Analysis of Teacher Constraints in the Distance Learning System in Biology Learning at Senior High School of Brebes Regency during the COVID-19 Pandemic

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ARTICLE INFO	ABSTRACT
	The change in learning which was originally face-to-face turned into distance learning suddenly and simultaneously this certainly caused various obstacles for teachers in the learning process. This study aims to identify the teacher's obstacles in the Distance Learning System in Biology learning at Senior High School of Brebes Regency during the COVID-19 pandemic. The study used descriptive quantitative methods by distributing online questionnaires to the teachers. The population in this study were Biology teachers at Senior High School in Brebes Regency, totaling 36 teachers. Sampling used a total sampling consisting of 36 teachers. The instrument used is a teacher's questionnaire in planning, implementing learning, design, and learning media, learning technology/application, and assessment/evaluation. The instrument in the form of a teacher questionnaire used has been validated by researchers with expert validation. The results of the study indicate that the most dominant constraint is the constraint in the very high category, namely the planning constraint of Distance Learning System (68%) Followed by the implementation constraint with a percentage (62%) in the high category then the assessment and evaluation constraint with a percentage (61%). Meanwhile, other constraints are design and media constraints by 60% in the high category and technology/application constraints by 60% in the high category. Referring to these results, teachers in the Distance Learning System still find problems in planning, implementation, media and methods, technology/application, and evaluation/assessment.

Introduction

The vision of national education is the realization of the education system as a social institution that has authority and is strong in order to carry out empowering the entire community to create quality citizens who are able to provide answers to challenges which comes with the development of the times (Hidayat, 2009). Despite being in the era of the COVID-19 pandemic, education must continue even though learning does not run as before the pandemic. In accordance with government recommendations submitted by the Ministry of Education and Culture in Circular Letter Number 2 of 2020 regarding the prevention and

handling of these problems within the Ministry of Education and Culture and Circular Letter No.3 of 2020 related to Covid-19 Prevention in Education Units. The most important thing is that students carry out relevant learning such as life skills, health and empathy.

Problems in the Covid-19 pandemic era caused teaching and learning activities to be carried out remotely as a prevention of virus transmission. Distance Learning System was developed to be able to reach education services and optimize service availability(Handayani, 2020). Although Distance Learning System is not the same as face-to-face learning, Distance Learning System provides a solution so that you are farthest from Covid-19. Satrianingrum and Prasetyo (2020:637) revealed the challenges during the Distance Learning System, namely the slow network obstruction caused the unclear delivery of the material, so that the learning objectives could not be realized. Junnah and Junaidi (200: 193) explained that teachers do not have the ability to use media and teaching materials that are adapted to learning, including problems that arise in the Distance Learning System.

Based on the observations that have been made by researchers at the time of the implementation of the Distance Learning System which was carried out in all Senior High Schools in Brebes Regency, the schools have implemented the Distance Learning System since the Covid-19 pandemic. Researchers made observations in 3 schools in Brebes Regency, namely SMAN 1 Banjarharjo, SMAN 1 Keuntungan, and SMAN 1 Kersana. It was found that biology subject teachers had implemented Distance Learning System using WhatsApp and Google classroom applications. The teachers also makes a video recording of the learning process which uploaded on YouTube, then the link to the video recording and a summary of the material is sent via WhatsApp and Google Classroom. However, in the initial process before making recordings and summaries, the researchers saw that there were problems with the teacher during Distance Learning System. If the obstacles experienced by the teacher are not immediately addressed, it will result in less than optimal learning being carried out.

Research Methods

Descriptive quantitative methods are used to obtain data more deeply or contain the proper meaning, the data behind the data that looks as it is and there is no manipulation (Sugiyono, 2013: 8). The research method used in this study is a descriptive qualitative research method using closed questionnaires and field documentation. Electronic questionnaires are made in the form of closed-ended questions because respondents have been provided with different answer choices include (5) Strongly Agree, (4)Agree, (3) Disagree, (2) Disagree, and (1) Strongly Disagree. Data collection techniques used are questionnaires via google form, and documentation. The study was conducted in the even semester of September 2021. The population used included biology teachers throughout Brebes Regency. Total sampling technique is a technique for taking samples used in this study. The samples used in the study were 36 biology teachers in 17 schools in Brebes Regency.

Findings

In this study, it was obtained from filling out a questionnaire regarding the problems faced by biology teachers during Distance Learning System by distributing a questionnaire using Google Form with a total of 36 teachers in 5 Aspects, there were a total of 15 statements. These aspects can be seen in Table 1.

Table 1. The results of the questionnaire on teacher problems at Distance Learning System at SMAN Brebes Regency

No.	Aspect	Indicator	% (Percentage)	
			Constrained	Not constrained
1.	Learning Planning Constraints during the Covid-19 Pandemic	Preparation of learning lesson plans during the covid-19 pandemic	53%	47%
		The design of the implementation of the biology lesson made is in accordance with the pandemic conditions	18%	82%
2.	Obstacles to Implementing Distance Learning	Carry out teaching and learning activities during the pandemic	52%	48%
		Explaining biology material during Distance Learning System in an easy way	17%	83%
		Linking biological material with pandemic conditions	55%	45%
3.	Constraints in designing and selecting Distance Learning System media	Choosing the appropriate learning media during the covid-19 pandemic	51%	49%
		The learning media used during Distance Learning System varies	20%	80%
		Using interactive media in Distance Learning System	49%	51%
4.	Distance Learning System Technology/Application Constraints	Using technology/application when doing Distance Learning System	55%	45%
		Inadequate internet network	52%	48%
		Using applications that make it easier to do Distance Learning System	19%	81%
		Explaining biology learning materials using the application	54%	46%
5.	Distance Learning System Evaluation and Assessment Constraints	Provide an assessment of student learning outcomes during Distance Learning System	58%	42%

Provide an assessment according to the ability, understanding of students in mastering the material.	22%	78%
Provide feedback and assign tasks according to Distance Learning System conditions	48%	52%

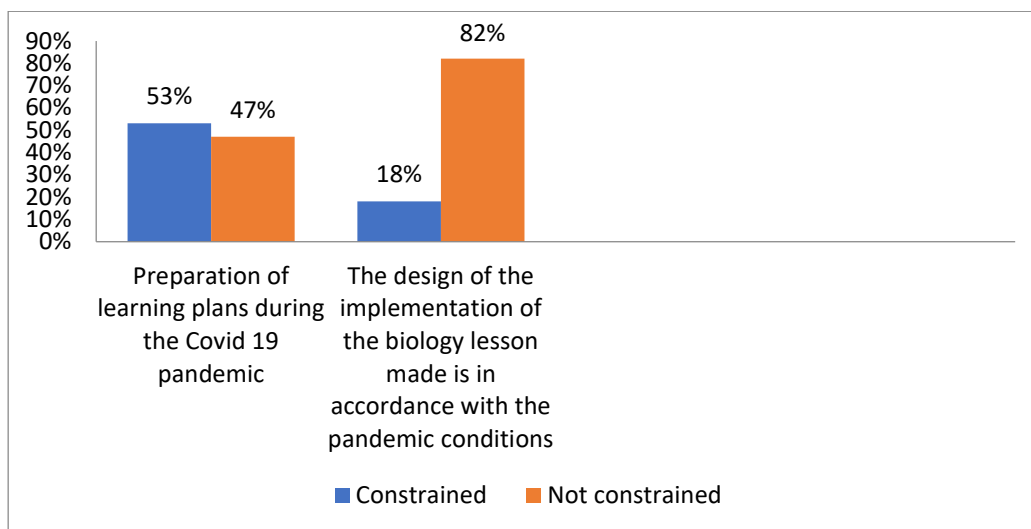The following is the result of each aspect point.

Figure 1 Graph of learning planning constraints during the COVID-19 pandemic

Based on Figure 1 It can be seen that in the aspect of preparing lesson plans during the pandemic, teachers did not experience significant obstacles. 53% designing learning plans during the COVID-19 pandemic, but in the design of the implementation of biology learning made by the teacher, it is in accordance with the conditions of the COVID-19 pandemic, it can be seen from 82% that they have prepared a design for the implementation of learning according to the conditions of COVID-19.
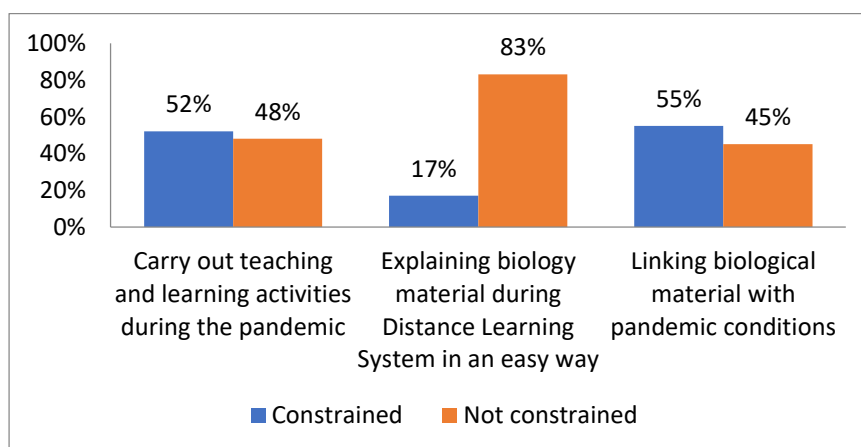

Figure 2 Graph of obstacles in the implementation of biology learning in Distance Learning System

Based on Figure 2, it is known that 52% of teachers feel constrained when carrying out teaching and learning activities due to the pandemic, but 83% of teachers feel they are not

constrained and have explained biology material in distance learning in an easy-to-understand way, and 55% of teachers are constrained when linking biology material with current pandemic.
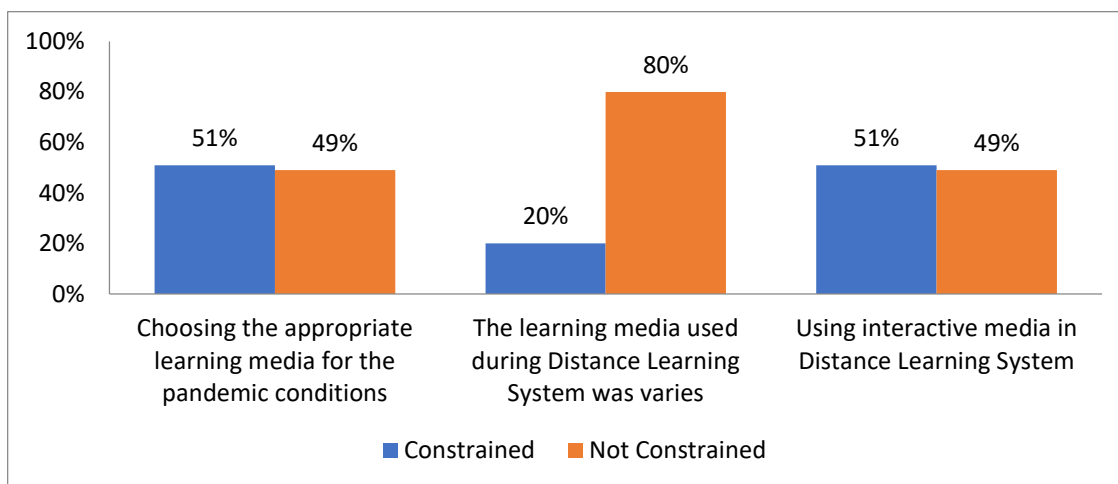

Figure 3 Graph of constraints in designing and selecting Distance Learning System media

From Figure 3, it is known that 51% of teachers feel constrained in choosing learning media that are suitable for future learning the Covid-19 pandemic, but 80% of teachers have used various learning media during distance learning so that students don't feel bored and 51% of teachers feel constrained when using interactive media in distance learning
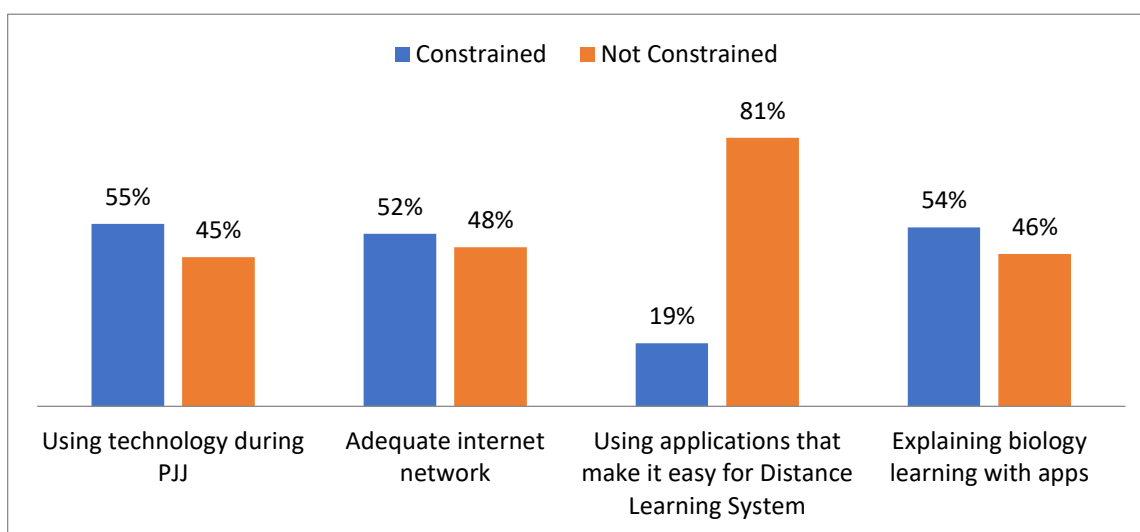

Figure 4 Graph of technology/application constraints in Distance Learning System

Based on Figure 4, it can be seen that teachers experience problems in using technology in distance learning system especially in understanding of technology or applications, inadequate internet network, and explaining biology learning with apps. Whereas, in choosing applications that are easy to use in learning, teachers are not constrained.

From Figure 5, it is known that 39% of teachers have problems in assessing student learning outcomes in Distance Learning System conditions and 58% of teachers do not constrained, 78% of teachers claimed to have given an assessment to students according to

their understanding ability in mastering the material during distant learning. The next obstacle is that only 48% of teachers experience problems when providing feedback and giving assignments to students according to the conditions of the Distance Learning System, the rest of the teachers are constrained.
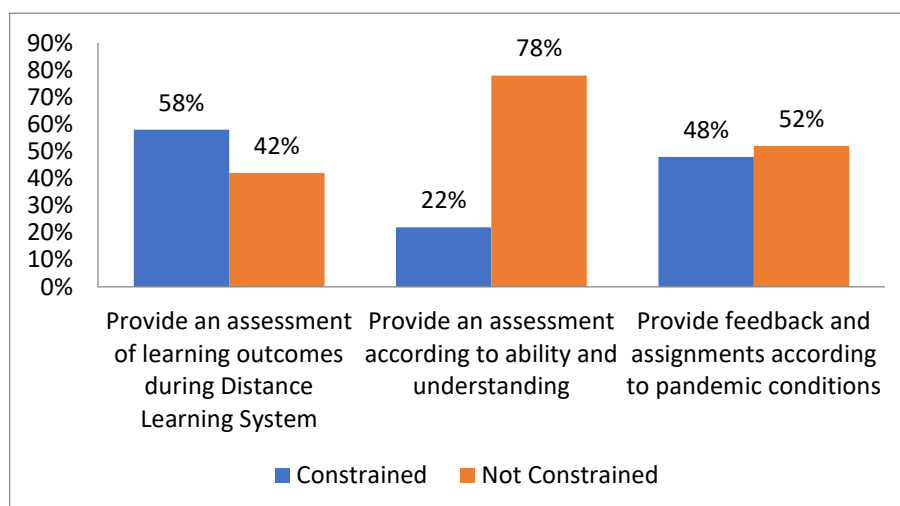

Figure 5 Graph of Distance Learning System's assessment and evaluation constraints

Based on Table 2, it can be concluded that the main obstacle in Distance Learning System during the Covid-19 pandemic is 68% learning planning with a very high category.

Table 2 Distribution of Questionnaire Results

Aspect	Question points	Total score	The percentage of each statement (%)	Percentage of each Indicator (%)	Average score of each Indicator	Category
Planning	1	96	53%	68%	122,0	Very High
	2	148	82%			
Implementation	3	86	48%	62%	111,3	High
	4	149	83%			
	5	99	55%			
Designing media	6	91	51%	60%	108,0	High
	7	144	80%			
	8	89	49%			
Technologya nd Implementati on	9	99	55%	60%	108,8	High
	10	93	52%			
	11	145	81%			
	12	98	54%			
Evaluation	13	105	58%	61%	110,3	High

| 14 | 140 | 78% |
| 15 | 86 | 48% |

Followed by implementation constraints with 62% in the high category, assessment and evaluation constraints with 61%. Meanwhile, other constraints are design and media constraints 60% with high category and technology/application constraints 60% with high category.

Discussion

The results of the questionnaire containing 5 aspects consisting of 15 statements obtained the following results:

Learning planning during the COVID-19 pandemic

In the 1st statement, the results showed that 53% of teachers experienced problems and 47% of teachers did not experience problems when designing lesson plans during the Covid-19 pandemic. This is due to factors in the process of preparing the lesson plan in determining the time allocation, selection of methods, media, strategies, and assessments that are suitable and used for the Distance Learning System process. In line with Ramadhan's research(2020) obstacles in the preparation, for example the selection of suitable learning methods that will be used during the learning process from home. Moreover, in the second statement, 82% of teachers make biology lesson plans that are in accordance with the conditions of the Covid-19 pandemic. This happens because of supporting factors such as teachers being able to adapt to new conditions, for example in changing the Distance Learning System model with video conferences. There are some teachers who have not been able to adapt to new conditions, such as teachers who are old.

Obstacles in implementing biology learning in Distance Learning System

In the 3rd statement it is known that 52% of teachers are constrained in carrying out teaching and learning activities during the Covid-19 pandemic. This is because learning during the Covid-19 pandemic was for the first time carried out in the education system in Indonesia, there was no teacher experience in conducting Distance Learning System such as elderly teachers. Whereas knowledge of learning strategies, attitudes and motivation of teachers have a direct effect on children's learning outcomes (Suryana, 2013). In the 4th statement regarding the explanation of biological material in Distance Learning System, 83% of teachers explain in a way that is easily understood by students. Meanwhile, 17% of teachers have not been maximal in explaining biology material with the current pandemic conditions. As a result, learning is not smooth and not conducive. Further, in the 5th statement regarding the obstacles to linking biology material with pandemic conditions, 55% of teachers were constrained in linking biology material to a pandemic. This is because when Distance Learning System teachers do not have much knowledge related to Covid-19 and teachers still do not fully master the material, often before learning begins the teacher has not prepared lesson plan (Purwanto, 2020).

Obstacles in designing and selecting distance learning media

In the 6th statement, 51% of teachers are constrained in choosing appropriate media for learning, this is because teachers of the 80s generation are novice users in computer and internet technology-based media. Then the teacher must be "literate" technology and use it as a learning medium (Nopiyanto, et al., 2020). In the 7th statement, 80% of teachers have used various learning media during Distance Learning System so that students are not bored in learning, this is because in Distance Learning System teachers must be more creative in making learning media so that the learning process is not boring and learning becomes more attractive. Presentation slides as learning media have been widely used in learning because they are effective and increase interest in learning (Fitriyani et al., 2017).

In the 8th statement there are 51% of teachers having problems when using interactive media in Distance Learning System. Like the use of presentation slides at Distance Learning System using video conferences, presentation slides are difficult to share because of signal constraints and supporting tools, for example laptops and cellphones which sometimes don't support sharing presentation slides.With interactive media it can be used for Distance Learning System that does not require a meeting (such as animated videos) (Indriati, 2012)

Technology/application constraints in distance learning

In the 9th statement, 55% of teachers are constrained by using technology/applications when conducting Distance Learning System. This is because not all teachers can operate gadgets to support learning, both face-to-face, especially in Distance Learning System. Technology has an important role to facilitate interaction, communication and presentation so that the learning process runs well (Thoms & Eryilmaz, 2014). In the 10th statement, it is known that 52% of teachers are constrained when Distance Learning System is due to an inadequate internet network. The need for an internet connection is an important thing in the implementation of Distance Learning System.Based on the results, it is known that the activities of Distance Learning System in Brebes Regency, 52% of teachers are constrained by the internet network. During the implementation of Distance Learning System, such as in remote or undeveloped areas. Getting an internet connection and limited technology are big obstacles because teachers and schools do not have the facilities and means for Distance Learning System (Basilaia & Kvavadze, 2020).

In the 11th statement that 81% of teachers have used an easy application for Distance Learning System so that teachers do not experience problems. Biology teachers at SMAN Brebes district mostly choose Whatsapp, Google Classroom. Google classroom as a learning medium is considered effective and efficient and can be flexible, practical to use, and improve learning outcomes (Atikah, et.al, 2021) and (Permatasari & Rosy, 2021). In the 12th statement as many as 54% of teachers have problems when explaining biology material using applications, this is because teachers have not been maximal in mastering biological material and have not mastered its application.

Obstacles in distance learning assessment and evaluation

Based on the average % of indicators in the evaluation of distance learning, it was found that 61% of teachers experienced obstacles in the high category. In the 13th statement, 58% of teachers are constrained in assessing learning outcomes during Distance Learning System,

in the 14th statement, 78% of teachers provide an appropriate assessment. the ability to master the material at the time of Distance Learning System, on the statement15, 52% of teachers are not constrained when providing feedback and giving assignments according to Distance Learning System. These results are supported by research of Maruria (2021) which states that the implementation of distance learning in the pandemic situation raises many teachers' or students' problems, especially in the assessment.

Conclusion

Biology teachers of senior high school in Brebes Regency are experiencing constraints in distance learning system during the Covid 19 pandemic. Constraints in the very high category are Distance Learning System planning constraints, implementation, evaluation, designing media, and technology/application constraints.

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