



Digital literacy management in increasing student learning outcomes in health and sports physical education in drive schools

(Case Study of Sports and Health Physical Education Learning (PJOK) Athlete Students at SMA Negeri 1 Lembang, West Bandung Regency)

Suharyanto H Soro

Universitas Islam Nusantara, Bandung
suharyantosoro@uninus.ac.id

Lilis Syaripah

Universitas Islam Nusantara, Bandung
lilissyaripah@uninus.ac.id

Ali Taryana

Universitas Islam Nusantara, Bandung
alitaryana@uninus.ac.id

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Abstract

The term literacy in the world of education refers to a person's skills and abilities in the realm of reading, writing, speaking, calculating, and solving the problems he faces at a certain level in everyday life. In the school literacy guide compiled by the Ministry of Education and Culture, it is explained that literacy is the ability to access, understand, and use something and use something intelligently. These literacy activities can be carried out in various language activities, such as reading, writing, speaking, listening, and viewing. This study aims to determine the management of digital literacy on student learning outcomes in the Physical Education Sport and Health subject at Mobilizing Schools. Researchers use a qualitative paradigm with a case study approach. Methods of data collection using observation, interviews, document, and questionnaire. Respondents in this study amounted to 35 people. They were selected based on purposive sampling. The results of the study showed that digital sports science literacy management can improve the skills and competitive spirit of athlete students in the subjects of Physical Education, Sports and Health (PJOK).

Keyword

Management, Digital Literacy, Sports Physical Education, Mobilization Schools.

1. Introduction

Literacy is an inseparable part of education today. Each school has a literacy program in order to improve the quality of students. Literacy is not only related to reading and writing in the form of text. Literacy includes the ability to read, understand and appreciate various information obtained critically.

Literacy experiences continuous development. Initially, literacy was interpreted as a form of reading, writing, listening, speaking from ideas that were thought critically. With the times, especially technology, literacy is the ability to understand information presented from around it, both digital and textual. For digital literacy can be obtained from social media.

Health sports physical education, hereinafter referred to as PJOK, is one of the dominant subjects of a physical nature. In the previous learning, the dominant students studied in one direction. The teacher has a lot to explain. With digital literacy, students do not always get information from teachers. Students can get sports information from social media.

To facilitate digital literacy, school students provide infrastructure, including internet networks and gadgets. For students who don't have gadgets, the school lends them. Students do not need to pay for internet usage. Students can use it for free although sometimes the network used experiences problems due to the large number of users. Schools also sometimes provide free vouchers so students can do digital literacy at home. The school continues to improve the infrastructure so that students can study comfortably. This condition requires schools to pay large fees.

Student athletes are students whose implementation of learning is different from students in general. Students' study time is disturbed by practice and competition activities. Digital literacy is the right program for their learning. In PJOK lessons, the teacher does not always have to face-to-face. Teachers can use Google Classroom, WhatsApp, and other media to keep learning going. Similarly, students do not always provide learning outcomes directly. They can send their results digitally.

In the independent curriculum there are several methods for developing literacy, including optimizing library facilities. The library is a means of supporting the implementation of literacy. For habituation, students do reading activities 5 to 10 minutes in learning. Activities can be carried out in preliminary, core, or final activities of learning. In order to create a pleasant learning atmosphere, teachers can package it in the form of games, questions and answers, and so on. Learning outside the classroom can also help students create fun learning. Students are literate by observing events around them based on predetermined themes. The results of student observations are written in their notebooks.

The development of the times changed the way students learn. The implementation of student learning must be according to needs, meaningful and fun. Learning that is designed must be relevant, according to the context, environment, and student culture. Dalu (2019) learning problems including time, space/distance, media, limited learning resources, not meeting students' needs, and psychological barriers are reasons for researchers to use e-learning media. According to Dalu, the development of e-learning media is very suitable for the Z generation in terms of the current needs, characteristics and learning styles. From the results of his research, the results of student learning competency tests reached 81.7%. From the results of this study, teachers can vary the way of learning to students.

Research question

Based on the description above, the research questions can be formulated as follows.

1. How does the school plan, implement digital sports science literacy to improve skills and a competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students at SMA Negeri 1Lembang, West Bandung Regency?
2. What is the assessment of digital sports science literacy to improve skill abilities and a competitive spirit in the subject of Sports and Health Physical Education (PJOK) for athlete students at SMA Negeri 1 Lembang, West Bandung Regency?

Research purposes

This research aims to:

1. Knowing the planning and implementation of digital sport science literacy to improve skills and a competitive spirit in the subject of Sports and Health Physical Education (PJOK) for athlete students at SMA Negeri 1 Lembang, West Bandung Regency.
2. Identifying forms of digital sports science literacy assessment to improve skills and competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students at SMA Negeri 1 Lembang, West Bandung Regency.

2. Literature Review

Management

Information management requires students to be able to plan, monitor, control, and think critically. Education management as a special science dealing with the organization of education. Management as a tool to combat social exclusion needs to provide answers to uncertainties in the world of education. Educational institutions need to reposition or reposition to meet human needs in a very complex century through educational management.

There are four things related to education management, including planning, organizing, actualizing and controlling. These four things are abbreviated as POAC. Planning (Planning) is a systematic design to obtain the expected goals. Organizing (Organizing) is the whole process which includes people, tools, tasks, responsibilities as a unit in order to achieve the goals that have been set. Implementation (Actuating) are the actions taken to achieve goals in accordance with the efforts of the organization with planning. Supervision (Controlling) is the process of observing the implementation of all activities that are being carried out so that they are in accordance with a predetermined plan.

One of the important elements in organization is management. Management can manage all program activities of an organization well. Every part of the educational organization requires good management so that the expected goals can be achieved quickly. Any deficiencies will be easily identified and immediately corrected. This will greatly affect the progress of an organization.

Management is an important element in the implementation of any educational organization program. In educational institutions, all elements of the implementation of education will work well if managed using management concepts and principles. Management principles that are implemented correctly and well will have an impact on the efficiency of program implementation, increasing the quality and productivity of education. Finally, the productivity of education makes quality institutions. Management in the implementation of educational programs is not a goal, but a tool. The tool is used as a method to achieve quality and improve the expected performance. Proper management will help achieve the expected goals. Therefore, determining the appropriate management requires prior analysis in various aspects.

Digital Literacy Physical Education Sports Health

Digital literacy is an activity using ICT and internet capabilities. Students can form themselves into individuals who are qualified for the competencies they have. These competencies are expected to help overcome problems due to the development of the times. Bawden (2001), explains that digital literacy is the ability to read and understand information in the form of hypertext or multimedia formats (in the form of text images, audio and video). Fidiastuti (2019) states that the results of digital corner research can increase learning motivation and new literacy, both for teachers and students.

Digital literacy is a student's ability to receive information that is interpreted, analyzed, and so on from everything that happens around him. The activity of obtaining this information uses tools such as cellphones, computers, books, e-books, blogs, CDs and DVDs and so on. From the results of digital literacy, students can develop emotional abilities, feel what is felt by themselves and others through one message.

Digital literacy improves students' abilities not only in the form of text that must be read, but students can use their hearing, eyes, feelings and so on to

process information obtained around them. Pratiwi (2017) explains that digital literacy is a new era of development in the world of reading and writing. Hague through Kurniasih (2017) suggests digital literacy is the ability to create and share in different modes; to create, collaborate, and communicate more effectively through technology. Furthermore, Kurniasih stated that digital information resources are very abundant due to advances in information technology and the internet. The characteristics of digital literacy do not only refer to skills in operating or using technological devices (hardware and software platforms) but also to the process of reading, understanding, creating, writing into new knowledge that can be informed and communicated to all parties.

A'yuni (2015) stated that digital literacy is the ability to use information from various digital sources. This digital literacy competency is useful for dealing with the explosion of information due to the emergence of the internet. In fact, currently internet users are increasing and the majority are teenagers. There are various functions of the internet, not only used to find academic information, but also to build relationships through social networking sites. Sahidilah (2019) argued that students' digital literacy skills are related to students' skills related to the four language skills, namely listening, speaking, reading, tasting and writing.

Maulana (2015) stated that digital literacy is the ability to use and understand the use of communication and information technology. Digital literacy has many benefits, for example being able to find valuable information to make better decisions. Digital literacy is not just about finding, using and disseminating information, but creating and evaluating information. The accuracy of the application used in deepening information in a content greatly affects understanding and critical thinking.

Digital literacy learning is closely related to e-learning. In digital literacy learning, several obstacles arise. According to Dewi (2022), these obstacles include: (1) Aspects of student attitudes. Students lack discipline in collecting assignments. Even though the timeliness of collection is very concerned; (2) Students do not deposit digital literacy results; (3) Students do not understand the material provided by the teacher; (4) As a result the movement to assess students' skills is not quite right; (5) Students want to learn PJOK directly because there are some movements that are difficult to practice; (6) Inadequate infrastructure such as weak internet network, limited internet quota makes students not optimal in learning; (7) Interaction between friends and teachers is limited during learning so they cannot directly overcome difficulties in the learning process.

Dewi (2021) also explains the advantages of digital literacy, namely (1) learning is more practical and easier; (2) students' intrinsic motivation (needs, pleasure, knowledge, attention and achievement) is obtained through the use of applications and technology, such as the use of cell phones which are an integral part of students' daily needs; (3) The learning process is innovative because the learning process is IT-based.

To assist athletes in improving their sports performance, it is necessary to apply sport science. Sport science is the application of several supporting sciences in sports. Sport science consists of sports physiology, sport Nutrition, sports medicine, sports biomechanics, and anthropometry, coaching, sports intelligence, research, and sports gear. In addition to helping the handling of post-injury athletes. Body changes resulting from the training program given by the trainer such as the work of the heart and lungs, as well as the biochemical changes that occur in the muscles are studied in Sport physiology.

Sports biomechanics deals with human movement. Human movement during exercise, the mechanics of the up and down movement of the arm which is usually done in the bicep curl movement. Biomechanics studies the principle of levers consisting of the pivot/fulcrum, force strength, and weight/load, and analyzes the force exerted by all muscles in sports. Biomechanics as an area of sports science provides motion analysis to improve athlete performance.

The important role of sport psychology in sports is handling athletes mentally/emotionally both in the training phase, the preparation phase, and the competition phase. Athletes can perform better and consistently, experience a better quality match, and mental capacity can be improved or developed both in practice and competition. Athletes' thoughts, feelings and emotions can be controlled and do not interfere with their performance.

3. Research Method

According to Sugiyono (2022) explaining the qualitative method or postpositivism is an artistic method because the research process lacks pattern or interpretive. The research is descriptive in nature. The research results are interpreted or explained according to the data obtained in the field. The research objects influence each other, it is not known whether they are dependent or independent. The research object is natural, not manipulated by researchers. In qualitative research, the instrument is people, namely the researchers themselves. Therefore, researchers must have analyzing, asking, documenting and constructing to be meaningful. For a broader understanding, the collection technique must be triangulated or combined.

Based on the explanation above, the research paradigm used in this study is a qualitative paradigm. Descriptive qualitative method analyzes, describes the results of research data in depth by collecting data thoroughly and completely. Through this method, it is hoped that researchers will obtain data and information regarding digital sports science literacy which can improve the skills and competitive spirit of athlete students in the subject of Physical Education, Sports and Health (PJOK) at SMAN 1 Lembang, West Bandung Regency.

The data analysis technique was carried out by means of triangulation, namely a combination of observation, interview, documentation, and questionnaire methods. This technique is expected to help produce new findings based on complete and comprehensive data. This research was conducted at SMA Negeri 1

Lembang, West Bandung Regency with a total sample of 35 people selected by Purpose Sampling. As for the subjects of the research were athlete class X students at SMA Negeri 1 Lembang, West Bandung Regency. Class X students this year are already using the independent curriculum. So, the application of PJOK subject learning is based on the independent curriculum.

4. Discussion

Student athletes must improve their ability and competition in order to obtain maximum results in competing. To find out if his sports ability has increased, the teacher conducts two assessments, namely before and after doing digital literacy. Furthermore, the teacher gives assignments to students to carry out digital literacy through various media, such as YouTube, Instagram, Tiktok and so on related to the sports they are in charge of. Students deposit their digital literacy results according to the PJOK learning schedule. Students report their digital literacy results in the column provided in the Google Classroom by including evidence of their digital literacy results in the form of videos or photos. The teacher recapitulates students' digital literacy results every week and provides an assessment. The following is an example of a picture of submitting student digital literacy results.

SMA Negeri 1 Lembang programs this literacy activity as a continuous program in the curriculum. This literacy program is integrated into all activities at school, both intra-curricular and extra-curricular. Teachers include literacy activities in their learning. Its implementation is adapted to the conditions. All students must do it. Students are provided with an application to deposit their literacy results at least once a week. For athlete students, the implementation of literacy is carried out digitally. This is to facilitate athletes in its implementation. Training time and match schedules affect these conditions. To search for books or read books manually takes time. This reason is the choice of implementing digital athlete literacy.

The media he reads may be from books and social media. For this type of book, students can exchange reading books with friends through the communication application. The collection of books in the library is still small. As a result, students prefer to exchange books with friends because they are more varied and interesting. Sources of sports science in Indonesia are still rare. Therefore, athlete students choose other media such as YouTube, Google, TikTok, Instagram, and other media that facilitate literacy implementation. Implementation of digital literacy is the best choice to overcome this.

For digital literacy programs, an application is provided to send the results. The athlete learning application is also the same as other regular students, namely via a link on Google Classroom. Teachers do not receive the results of their reports independently or separately so that they are more focused, make examination easier, and are not scattered.

To find out students' abilities and competitive spirit from the results of digital literacy, the teacher conducts practical tests at the next meeting or according to

the students' time conditions. The time for assessment is adjusted to the conditions of student activity because it is not uncommon for athlete students to have a busy time with their competitive activities outside of school. However, from the results of the teacher's assessment, the ability and competitive spirit of the students got better.

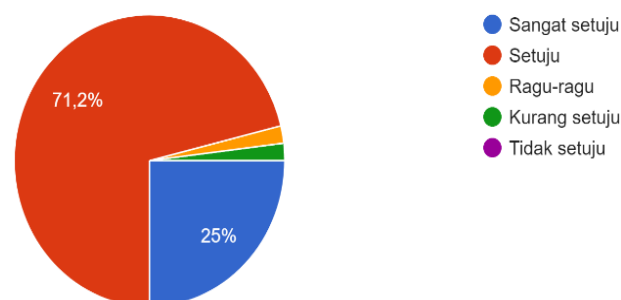
In the table the development of students' abilities is better after doing digital sports science literacy. Digital literacy has many positive impacts on students' abilities and competitive spirit. Various elements in sports science that affect athletes are experiencing good development. The average results of the sport science elements are in the criteria of Developing As Expected (BSH) or SB (Highly Developed)

In order for the literacy program to run well, schools need help from various parties such as families and other stakeholders. Families can help monitor literacy while at home. Coaches from student athlete clubs can also monitor the development of students' abilities and competitive spirit from the results of students' digital sports science literacy.

This literacy movement will involve all parties related to education, from the center, provinces, districts/cities to educational units. Likewise the community and parents are needed in the success of this movement. The following is a display of data sourced from the questionnaire.

Planning for digital sports science literacy to improve skill abilities and a competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students at SMA Negeri 1 Lembang, West Bandung Regency. Before the research was carried out, a preliminary study was carried out on students with the following results.

Siswa atlet perlu melakukan digital literasi untuk meningkatkan kemampuan dan kompetisi
52 jawaban



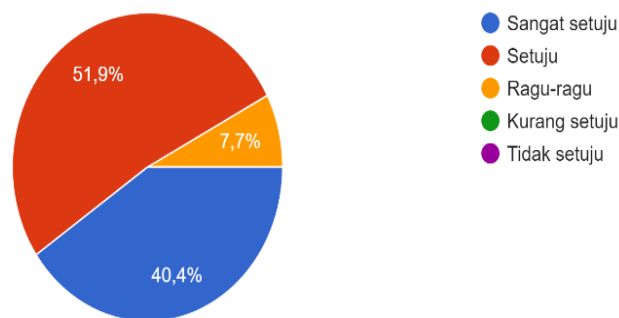
From the results of the questionnaire, it was explained that the majority agreed that students really needed to do digital literacy to improve their abilities and competitive spirit by 71.2%. Those who stated strongly agreed 25%. These results can be concluded as a positive response to digital literacy. From these data it is clear that students' digital literacy is very useful in knowledge and improving

student abilities and performance. Students do not always get information from the coach. The results of the knowledge obtained from the results of digital literacy are discussed with trainers and teachers. The coach or teacher will give proper consideration according to the conditions needed by the athlete.

Implementation of digital sports science literacy to improve skills and a competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students at SMA Negeri 1 Lembang, West Bandung Regency. In implementing digital literacy, students are dominant looking for sports science reading materials via YouTube, Google, TikTok and Instagram. Sport science material in written form is still very difficult. This is because sport science in Indonesia cannot be implemented yet. Various obstacles in its implementation. The application of sports science, which takes a long time, cannot be done instantly. The costs required also require a large amount because it involves various parties that need to be considered so that the athlete's performance and abilities can be maximized. The following diagram describes the media used by students in learning.

Siswa atlet menggunakan digital literasi melalui youtube, google, tiktok, instagram untuk mendapatkan berbagai informasi yang dibutuhkan berkaitan dengan olahraga yang diampunya.

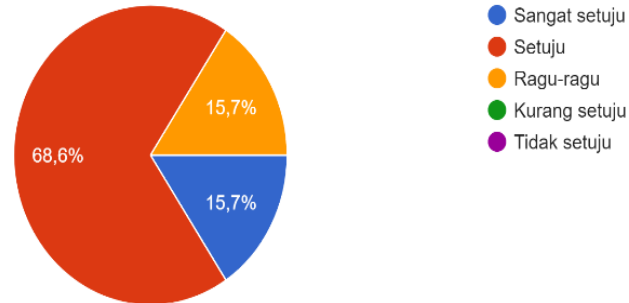
52 jawaban



The average student uses dominant social media such as YouTube, Tiktok and Instagram to get information related to the sport they are in charge of. Students who strongly agreed were 40.4%, those who agreed were 51.9%, and those who expressed doubt were 7.7%. Dominant students use social media because these applications are often accessed by students in everyday life. The application is considered by students to be more interesting and easier to use. Students who express doubts because students think the input or direction from the coach must be better and according to their needs. The coach knows better his weaknesses and progress of his abilities. In addition, the factor of students' low interest in reading resulted in the implementation of students' digital literacy being hampered.

Digital literasi dapat menjadi salah sat kebiasaan untuk meningkatkan kemampuan dan kompetisi siswa.

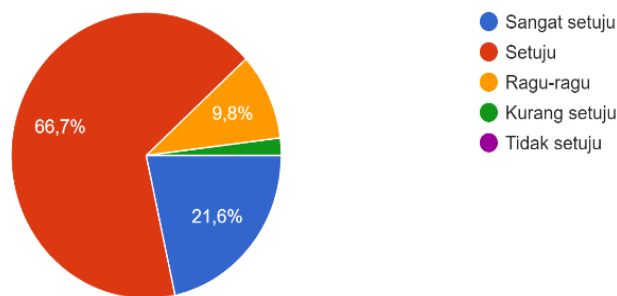
51 jawaban



Most of the students stated that they agreed that the results of digital literacy could improve their abilities and competitive spirit. However, 15.7% of students expressed doubts because the dominant thing that needed to be done was regular practice. The reason is, in this technological era athletes should be able to use digital facilities so that they are practical and easy to use. Athletes must be skilled in using technology to improve their abilities. All information will be easily obtained just by sitting in one place. Although sometimes the views of each expert on the subject matter conveyed by each source have differences.

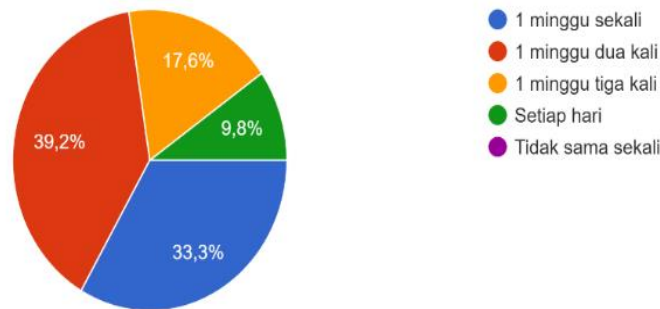
Pelatih atau guru PJOK menggunakan digital literasi untuk menambah pengetahuan berkaitan olahraga yang diampu

51 jawaban



PJOK trainers or teachers use digital literacy by providing YouTube links or social media in explaining sports that can improve students' abilities cognitively. Students listen and practice it. Trainers or teachers can add knowledge from various sources, both from journals and so on. The results of research articles published in journals will be more accountable. Sport science is widely discussed in foreign journals. In Indonesia, there are still few references. The results of his research explain that sport science has been proven by experts to improve athlete performance.

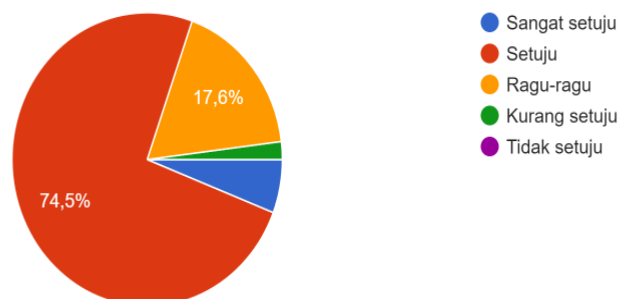
Siswa melakukan digital literasi
51 jawaban



Students carry out various digital literacy. There are once a week the number is 33.3%. Students who do 1 week 2 times 39.2%. The number is greater than the others. Students who do digital literacy three times a week are 17.6%, and only 9.8% every day. Students who deposit digital literacy twice a week have a good reading speed and they have free time or no practice and match schedules. Students who regularly collect digital literacy results are more likely to develop their abilities.

Assessment of digital sports science literacy to improve skill abilities and competitive spirit in the subject of Sports and Health Physical Education (PJOK) for athlete students at SMA Negeri 1 Lembang, West Bandung Regency. Assessment is carried out through the development of students' abilities from the results of digital literacy. The ability of students can be seen from the achievements obtained through the matches that are followed. The results of the student questionnaire can be seen in the diagram below.

Siswa mampu menafsirkan, mengungkapkan informasi dengan kata-katanya sendiri tentang pengetahuan yang telah dipelajari
51 jawaban

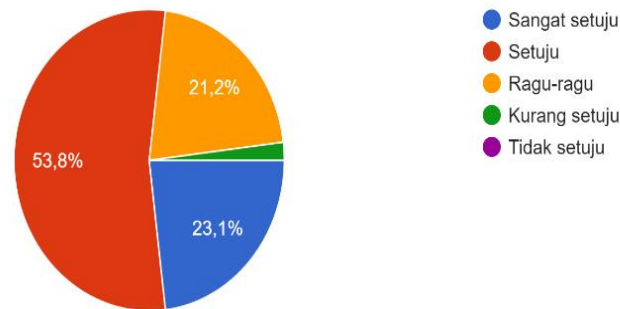


Factors supporting and inhibiting digital sport science literacy to improve skills and a competitive spirit in the Physical Education Sport and Health (PJOK)

subject for athlete students at SMA Negeri 1 Lembang, West Bandung Regency. Supporting and inhibiting factors influence the implementation of students' digital sports science literacy. Supporting factors can help improve its ability. Conversely, inhibiting factors can have a negative effect on the development of student athlete abilities. The following are the supporting and inhibiting factors for implementing digital sports science literacy for students.

Siswa mampu menganalisis perkembangan kemampuannya sendiri.

52 jawaban



Factors supporting digital literacy, students can analyze the development of their abilities. Students who agreed that they could analyze their own abilities were 53.8%. Those who strongly agreed were 23.1% and the remaining 21.2% said they were unsure. Sport Science can increase students' self-confidence. Students can obtain information from various sources to further convince the knowledge they have acquired. Broadly speaking, students can analyze their abilities independently, but in detail it requires views or input from other parties or experts. Views or input from experts will be more accurate in the development of their abilities.

Conclusion

The school plans digital sports science literacy to improve skills and a competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students at SMA Negeri 1 Lembang, West Bandung Regency, to be included in a sustainable curriculum program. The curriculum involves all elements in planning this digital literacy activity so that it can run smoothly as expected. The implementation of digital literacy for athlete students in the PJOK subject is devoted to discussing sports science related to the sports they teach. This is in accordance with the independent curriculum that the learning materials provided must be essential and according to the needs of students. The results are expected to improve the ability and spirit of competition.

Digital sports science literacy assessment to improve skills and competitive spirit in the Physical Education Sport and Health (PJOK) subject for athlete students

at SMA Negeri 1 Lembang, West Bandung Regency, uses learning achievement criteria according to the independent curriculum. The follow-up of digital sport science literacy is hoped to be able to support and improve the abilities of the sports they are in charge of. The results obtained can be communicated with the coach. This method can help condition the athlete's needs for the next stage.

Supporting and inhibiting factors of digital sport science literacy affect the smooth implementation of digital literacy. Supporting factors are various positive things that can improve the ability and spirit of competition. Inhibiting factors are network disruption, difficulty finding sports science materials, low interest in reading, timing, required costs, and athlete fatigue.

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