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IMPROVING STUDENT LEARNING OUTCOMES WITH *QR CODE MOVEMENT CARD* MEDIA IN CLASS XI STUDENTS OF SMAN 1 KESESI, Pekalongan Regency, Central Java

Ropik Hidayat, S.Pd. [1] Dr. Annasari Mustafa, SKM., M.Sc. [2] Wiwik Indarwati, S.Pd. [3] M. Imam Fauzi, S.Pd. [4]

SMA Negeri 1 Kesesi[1] Politeknik Kesehatan Poltekkes Malang[2] SMA Negeri 1 Kesesi[34]

Keywords

Movement card qr code 1; physical activity 2; learning outcomes 3

Abstract

Large-scale social restrictions brought on by the COVID-19 pandemic have changed learning in schools into learning at home. Students face challenges in the learning process, particularly in physical education classes, due to the inaccessibility of sports facilities and the absence of assistance, which increases the risk of injury and prevents students from comprehending the benefits of physical activity and how to perform movement tasks. The purpose of this research is to help students overcome their obstacles by using the *Movement Card Qr Code* media as an independent study guide containing movement procedurals, movement classifications, movement benefits, and video demonstrations of movement steps. Two cycles of classroom action research based on the Kemmis and Taggart paradigms were used in this research. In the first cycle, cognitive domain classical completion was 70.58 percent and psychomotor domain classical completion was 88.23 percent. The second cycle of classical completion is comprised of 91% cognitive and 94% psychomotor components. Conclusion: The employment of MOVEMENT CARD QR CODE media has a substantial impact on student learning outcomes. In addition, pupils were highly motivated to learn about the advantages of physical activity. By altering the context of the material to be provided, the *Movement Card QR Code* media can be utilized at the junior or senior high school level.

✉ Corresponding author :
Adress: Jln. Teuku Umar. No. 57, Kota Pekalongan, 51118
E-mail: ropik1493@gmail.com / +6285524434421

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INTRODUCTION

Large-scale social restrictions have been put in place by the government as a result of the COVID-19 outbreak. Consequently, the Ministry of Education and Culture enforces Learning from Home (BDR), which creates numerous obstacles, particularly for the implementation of learning physical education subjects, which in reality require space, media, facilities, and the teacher's role as a model and companion to maintain student security and safety. Due to the lack of sports facilities in the area where kids live, the implementation of learning is not as effective as it could be. There is a risk of injury due to a lack of safety and direction in movement execution, insufficient learning tools, and students' inability to comprehend course material.

According to the government's directive in Permendikbud No. 59 of 2014, which mandates that learning processes in educational units for the 2013 curriculum must be interactive, teachers are always obligated to deliver effective and pleasurable learning in all circumstances, including inspiring, motivating, fun, challenging, motivating students to be active, and providing sufficient space for initiative, creativity, independence, and self control. The usage of interactive media in physical education and learning can be a solution to learning challenges; the QR Code is one of the media that can be employed.

Guo, Cao, Wang, Fu, & Li, (2016) With their low cost and large message capacity, *QR Codes* are incredibly dependable and have a very high capacity for sending messages. Depending on the platform user ID, the information in the QR code differs, including connection switching, location information, and a time stamp, none of which can be determined from the QR code image. website, contact number, email address, or even just plain text. I created a QR code by encrypting a link to create an image holding a unique code that leads to a tutorial video. However, the QR Code application has not only been utilized for educational purposes but also as a personal or administrative security system (Ridwan, Santoso, & Agung, 2010).

It is anticipated that the adoption of QR Code media will increase learning outcomes. Learning outcomes are the skills students acquire as a result of their educational experience. Student learning outcomes are fundamentally changes in cognitive, emotional, and psychomotor domains related to the teaching and learning process that students experience. (Sudjana, 2005). According to Oemar Hamalik (2008: 31), the consequences of learning are patterns of behavior, values, understandings, attitudes, appreciation, and competencies. The assessment of learning outcomes is a method for determining the extent to which students have attained the instructional goals. Behavioral changes characterize learning outcomes, according to Aunurrahman (2016: 36).

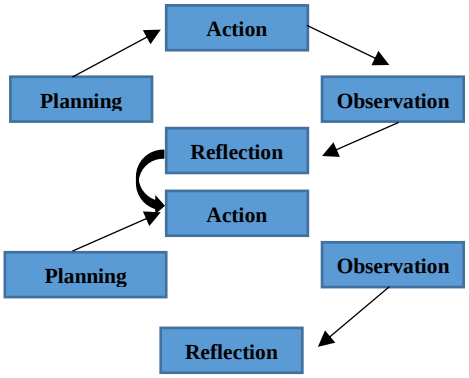
Osawa's 2007 research on an outdoor learning *system* employing *radio frequency identification* (RFID) and symbolology was one of the prior studies that served as a foundation for this research. And the results of the study indicate that "*QR Code* can facilitate learning when students are on the move (e.g., during field activities)." According to research conducted by De Pietro and Frontera in 2012, *Qr Code* also facilitates the adoption of new systems based on the *just-in-time* learning paradigm and collaborative learning. Saleh did more research in 2018, which concluded that "after adopting the QR Code as a learning medium in foreign language courses, students can evaluate their work effectively and comprehend the information with ease."

Based on part of the aforementioned research, research was conducted using the *Movement QR Code Card* to enhance student learning outcomes for class XI MIPA 2 SMA Negeri 1 Kesesi on the subject of the benefits of physical activity. The *Movement QR Code Card* material is created digitally and customized to the core abilities that MIPA 2 students in grade 11 must comprehend.

METHOD

This research is a Classroom Action Study done at SMAN 1 Kesesi Pekalongan, Central Java. This research was carried out from April to November of 2021. The research participants were 34 eleventh-grade MIPA 2 SMAN 1 Kesesi students in the second semester of the academic year 2020-2021. This research utilizes the Spiral model by Kemmis and Taggart, which is comprised of four important "moments": (1) plan formulation; (2) action implementation; (3) observation; and (4) reflection (Figure 1). When class conditions are stable, such as when the teacher is able to master new learning abilities and the students are accustomed to media, then the cycle of breaking the movement card QR code in this case is that the students have learned more and achieved better results.

Figure 1. Model Kemmis & Taggart



RESULTS AND DISCUSSION

Description of Initial Conditions

The value of the physical education subject was 84.37%, or 27 out of 34 students in class XI MIPA 2 were still below the Minimum Completeness Criteria (KKM) of 70, according to student learning outcomes at the start of the lesson. The average score of students is 50.53, as shown in table 1. To increase the value, the researcher ran a class action using the *Movement Card QR Code* Media to discover the long-term advantages of physical activity.

Table 1. Table of Pre-Cycle Values

Information	Pre Research Conditions
Average	50,53
Maximum Score	80
Minimum Score	30

In the planning phase, the syllabus and learning implementation plan (RPP) are developed, along with introductory powerpoints, activity *check forms*, and video tutorials for the *Movement Card QR Code* movement., create quizzes, grids, observation sheets and student response questionnaire forms online using *Google Form.* The implementation of the actions in the first cycle was carried out online in four meetings with a time of three hours (45 minutes) Cycle 1 was carried out to complete two basic competencies, namely: Basic Competence 3.8 Analyze the long-term advantages of active, regular physical activity involvement. Basic Competence 4.8 Explain the long-term advantages of frequent physical activity.

The first cycle was divided into four meetings, with each subject presented in two meetings. Basic Competency 3.8 is completed in two meetings of three learning hours times 45 minutes each. Similarly, Basic Competency 3.8 is taught in four meetings, each of which consists of three hours of instruction multiplied by 45 minutes.

In the *Movement Card QR Code* media for cycle 1 learning, information regarding the long-term advantages of physical activity is provided: movement *run in place, bcycle situp, bell jump, block jump, cross crawl, cross jack* dan *figure 8.*

Using the accompanying observation sheets, collaborators watch teacher and student activities during the implementation of the intervention. The results of the observation indicate that the teacher carried out the planned process of teaching and learning activities. In addition, as part of the learning process, students examine the motion assignments provided through the *Movement Card Qr Code* media.

Table 2. Table of Student Learning Outcomes in cycle I

Information	Cycle Conditions 1	
	cognitive	Psychomotor
Average	68.73	73,11
Maximum Score	85	87
Minimum Score	40	40
Classic graduation	70.58%	88.23%

According to the table, the lowest score is 40 and the best score is 85. The class average for cognitive aspects in the first cycle was 68.73, while the class average for psychomotor aspects was 73.11. The number of students who did not complete or reach the KKM in the cognitive domain was thirteen, while the number in the psychomotor domain was eight, In cycle I, the percentage of students who achieved completeness or classical absorption in the cognitive domain was 70.58, whereas in the

psychomotor domain it was 88.23%. Therefore, it can be said that the class has not been thoroughly studied, as 85 % of students have not yet achieved absorption in the cognitive realm. According to Trianto (2009: 241), a class is regarded to have completed its studies (classical completion) if there are ≥85% of students who have finished their studies in that class.

After completing the action phase, students engage in reflection to assess their ability to analyze and master the *Movement Card QR Code* movement activities. Several factors were considered in the category of cycle 1 success: 1) Some students observed an increase in motivation to learn. 2) Numerous pupils were interested in the *Movement Card QR Code* educational resource. 3) Students assist one another in completing assignments 4) Students respond to learning by completing tasks, like providing responses or comments and submitting video assignments. *run in place, bcycle situp, bell jump, block jump, cross crawl, cross jack* dan *figure 8.*

Not all pupils comprehend the use of the *Movement Card Qr Code* media, which is an example of something that falls under the area of failure. Consequently, Cycle 2 must be completed. In Cycle 2 we will provide learning material on how to design a movement-based exercise program based on FIIT principles into *heel toe, hell touch, plank, power jump, squat, windmill, skiers, jumping jack.*

Cycle II planning is to create a lesson plan based on the reflection of cycle one, Create forms and quizzes, Re-socialize the usage of the *Movement Card QR Code* because there are still many who do not comprehend its use, then have students study independently using the *Movement Card QR* code media, and conclude with students working on the cycle two final exam.

On Tuesday, August 31, 2021, four meetings were held for Cycle II actions. At the beginning of each meeting, the teacher conveys the competencies to be attained, the learning objectives, as well as the necessity of studying material on the long-term advantages of physical activity. The instructor then offers pupils with content by requesting that they access the *Movement Card QR Code* material they received. The instructor also displays PowerPoint slides. Included on the *Movement Card Qr Code* are samples of the movements that will be researched on that day, including *heel toe, hell touch, plank, power jump.*

The instructor then assigns homework, such as analyzing and practicing the *Heel Toe, Hell Touch, Plank, And Power Jump* techniques.

The cycle II test results are shown in the table below:

Table 3. Table of Learning Outcomes in Cycle II

Information	**Cycle 2 Conditions**	
	cognitive	**Psychomotor**
Average	84	85
Maximum Score	100	100
Minimum Score	84	85
Classic graduation	91%	94%

According to the table, the lowest score on the cycle test is 84, while the best score is 100. 32 students pass. Consequently, the percentage of classical completeness is the percentage of mastery or classical absorption achieved in cycle 2 in the cognitive domain, which is 91%, and in the psychomotor domain, which is 94%. Thus, it can be said that 85% of students have achieved absorption in both the cognitive and psychomotor domains, indicating that learning is complete. Several essential points must be examined in light of the results of observations and evaluations gained in cycle 2, which were collected in cycle 2: Several essential considerations must be made in light of the outcomes of observations and evaluations gained in cycle 2, which were obtained from cycle 2:

1. Students are thriving and enjoying their use of the *Movement Card QR Code* media for education.

2. No longer a concern, 90 minutes is plenty time for students to examine the *Movement Card QR Code* material.

3. As indicated by the median value, student learning outcomes have improved.

Thus, it may be stated that the research process has met its achievement goal, and study has been halted until cycle 2. While based on the results of observations conducted through a questionnaire

addressing student replies to the execution of the learning process utilizing the *Movement Card QR Code* of 91.17% or being on a scale ranging from strongly agree to strongly interested attitudes.

DISCUSSION

From pre-cycle to cycle 1, there was a 20% rise, and from cycle one to cycle two, there was a 20.4% increase in cognitive elements and a 5.8% increase in psychomotor aspects. The second cycle saw an extremely significant increase. This occurs as a result of the QR code media's involvement in helping students better comprehend and evaluate the movements in the *Movement Card QR Code* so they can complete motion assignments. This result is consistent with the findings of Saleh (2018), which indicate that the QR Code has a favorable impact on learning comprehension.

(Thomson, 2009) explained that flexibility in learning will be provided by information and communication technology, and students' interest in learning will be increased by the assistance and simplicity of application provided. Therefore, it is appropriate for researchers to utilize the *Movement Card QR Code* media to examine the capacity of students to enhance student learning results. The *Movement Card QR Code* media can stimulate students to engage in active learning, As a result of using the *Movement Card QR Code* media, students will be more creative and imaginative in applying their learning method experiences directly to their peers, so fostering student freedom in learning. When examined from the perspective of the completeness of student learning, where the completeness of class for each cycle of the research results is cycle 1 in the cognitive domain at 70.58 % and the psychomotor domain at 88.23 %, psychomotor completeness is 88.23 %. Cycle II cognitive 91 percent, psychomotor 94 %. Consequently, the management of learning performed by the teacher improves. On a scale from strongly agreeing to disagreeing, 91.17 % of students who responded to a survey regarding the management of learning utilizing the *Movement Card QR Code* medium found themselves to be in agreement.

CONCLUSION

The curriculum's learning principles must inform the evolution of the learning process. The application of learning utilizing the *Movement Card Qr Code* conforms to the requirements of the 2013 curriculum as well as those of contemporary online learning., In order to maximize results, the utilization of *Movement Card Qr Code* media can enhance student learning outcomes in the subject matter. Analyzing the Long-Term Benefits of Physical Activity for the 11th grade MIPA 2 SMA Negeri 1 Kesesi. In addition, overall, 91.17 % of student replies to the *Movement Card QR Code* media for learning are strongly agreeing.

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REFERENCE

Aunurrahman. (2016). *Belajar dan Pembelajaran*. Bandung: Alfabeta

Depdiknas. 2003. *Undang-Undang No. 20 Tahun 2003, tentang Sistem Pendidikan Nasional*. Jakarta : Depdiknas.

De Pietro, O., & Fronter, G. (2012). *Mobile Tutoring for Situated Learning and Collaborative Learning in AIML Application Using QR-Code. 2012 Sixth International Conference on Complex, Intelligent, and Software Intensive Systems* (pp. 799-805). doi: 10.1109/CISIS.2012.154

Osawa, N., Noda, K., Tsukagoshi, S., Noma, Y., Ando, A., Shinuya, T., & Kondo, K. (2007). *Outdoor Education Support System with Location Awareness Using RFID and Symbology* Tags. Journal of Educational Multimedia and Hypermedia, 16(4), 411-428.

Guo, D., Cao, J., Wang, X., Fu, Q., & Li, Q. (2016). *Combating Qr-Code-Based Compromised Accounts In Mobile Social Networks. Sensors (Switzerland)*, 16(9), 1–17. Https://Doi. Org/10.3390/S16091522

Hamalik, Oemar.(2008). Perencanaan *Pengajaran Berdasarkan Pendekatan Sistem*. Jakarta: Bumi Aksara.

Kemmis, S & Mc Taggart, R. (1992). *The Action Reseacrh Planner*, Australia: Deakin University Press.

Meydanoglu, E. S. B. (2013). *Qr Code: An Interactive Mobile Advertising Tool*. International Journal Of Business And Social Research, 3(9), 26–32. Https://Doi.Org/10.18533/Ijbsr.V3i9.289

Nurming Saleh, Syukur Saud, Muhammad Nur Ashar Asnur (2018) *Pemanfaatan QR-Code sebagai media pembelajaran Bahasa Asing pada Perguruan Tinggi di Indonesia*. Seminar Nasional Dies Natalis UNM Ke 57. Universitas Negeri Makasar. 9 Juli 2018.

Permendikbud, (2014), *Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 59 Tahun 2014 Tentang Kurikulum 2013 Sekolah Menengah Atas/ Madrasah Aliyah*, Jakarta: Departemen Pendidikan dan Kebudayaan

Ridwan, F. Z., Santoso, H., & Agung, W. P. (2010). *Mengamankan single identity number (SIN) menggunakan QR code dan sidik jari. Nternet Working Indonesia Journal*, 2(2), 17–20.

Saleh, N. (2018). Pemanfaatan QR-Code sebagai Media Pembelajaran Bahasa Asing diPerguruan Tinggi di Indonesia. *Seminar Nasional Dies Natalis UNM Ke-57*, 253–260.

Sudjana, N. (2005). Dasar-dasar Proses Belajar Mengajar. Bandung: Balai Pustaka

Trianto. 2009. Mendesaian Model Pembelajaran Inovatif-Progresif.. Jakarta: Prestasi Pustaka.

Thomson, A. (2009). Thomson, A. (2009*). Lecturers see the benefits of mobiles in classrooms*. Retrieved March 24, 2012, from http://search.proquest.com/doc view/209486629?accountid=4846