eight intelligences with different levels. However, the factor to determine the factor of intelligence is not only because of nature but also nurture which could be the environment such as education, family, society, etc. In other words, intelligence could be improved. Education is one of the most powerful training to improve human intelligence. Because it provides many fields to be mastered with various methods. On other hand, multiple intelligences theory could be used to solve learning difficulties in the school (Stanciu et al., 2011). So there is a connection between multiple intelligence theory and also education itself. The implementation of each of them will give benefit another one. Furthermore, the implementation of multiple intelligences theory into sport summer camp curriculum was expected to support the children to be actively participate and engage in the program.

**Sports Summer Camp Curriculum**
Curriculum is defined by a dictionary as a course or subject. Furthermore, a curriculum could be interpreted as a course or activity of study in one subject. Moreover, curriculum refers to the lessons and academic content taught in a school with a learning standard and goals. The learning standards and goals in the national curriculum usually are appointed by the government (Burrill et al., 2015). This kind of curriculum is called the intended curriculum (Connelly et al., 2008). However, the curriculum standard could be adjusted and changed (Brown & Beswick, 2014). The integration of multiple intelligences theory into the primary education curriculum is very interesting (Kirkgöz, 2010). Because multiple intelligences theory makes the teaching/learning activity more attractive both for the teacher and school children.
A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

DOI: https://doi.org/10.46627/sipose.v3i1.158

The integration of multiple intelligences theory could increase children’s school performances (Petruţa, 2013). Specifically, the integration of multiple intelligence gives a significant improvement in academic results in students with learning difficulties (Stanciu et al., 2011). The integration of multiple intelligence theory into sports summer camp is expected to give more benefit to the participants’ intelligence development. This is including the possibility of every participant can have more chances to train their eight intelligences. So, the curriculum content was designed diversely. The diversity of the activities will provide complete intelligence training for the participants. On other hand, by the multiple intelligence theory, the instructor could know more about student profiles. As a result, various methods of teaching could be implemented to support students learning outcomes.

RESEARCH METHOD

This research was conducted by a qualitative-quantitative combination research design (mixed method). There were 82 elementary school students (age 9.70 ± 1.18 years old) who participated as a research sample with the approval of their parents. The qualitative study used document analysis, interview, and participatory observation methods. The document which was analyzed is a summer camp curriculum. The curriculum content includes run-down activities, the purpose of activities, and the implementation of activities. Those curriculum contents were grouped based on eight intelligences. Students have chosen their favorite activities to determine their multiple intelligence profiles (Table 1). Furthermore, the participatory observation was conducted in 5 days to identify the student’s involvement in every multiple intelligence topic. The rubric of observation was classified based on student involvement (table 2). The comparative analysis was conducted to identify the significant different among multiple intelligence groups in participating the sport summer camp.

Table 1. Students’ Multiple Intelligence Profile

<table>
<thead>
<tr>
<th>No</th>
<th>MI Profile</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bodily-kinesthetic Intelligence</td>
<td>19</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Logical-mathematical Intelligence</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Musical Intelligence</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Visual Spatial Intelligence</td>
<td>3</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Interpersonal Intelligence</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>Intrapersonal Intelligence</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>Naturalist Intelligence</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Linguistic Intelligence</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37</td>
<td>45</td>
<td>82</td>
</tr>
</tbody>
</table>

Table 2. Observation Rubric of Students’ Involvement Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Rubric Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student did not involve the activity</td>
</tr>
<tr>
<td>2</td>
<td>Student involved in the activity with the support of the teacher</td>
</tr>
<tr>
<td>3</td>
<td>Student involved the activity actively</td>
</tr>
<tr>
<td>4</td>
<td>Student involved the activity excellently</td>
</tr>
<tr>
<td>5</td>
<td>Student involved in the activity excellently and be able to encourage other students</td>
</tr>
</tbody>
</table>

RESULTS AND DISCUSSION

Curriculum Content Analysis Results

The curriculum was prepared for elementary school students for 6 days. However, the camp does not require students to stay overnight. The activities started at 8.10 a.m. and finished at 6.30 p.m. The curriculum consists of more than 15 activities. All activities were analyzed from a multiple intelligences’ perspective. As the result, there are eight intelligences were involved in the curriculum. Each intelligence had different activities and goals. However, there was more than
one intelligence that could be included in one activity. In other words, one activity could train more than intelligence. Nevertheless, there is a dominant intelligence that was trained in a certain activity. For instance, those activities which were provided for specific intelligence are displayed in table 3.

<table>
<thead>
<tr>
<th>No</th>
<th>Intelligence</th>
<th>Activities</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bodily-kinesthetic Intelligence</td>
<td>Taekwondo, Golf, Badminton, Tennis, Swimming, Outdoor activities</td>
<td>Participants can perform fundamental movement of those sport, get improvement on physical components and fun sport experiences</td>
</tr>
<tr>
<td>2</td>
<td>Logical-mathematical Intelligence</td>
<td>Bridge game, Rubik</td>
<td>Understanding about order, pattern, and fun counting.</td>
</tr>
<tr>
<td>3</td>
<td>Musical Intelligence</td>
<td>Flute (Ocarina)</td>
<td>Recognizing tone and note of music. Performing a simple song with the music instrument together.</td>
</tr>
<tr>
<td>4</td>
<td>Visual Spatial Intelligence</td>
<td>Drawing, Designing, Painting</td>
<td>Creativity idea about a particular space or object.</td>
</tr>
<tr>
<td>5</td>
<td>Interpersonal Intelligence</td>
<td>Group discussion, Group game</td>
<td>Effective communication, empathize feeling, teamwork, and leadership</td>
</tr>
<tr>
<td>6</td>
<td>Intrapersonal Intelligence</td>
<td>Art design, Meditation</td>
<td>The ability to recognize and control own feeling, weakness, and strength</td>
</tr>
<tr>
<td>7</td>
<td>Naturalist Intelligence</td>
<td>Tracking (adventure), Planting, Cooking</td>
<td>Ecological understanding to care about other creature and about healthy food</td>
</tr>
<tr>
<td>8</td>
<td>Linguistic Intelligence</td>
<td>Chinese character game, Telling Story, English Introduction</td>
<td>Improving the children understanding of the reading, speaking, and writing result</td>
</tr>
</tbody>
</table>

**Bodily-kinesthetic Intelligence**

Most activities challenge participants’ bodily kinesthetic intelligence. Because all the participants are required to move actively. Especially in the sports activities such as golf, badminton, tennis, swimming, and taekwondo, the instructor gave chance for every participant to try by themself. These activities train participants' motor skills ability. The ability to control bodies and produce specific movement. Moreover, these activities could give benefit participants’ physical components such as coordination, endurance, power, speed, flexibility, agility, balance, accuracy, and reaction. General and specific feedback was provided to help the participants train and improve their bodily-kinesthetic intelligence.

**Logical-mathematical Intelligence**

Logical-mathematical intelligence is the ability to do calculations and logical reasoning by mathematics methods. There are some activities in this summer camp curriculum that were prepared to improve participants’ logical-mathematical intelligence. Those activities are bridge games, a Rubik cube, and dance. The main purpose of those activities is problem-solving, counting opportunities, pattern learning, and information classification. In bridge games, for example, the participants are encouraged to solve the problem with the cards. They need to make
A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

DOI: https://doi.org/10.46627/sipose.v3i1.158

Studies in Philosophy of Science and Education
https://scie-journal.com/index.php/SiPoSE

a certain card order with a specific amount of card value by the maximum card that they can make. For example, 15 is the specific amount that the participant must make. So, if there are 15 “number 1 cards” the total amount will be 15 and it uses the 15 cards. However, the participant is only provided 1 packet of cards. They only have 4 “number 1 cards” and 4 “number 2 cards”. So if they want to make 15 they need to add one “number 3 card” then the amount will be (1+2) x 4 + 3 = 15. The level of difficulties will be increased after the participants are able to solve this problem. In this game, the participants are challenged to use their ability to classify, count, and arrange the card.

Musical Intelligence
Musical intelligence was trained by using Ocarina. It is a kind of simple flute that has a tone with four finger holes and a mouthpiece that projects from the body. All the participants have no experience with Ocarina before, so they were introduced to basic tone from the easiest level or difficulties. It was adjusted from the to the medium level of difficulties. In detail, the first time, the instructor asked them to try to produce a random sound by themselves. Second, they were asked to make a simple tone sequence with one or two notes. After that, the instructor adds the notes becomes more complex. The last, the instructor gave them a challenge to perform a simple song. The instructor not only taught them about tone, but also musical structure, notes, and rhythm.

Visual-Spatial Intelligence
The visual-spatial intelligence is implemented into activity in this summer camp. The activities are including drawing, painting, and designing. These activities were prepared specifically to improve participants’ visual-spatial intelligence. In the drawing, for example, the participant could explore their visual-spatial intelligence creatively. They may draw about their feeling, what they want to do, and any ideas. Besides that, they were also asked to draw some themes and color them. Through these activities, participants can practice their ability to produce a visualization of objects from a different perspective in drawing, painting, and designing.

Interpersonal Intelligence
Most of the activities in the summer camp have a teamwork group. So, the participants were assigned to different groups such as sports team games, group discussions, group work, and study partners. In the group, every participant needs to do some tasks in the group. So, they need to communicate and cooperate with each other to achieve the goals. This activity could improve participants’ interpersonal intelligence. It is because the participants could learn effective communication, empathizing feeling, teamwork, and leadership. The activity allowed children to communicate and interact effectively (Herring, Millager, & Yaruss, 2021).

Intrapersonal Intelligence
The individual activities were related to individual awareness of their ability, emotion, and feeling. Meditation is one of the activities that was involved to train participants’ intrapersonal intelligence. Meditation could give a chance to control emotions such as anger, hatred, and disappointment become a positive value and beneficial for the participants. Moreover, self-reflection on what is the strength and weaknesses of each participant could gain self-awareness. The other activity which was provided is art design by using the tiny object. It is good to train participants’ patience, diligence, and thoroughness.

Naturalist Intelligence
The participants were invited to join into some outdoor activities to introduce them about nature. The activities were conducted in the river, lake, garden, and farm. In the river, they could find and observed some animals such like fish, mosquito, dragonfly, caterpillar, bugs etc. Then the
A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

DOI: https://doi.org/10.46627/sipose.v3i1.158

instructor gave them a short introduction about all those animals’ life. For planting, Participants learned how to plant a flower, vegetable, and three. They are also taught to take care of those plants by giving them water every day and giving them fertilizer. In the end, they harvested and cooked their vegetables to become a healthy and delicious meal for their lunch.

**Linguistic Intelligence**

Linguistic intelligence was the most dominant intelligence which was trained during the activity. Because the participants were stimulated to express their idea and thought to their friends and to the organizer. They could train their linguistic intelligence in every activity during summer camp. However, there were also some activities that were provided purposely to train participants’ linguistic intelligence. Those activities are Chinese character games, telling a story, Chinese character writing, and a simple English Introduction.

**The Implementation of Curriculum**

The implementation curriculum was analyzed by the students’ involvement in the summer camp activity. The observation methods were used to identify the students’ involvement. The scores were given based on the observation rubric (Table 2). Based on the data analysis, the data were not in the normal distribution. Furthermore, a non-parametric test was conducted to identify the students’ involvement. The Kruskal-Wallis test was implemented to find the significant differences among students’ multiple intelligence groups. As a result, there is no significant difference among groups involving the activities (sig. >0.05). It indicates that the curriculum which was developed could be followed by every student’s multiple intelligence groups.

**CONCLUSION**

**Students Involvement**

Most of the participants were doing the activities well. However, after the camp maybe not every participant will understand and remember what they have done and learned. This commonly happens especially when the participants were only doing the activities for fun or based on their interests. Moreover, students’ motivation is an important part to involve in the activity well. Multiple intelligence theory provides complete guidance to make an interesting activity for all students. However, the next challenge for the instructors will be how to deliver those activities? How do the instructors motivate the participants to do the activities well? Then how to identify students’ MI profiles so they could involve in activities more?

**Collaboration of Intelligences**

The activities in the sport summer camp are so varied. They have sports games, martial arts, planting, cooking, drawing, telling stories, and many others. Those activities are focused on each intelligence. However, if we observe deeper into each activity, we will find that there is a big opportunity for other intelligence to be improved. Because every activity could be directed into some specific intelligence training. It is simply because multiple intelligences are also a framework for every educational setting. In another word, it can be applied in most conditions in the education field. Even though the intensity is not the same.

**ACKNOWLEDGEMENTS**

Thank you for the support of both National Dong Hwa University and Universitas Negeri Surabaya. This study was conducted in a collaboration research scheme between both universities.

**REFERENCES**


A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

DOI: https://doi.org/10.46627/sipose.v3i1.158


Author(s):

* Muchamad Arif Al Ardha (Corresponding Author)
Department of Physical Education and Kinesiology, Hua Shih College of Education, National Dong Hwa University, Hualien 97401, Taiwan
No. 1號, Section 2, Daxue Rd, Shoufeng Township, Hualien County, 974
Email: muchamadalardha@unesa.ac.id

Chung Bing Yang
Department of Physical Education and Kinesiology, Hua Shih College of Education, National Dong Hwa University, Hualien 97401, Taiwan
No. 1號, Section 2, Daxue Rd, Shoufeng Township, Hualien County, 974
Email: ben40812002@yahoo.com.tw

Wei Jhe Lin
Department of Physical Education and Kinesiology, Hua Shih College of Education, National Dong Hwa University, Hualien 97401, Taiwan
No. 1號, Section 2, Daxue Rd, Shoufeng Township, Hualien County, 974

Studies in Philosophy of Science and Education
https://scie-journal.com/index.php/SiPoSE
A Content Analysis of Sports Summer Camp Curriculum for Elementary School Students by the Perspective of Multiple Intelligence Theory

DOI: https://doi.org/10.46627/sipose.v3i1.158

Email: 810288109@mail.ndhu.edu.tw

Nurhasan Nurhasan
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: nurhasan007@unesa.ac.id

Setiyo Hartoto
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: setiyohartoto@unesa.ac.id

Nanik Indahwati
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: nanikindahwati@unesa.ac.id

Dwi Cahyo Kartiko
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: dwicahtyokartiko@unesa.ac.id

Heryanto Nur Muhammad
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: heryantonur@unesa.ac.id

Fifukha Dwi Khory
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: fifukhadwi@unesa.ac.id

Kolektus Oky Ristanto
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: kolektusokyristanto@unesa.ac.id

Ainun Zulfikar Rizki
Department of Physical Education, Sport Science Faculty,
Universitas Negeri Surabaya, Surabaya 60231, Indonesia
Jl. Kampus Unesa Lidah Wetan, Surabaya 60213, Indonesia
Email: ainunzulfikar9@gmail.com