



The Importance of Developing Learning Resource Centers to Improve the Quality of Learning in Remote, Disadvantaged, Leading Areas

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Abstract. The background of this article is the fact that the learning resources available in every school, university, and other educational institutions have not been managed and utilized to the maximum for the benefit of learning. This is one of the factors causing the low quality of education. In addition, educational institutions directly affected by the Covid-19 pandemic must run a virtual learning process. In situations like this, educators and learners need to vary learning resources online. The learning resource center can help to facilitate the learning process by providing accessible learning resources for free. Many and varied learning resources will be effective if managed and enabled to the maximum and systematically organized in the form of learning resource centers (LRC). A learning resource center as a unit within an institution (especially schools, universities, other education institutions) that provides a variety of learning resources that have been organized in the learning system to meet the needs of educators and learners. Thus, the learning resource center becomes a support system to encourage the effectiveness and optimization of learning processes and objectives. The article was written using a literature study method through a descriptive approach to determine the importance of developing learning resource centers to improve the quality of learning. The results of this study show that learning resource centers that provide a variety of learning resources can improve the quality of learning. Therefore, schools, universities, and other educational institutions, especially in remote, disadvantaged, and leading areas, need to develop and utilize learning resource centers as constructive solutions to improve the quality of learning and education.

Keywords: learning resource center · educators · learners · education · learning

1 Introduction

The quality of education, from basic education to higher education, is determined by eight (8) norms established by the government. Government Regulation No. 19 of 2005

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concerning National Education Standards has formulated eight national standards of education, namely content standards, graduate competency standards, standards of educators and education personnel, management standards, assessment standards, infrastructure standards, educational process standards, and education cost standards [1]. Quality education should run these eight standards. One of the important standards to support the implementation of quality education is the standard of infrastructure. All educational units must be equipped with educational facilities such as educational media, educational equipment, books, and learning resources, furniture, and other equipment. Besides, each education unit must be equipped with educational infrastructures such as land, classrooms, educator rooms, sports rooms, library rooms, and other supporting infrastructure. Standard infrastructure is needed to support the implementation of other standards. Thus, all national standards of education must complement each other in order to achieve a good quality of education.

Learning resources as an integral part of infrastructure standards become one of the factors that can improve the quality of education. Learning resources by design and learning resources by utilization [2]. This means that learning resources can be specifically designed for learning purposes (by design) and not intentionally designed for learning purposes, but can be utilized for learning purposes (by utilization). Learning resources consist of many types, namely: message, people, materials (materials/software), tools (devices/hardware), techniques (techniques), and environment (setting) [3, 4]. These learning resources are used to facilitate learning and improve the performance of learners. These many and diverse learning resources can only be managed systematically and centrally if there is a learning resource center (LRC). The learning resource center serves as an institution that provides a variety of learning resources that have been organized into the learning system to meet the needs of educators and learners. The learning resource center becomes a support system to achieve educational goals and learning processes. The learning resource center plays an important role in improving the quality of learning.

In spite of its importance for improving the quality of learning, the fact proves that the learning resources available in every school, university, and other educational institutions have not been managed and utilized to the maximum. As a result, learning resources have not been utilized to the maximum for the benefit of learning. In addition, schools, universities, and educational institutions located in the category three (3) T areas that are remote, lagging, and leading in Indonesia do not yet have learning resource centers that can provide learning resources. Students lack access to learning resources. This is one of the factors causing the low quality of education. The learning process will be qualified if supported by adequate and well-organized learning resource facilities in a specialized institution.

The application of educational technology by utilizing learning resources is one of the alternatives to solving educational and learning problems in Indonesia. This means that learning resources are designed, utilized, and managed for learning purposes. The practical application of educational technology implementation in problem-solving learning is to provide learning resources that facilitate learners to learn [5]. In the context of educational technology, learning resources are components of learning systems that are designed in advance in the process of design or selection and utilization and combined

into a complete learning system to realize the implementation of a purposeful and controlled learning process. Education technology seeks to design, develop, organize and utilize various learning resources, to facilitate learners to learn. Learning resource centers that provide adequate learning resources are urgently needed by educators and learners, especially during the current Covid-19 pandemic. With it, educators and learners can obtain varied and accessible learning resources online. Students can also conduct the learning process independently by accessing the learning resources that have been prepared through the learning resource center.

Based on some of these concepts, the learning resource center is highly significant to be developed and utilized in every educational unit, university, or other educational institution because the learning resource center can provide a number of learning resources to improve the quality of learning processes and outcomes. This article was developed to generate constructive ideas about the importance of developing learning resource centers to improve the quality of learning. This article contains ideas about learning resources and learning resource centers as well as the importance of developing learning resource centers in remote, disadvantaged, and leading areas to improve the quality of learning, especially during the covid-19 pandemic as one of the innovative alternatives in providing adequate learning resources.

2 Research Method

The method used in this article is the literature review method. Literature research is a type of research used in the collection of information and in-depth data through various works literature, books, notes, magazines, other references, as well as the results of previous relevant research, to obtain answers and the theoretical basis on the problem to be studied [6]. Therefore, the author conducts several research topics, exploratory information, determines the focus of research, collects data sources, reads data sources, makes research records, processes research records, and makes reports in the form of scientific articles.

3 Result and Discussion

3.1 Rational Reasons for the Development of Learning Resource Centers

The development of learning resource centers in the context of remote, disadvantaged, and advanced areas is very important because two (2) rational reasons as follows:

First. Improving the Quality of Education and Learning. The quality of education and learning is determined by the availability of learning resources. In general, these 3T categorized areas are inadequate in terms of learning resources, incomplete libraries provide learning resources, and have not been organized in an official institution [7, 8]. Many studies mention that one of the causes of the low quality of education in Indonesia, especially in areas categorized as 3 T is due to lack of learning resources for educators and learners. In addition, the learning resource center is not well managed and systematic. These facts were conveyed by Prof. Dr. Hafid Abbas in a book entitled "Straightening the Direction of Education" [9]. Prof Hafid raised several national education issues in the last

Table 1. Program for International Student Assessment (PISA) 2018

Country	Ranking	Read	Math	Science
Singapura	2	549	569	551
Malaysia	56	415	440	438
Brunei Darussalam	59	408	430	431
Thailand	66	393	419	426
Indonesia	72	371	379	396
Filipina	77	340	353	357
OECD Average		487	489	489

Source: OECD.org, Summarized by Kompas/DEW < https://www.oecd.org/pisa/publications/PISA2018_CN_IDN.pdf > (Downloaded December 1, 2020)

two decades, namely teacher issues, curriculum, national examinations, education budget management, standardization, certification, compulsory learning, issues of pluralism, human rights, and the threat of national disintegration [9]. Prof Hafid stressed that the problem arose because the management of education in various lines was considered to have urgent disorientation as soon as it was corrected in the right direction. For example, why with a very large education budget - at least 20 percent of the State Budget and APBD - aspects of Indonesian education are rated the lowest in the world. Why is a teacher certification program that costs hundreds of trillions, but the results are the same as without a certification program? On that basis, Prof Hafid writes that the need to straighten the direction of education as an effort to guide the direction of policy, planning, and education at all levels, types, and paths so as not to be misguided [9]. One of the efforts to straighten out education in Indonesia is to provide adequate educational infrastructure and affordable for educators and learners. That is, straightening the direction of education aims to improve the quality of education. The improvement is primarily directed at improving the education process because the learning process is a factor that directly determines the quality of learning [10]. One of the things that need to be considered in the learning process to take place professionally is to provide adequate learning resources. Therefore, quality improvement is also related to the importance of developing learning resource centers that can provide learning resources for the learning interests of learners.

Another study that shows the quality of education in Indonesia has not changed significantly is a report from the Programme for International Student Assessment (PISA) released by the Organisation for Economic Co-Operation and Development (OECD) in 2018. The report was obtained by testing the academic performance of secondary school children in reading, math, and science skills. This report puts Indonesia at the bottom of the list, which is ranked 72nd out of 78 countries (Tables 1 and 2).

This data shows that Indonesia is still far below neighboring countries such as Malaysia, Brunei Darussalam, and Thailand let alone Singapore. Accumulatively, Indonesian students' ability score is only 1,146 points. This figure decreased by 3.4 percent compared to the 2015 PISA results by 1,186 points. Even those scores are below

Table 2. Comparison of Indonesia PISA Results 2015 and 2018

Year	Reading	Mathematics	Science
2015	397	386	403
2018	371	379	396

Source: OECD.org, Summarized by Kompas/DEW < https://www.oecd.org/pisa/publications/PISA2018_CN_IDN.pdf > (Downloaded December 1, 2020)

the OECD average. Data shows that Indonesian students' ability to read, mathematics, and science is among the lowest in the world.

Second. Providing Learning Resources during the Covid-19 Pandemic. Since the enactment of the disaster emergency status due to the Covid-19 pandemic on February 29, 2020, the Indonesian government has instructed people to stay at home, work from home, pray from home, and study from home. This instruction aims to ensure that there is no mass gathering that causes the rapid transmission of this virus [11]. In the instruction, it is emphasized that everyone needs to keep their distance (social distancing) by staying at home, reducing other public activities, not allow someone to shake hands, and keeping a distance of at least one meter when interacting with others. This is where actually society globally is expected to be able to maintain physical distancing.

The spread of Covid-19 has not only impacted the crippled economic sector. Educational activities from elementary education level to higher education also feel the impact of Covid-19. Institutions cannot carry out the process of face-to-face education as usual. The education process has changed, namely having to carry out online learning or e-learning [12]. Educational institutions must change the learning model (approach, strategy, method, technique, or tactic) to online learning. An educator must be skilled in creating, innovation, and variety in the learning process. Teachers can use e-learning developed in schools and google classrooms, which vary face-to-face online with interesting apps. Online learning is directed to keep learners learning experiences that are equivalent to face-to-face learning.

In this context, educational units, universities, and other educational institutions must develop learning resource centers that can provide online learning resources. Thus, educators and learners can access these learning resources for virtual learning activities.

3.2 Learning Resources and Learning Resource Center

3.2.1 Learning Resources are Interpreted as Something that can be used to Support and Facilitate the Learning Process

This is in line with the meaning of learning resources in the Dictionary of Instructional Technology (1986) which states that learning resources are "any resources (people, instructional materials, instructional hardwares, etc.) which may be used by a learner to bring about or facilitate learning" [13].

Association for Educational Communication and Technology (AECT) stated that learning resources are all sources in the form of data, people, and certain forms that can be used by learners in learning, both separately and combined to facilitate learners in

achieving learning goals or providing facilities or learning facilities for learners [14]. Learning resources can be developed by design and by utilization [2, 4] to facilitate learning activities (facilitating learning) and improve the learning performance of learners (improving performance) [4, 15]. The learning resource component determines the success of learners in learning [16].

Based on this understanding, learning resources are everything that can be used to facilitate learning and improve the performance of learners in learning. Learning consists of messages, people, materials, tools, techniques, and backgrounds, which can be used separately or combined, where the utilization can be specifically designed or simply utilized from everything that is already available.

3.2.2 Types of Learning Resources There are Many Types of Learning Resources

The learning resources should be able to help learners to learn. Each learning resource must contain a learning message and there must be a reciprocal interaction between the learner and the learning source [16]. Classification of learning resources by type or origin consists of two types [3, 4, 10] namely: (a) Learning resources by design. Learning resources designed are learning resources that are specifically or intentionally designed or developed to achieve learning objectives, such as textbooks or lessons, LKS, modules, teaching materials, practicum instructions, transparency, films, encyclopedias, brochures, film strips, slides, VCD learning programs, audio learning programs, CAI (computer-assisted instruction), programmed instruction, and video learning; (b) Learning resources by utilization. Learning resources that are not specifically designed or developed for learning purposes, but can be selected and utilized for learning purposes, such as newspapers, television broadcasts, markets, museums, zoos, historic places of worship, public spaces, government, community leaders, and religious leaders, etc.

Based on these classifications, the learning resources can be in the form of messages, people, materials, hardware, techniques, settings. All kinds of learning resources are aimed at facilitating learners in learning. The classification of learning resources designed and used or utilized can be described in the following Table 3 [3]:

3.2.3 Learning Resource Center

The existence of more and more diverse learning resources, in its utilization, needs to be managed systematically and centrally, so that the concept of learning resource centers arise. In other words, learning resources need to be managed professionally by a special unit called a learning resource center. Learning resource centers are often called alternately without eliminating the essence of their meaning, with various terms such as learning laboratory, learning center, media center, learning resources center, center for learning resources, and so on. The learning resource center is: "A place - which can be anything from part of a room to a complex of buildings - that is set up especially for housing, and making available for use, a collection of learning materials in different media, or for providing facilities for the production as same" [15, 17]. Merrill and Drob refer to the learning resource center as the Center for Learning Resources, which is defined as: "An organized activity consisting of a director, staff, and equipment housed in one or more specialized facilities for the production, procurement, and presentation of

Table 3. Classification of Types of Learning Resources

Types of Learning Resources		Definition	Example	
			By Design	By Utilization
1	Message	Information that must be channeled by other components in the form of ideas, facts, understandings, and data	Lesson materials	Folklore, fairy tales, and advice
2	People	The person who stores the information or distributes the information. Not included in the function of developing and managing learning resources	Teachers, actors, students, speakers. Excluding technicians, curriculum teams	Resource persons, community leaders, office leaders, respondents
3	Materials	Something can be called media/software containing messages to be presented through the use of tools	Transparency, movies, slides, tape, books, pictures, etc.	Relief, temple, statue, engineering equipment
4	Hardware	Something can be called media/hardware that transmits messages to be presented in the software	OHP, LCD, slide projector, film, tv, camera, whiteboard	Generators, engines, tools, cars
5	Technique	Procedures prepared in using learning materials, equipment, situations, and people to convey the message	Lectures, discussions, sociodrama, simulations, lectures, and learning	Games, sarasehan, ordinary/spontaneous conversations
6	Setting	The surrounding situation in which the message is transmitted	Classrooms, studios, libraries, laboratories	Parks, gardens, markets, museums, shops, banks, etc.

instructional materials and the provision of developmental and planning services related to the curriculum and teaching on a general university campus” [18, 19].

Based on a number of these definitions, a learning resource center is a unit in an educational institution that serves to create the effectiveness of learning through the utilization and management of various learning resources appropriately. Or the learning resource center as a place where there are organized activities, led by a chairman supported by all staff, production equipment, and adequate funds, who run the program actively in the design, development, utilization, management, and evaluation of learning resources, to facilitate and improve the learning outcomes and learning of individuals and groups, as well as provide development and planning services related to curriculum and learning. Learning resource center is a special unit in an educational institution that serves to provide services to learners, educators, and education managers in terms of procurement, development, production, maintenance, and utilization of various learning resources so that learning activities can run effectively and efficiently [17, 20]. A learning resource center is an institution that provides a variety of learning resources that have been organized into the learning system to meet the needs of educators and learners. In this case, the learning resource center becomes a support system to achieve educational goals and learning processes.

The learning resource center can develop and function according to the needs of the institution or school. The most important thing in its application is the effectiveness of each function in supporting the achievement of learning goals or competencies. In general, each learning resource center has a dominant function as its main characteristic.

The learning resource center has the following functions [3, 10]:

- **Instructional System Development Function.** This is the main function of the learning resource center. The activity of the learning resource center starts from this function and then spreads to other functions. This function helps teachers, lecturers, and facilitators design learning and selection options to improve the effectiveness and efficiency of the learning process.
- **Function of Learning Media Services.** This function provides services for learning media needs to teachers, lecturers, and facilitators. This is done by choosing the right media, presenting techniques, and utilizing various other types of media. Meanwhile, services to learners in the form of individual or group learning services based on media, especially audio-visual learning media or other electronic media.
- **Learning Media Production Function.** This function relates to the provision of learning media or instructional materials that cannot be obtained through tradeable sources. The learning resource center must produce the media in accordance with the needs of the existing curriculum
- **Training Function.** This function is related to efforts to improve the ability of human resources, both teaching staff and other administrative staff as well as the community as users.
- **Administrative Functions.** This function is responsible for the management of services, learning resources, and administration of other functions. Thus, the service system to the users of the learning resource center can take place in an orderly and smooth manner. A learning resource center does not have to have all the functions that exist,

but certainly some of those functions. The main thing is the effectiveness of each function in achieving learning goals or competencies.

3.3 Development of Learning Resource Center to Improve the Quality of Learning

Learning resource centers are an integral part of the learning system. If you want to achieve learning competencies, then the existence of a learning resource center becomes a necessity in every institution (school/college) because the learning resource center that provides learning resources not only contributes to the improvement of students' achievements but also appreciates the differences of each learner, encourages self-reliance on learning and fosters a responsible attitude in learners related to the learning process [21]. In this context, the learning resource center plays an important role in the learning process. That is, the systematic use of learning resource centers needs to be done in schools, universities, and other educational institutions.

Therefore, it is necessary to empower adequate learning resources for the benefit of learning. The results of E.C. Jimenez's research on the utilization of adequate learning resources turned out to be useful or beneficial for improving the quality of learning of learners [22]. Technically, the learning resource center can be a laboratory for all subjects that students can use directly or through the help of teachers. This can be done because the learning resource center serves to design and meet the needs of learning as a whole. Thus, learners can use the learning resources available in the learning resource center directly either individually or in groups. The learning resource center provides media programs specifically designed to achieve learning goals or competencies. Audio-visual programs available in the learning resource center can lead learners to achieve certain competencies. Learners can first watch a video program about something learned before experimenting. Once the learner understands what he or she is going to do, then the student conducts an experiment. Thus, learners can achieve certain competencies according to their speed in learning. Teachers as facilitators can prepare all their teaching needs such as media used and presenting techniques in the learning resource center before performing in front of the class. The quality of learning like this will have an impact on the learning outcomes of learners. In addition, learning resource centers with their functions can synergize to improve the overall quality of human resources, especially for teachers, lecturers, facilitators, and learning managers involved in the development of instructional systems. With the increasing quality of human resources, the quality of education in schools and universities can be increased optimally.

Schools, universities, and other educational institutions can develop learning resource centers as a form of implementation of five (5) Education Technology areas namely design, development, utilization, management, evaluation [14] because educational technology aims to facilitate learning and improve performance. This goal can be achieved in the event of optimization of the learning process and utilization of learning resources. By implementing the five areas of educational technology, the learning resource center developed has been involved in the field of education [18], namely: (1) utilizing information and communication technology to overcome problems in the field of education both conceptually and practically; (2) develop and produce the learning resources needed in education; (3) manage the program and network of cooperation

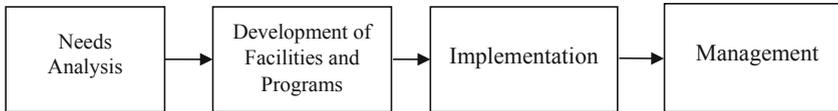


Fig. 1. Stages of Learning Resource Center Development

institutions; (4) develop resources (quality and quantity) through excellent programs carried out.

Based on the study above, the development of learning resource centers becomes a necessity in remote, disadvantaged, and leading areas (3T). Learning resource centers need to be developed to improve the quality of learning and even the quality of education by providing adequate learning resources and providing learning resources that can be accessed online and for free during the Covid-19 pandemic. In developing the learning resource center, it is necessary to pay attention to the following steps [3]: (1) oriented to learners who learn or serve to provide services to learners; (2) decentralization, which means that the placement of materials in the form of software and hardware media disseminated anywhere throughout the learning process may be served, such as learning centers, in the classroom, or used individually at home; (3) learning materials are produced and maintained locally; (4) Media programs are developed in an integrated instructional process. Meanwhile, the principle of developing learning resource centers is to be able to achieve learning objectives, in accordance with the characteristics of learners, and provide convenience for learners in learning.

Therefore, the development of an effective and efficient learning resource center needs to make careful planning and adequate resource support. In designing and developing a learning resource center, a systematic and systemic process is needed based on the principles of instructional system design. Systematic means are carried out strictly (regulated by certain measures), while systemic means thorough or holistic, or comprehensive. The development of a systematic learning resource center can adopt the ADDIE model covering several stages, namely: analysis, design, development, implementation, and evaluation [8, 23] The learning resource center development strategy is implemented gradually as in the following Fig. 1.

This stage is described as follows:

- Analyze the needs and feasibility study of learning resource centers in education units, universities, or other educational institutions. Analysis of this need needs to be done to find out the gap between the circumstances that should occur (ideal) and keadaan that is real (reality). If the gap is considered very potential as a problem that requires solving, then the gap is considered as a need.
- Develop the physical means of the source center based on the functions to be developed. The learning resource center developed needs to pay attention to the following aspects: (a) developing facilities and facilities of learning resource centers that are oriented to the five functions of the actual learning resource center; (b) develop learning resource center facilities and facilities not only oriented towards achieving goals but also for the achievement of benefits, (c) develop learning resource center facilities and

facilities that are oriented towards the utilization of information technology (using a network system integrated with libraries nationally).

- Develop learning resource center programs that are oriented towards achieving goals, social and benefits. Identification of human resource needs, programs, and supporting facilities of learning resource centers refers to five areas contained in the learning resource center. Therefore, the development of learning resource centers can be done gradually with limited human resources, programs, and facilities.

Learning resource centers in schools, universities and educational institutions need to be developed on the basis of vision and mission, objectives, as well as clear functions and development standards [18], namely:

- **Considerations.** Rational reasons for the need for learning resource centers at the level of educational units, universities and educational institutions, namely (a) approaches and methods of learning and teaching cannot be supported and served again by traditional libraries properly, (b) books and other printed materials are no longer the main source of learning, but there are various other learning resources; (c) the development of learning theory leads to independent learning, paying attention to differences in student character, student-centered, and teachers better functioning as designers and leaders of learning and tutors, (d) the learning resource center will coordinate all learning resources, information and communication technologies in schools, universities, and other educational institutions for learning and teaching, so that the learning process becomes more effective; (d) provide a variety of relevant learning resources during the covid-19 pandemic
- **Goal.** The learning resource center developed must have a clear objective which is to ensure the availability of a suitable learning environment for learning and teaching purposes, provide opportunities for learners to utilize every learning resource, encourage learners to learn independently, develop the ability of learners to find and explore, and help educators to develop and implement various learning methods
- **Mission.** The mission of the learning resource center is developed based on the general objectives that have been set, namely providing a variety of learning resources, providing personnel that can help learners to use various learning resources, creating an environment and atmosphere that motivates learners to learn, providing various conveniences for educators to carry out their duties professionally, and improving the quality of the learning processes and outcomes of learners
- The learning resource center has basic tasks according to its five functions
- The learning resource center must have facilities and infrastructure such as an independent study room, a shared study room, and a collection of subject materials for each subject or subject
- The learning resource center should be able to decrypt constructive roles
- The learning resource center must be equipped with a management system with a clear organizational structure so that it will not overlap in carrying out tasks
- The learning resource center needs funds to operationalize all its functions

- These eight components need to be considered in developing a learning resource center either in schools, universities, or other educational institutions. Thus, the learning resource center developed has a clear structure with very constructive functions helping educators and learners in the learning process.

4 Conclusion

The development of learning resource centers is a necessity in remote, disadvantaged, and leading areas because learning resource centers that provide adequate learning resources can help educators and learners to improve the quality of learning. In addition, learning resource centers can provide learning resources that can be used online and for free during the Covid-19 pandemic. Therefore, every education unit, university, and other educational institution located in remote, disadvantaged, and leading areas needs to develop a learning resource center that fits the standards and context of local needs. Therefore, the problem of the low quality of education and the unavailability of learning resources due to the Covid-19 pandemic can be resolved properly.

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