



The Utilization of Instructional Media by the Vocational High Schools Teacher

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DOI: 10.15294/dp.v16i1.28560

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History Article

Submitted 2021-01-18

Revised 2021-03-03

Accepted 2021-04-20

Keywords

Development; Instructional Media; Learning Activities; Vocational High Schools Teacher

Abstract

This study examines the use and development of instructional media by the teachers of Office Administration Vocational School (OAVS) in the Special Region of Yogyakarta (DIY). The population of this survey research is all teachers of OAVS in DIY. This research employed the purposive sampling technique and considered only the teachers who had been teaching productive subjects for at least five years. The descriptive analysis technique was used to conduct the data analysis. The result shows all the teachers of OAVS in DIY have utilized learning media in teaching and learning activities. The most widely used type of instructional media is the PowerPoint. The technical constraints experienced in utilizing learning media are related to the preparation of using learning media. While the non-technical are related to the availability of facilities and infrastructure. Teachers of OAVS in DIY who have developed learning media are still at a low level. Technical things experienced by teachers in developing learning media are constrained in the process of planning the development of learning media and should look for media experts who will validate. The non-technical constraints faced by teachers in media development are issues about facilities and low teacher motivation.

How to Cite

Dwihartanti, M., Sutirman, S., & Yuliansah, Y. (2021). The Utilization of Instructional Media by the Vocational High Schools Teacher. *Dinamika Pendidikan*, 16(1), 24-32.

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INTRODUCTION

The development of Information and Communication Technology (ICT) keeps improving along with the increase of human needs. This development affects all the other fields, including education (Yusrizal et al., 2017). The development of ICT accelerated during the industrial revolution era 4.0. The internet benefits that have been integrated in almost all life joints e.g., smart televisions, smartphones, smart home appliances as well as super computers for big data management, logistics, health, transportation. The digital era has entered all aspects of human life (Syamsuar & Reflanto, 2018). The field of education is one of the areas affected by the industrial revolution 4.0, the development of innovation in learning should be in line with the development of technology and information.

The efforts to improve the quality of education can be done in a number of ways. One of them is by the usage of ICT in teaching processes. The ICT is considered effective in the education because it improves the teachers' competence in dealing with the differences in students' individual abilities, improves their engagement and understanding in learning and change thinking behavior (Maunah, 2016). Nowadays, the use of ICT has become a necessity in the teaching process in the classroom through the use of the Internet, and smartphone (Lekawael, 2017).

Information Technology (IT) is one of the instructional media that allows the delivery of instructional content from the teacher to the students become more efficient. Instructional media is media that is specifically designed in order to stimulate the mind, senses, attention, and willingness of the students in order to create a learning process. Besides, argue that media works by optimizing the five senses in understanding the teaching materials. Instructional media consists of various information, and knowledge plays a role in the students' engagement in learning activities (reading, observing, trying, doing the exercises, answering questions) (Syaiful et al., 2014).

The Indonesian education system demands a teacher who can master instructional media and utilize it in the teaching and learning process. Following the Regulation of Minister of National Education Number 16 the Year 2007 on teacher's pedagogical competence, teachers should master ICT media for teaching purposes. A professional teacher should be able to use such media in the teaching process. Thus, instructional media plays a role in helping students to achieve instructional objectives.

This study is the continuation of the research conducted by Triyoso & Sudibyo (2012) entitled The Profile of Teachers' Competence in the Use of Information and Communication Technology (ICT) as Instructional Media, which found that there were about 54% of teachers in the Sorong Regency who had not used media in the teaching process. Another study by Primasari & Herlanti (2014) revealed that the most used media in the learning process in all State Islamic High Schools in South Jakarta was the PowerPoint slides and generally lacks variation.

The underlying difference between this research and previous studies is on the research setting's geographical location and the type of school. The research scope is all Vocational High Schools (VHS), both state and private, in the Special Region of Yogyakarta. By knowing the teacher's various obstacles, the writer can provide a way out of the various obstacles regarding the use and development of instructional media. Apart from this research, there will be facts about the media often used by VHS's teachers in the DIY. So that the research is expected to complete the shortcomings of the two studies above, namely regarding the variety of media used, constraints in utilizing learning media, and obstacles in developing learning media faced by teacher of Office Administration Vocational School (OAVS) in the Special Region of Yogyakarta.

Instructional media is useful for helping teachers in the teaching process in the classroom. In Arabic, media refers the means or the messenger from one person to another Gagné et al. (1992) implicitly state that instructional media can be categorized into physical tools used to deliver the learning content such as tape recorder, cassette, video camera, video recorder, film, slideshow, photograph, picture, graphic, television, and computer. According to E.Rice et al. (2005), educational media can be used to deliver a message to the receiver to stimulate the students' minds, senses, attention, and interest in the learning process. On the other hand, the National Education Association argues that media, either in the printed or audiovisual format, along with the tools, is a form of communication.

Instructional media essentially serves as a helping tool in teaching. However, instructional media should also be a learning source that can be used to its potentials to create a conducive, effective, efficient, and enjoyable learning condition (Umar, 2013). Sheel & Glasgow (1990) classify media types based on technological development into two big categories, i.e., traditional and advanced technological media. It has been

said that ICT-based educational media is the one that every teacher must master in order to improve students' learning motivation (Kurniawan et al., 2017).

The use of media in teaching can improve the students' learning outcomes. Ahmad Kholidul & Novi (2015) find that weblog or blog as instructional media is effective in improving the students' learning results. According to Fajriah & Churiyah (2015) other researchers concluded that instructional media use to increase the learning ability, knowledge, understanding, and learning achievements of students. Research conducted by Ngussa & Chiza (2017) shows that the use of media learning can improve student learning to accurately and increase the efficient use of learning.

Government Regulation number 19 years 2015 explained teacher professional competency: pedagogical, personal, professional, and social. The use of the media is one of the resources that can be used to improve the quality of learning. Teachers' ability to use the learning media is one of the pedagogical competencies (Enco, 2009). In learning, the competence of pedagogy is teachers' ability in the management of learning for students (Balqis et al., 2014). One of these, namely the ability to master the instructional media. In accordance with Enco (2009) statement, the teachers would be lack of pedagogic abilities must have the ability to use technology/instructional media.

The use of instructional media have to be based on relevant considerations, such as the instructional objectives, the media's effectiveness, availability, technical quality, budget, flexibility and convenience, the users' ability, and time allocation (Abidin, 2016). In support to the notion, (Musfiqon, 2012) argues that in choosing the right instructional media, teachers should take into account the following aspects: (1) suitability with competence, (2) efficiency, (3) the media's availability, (4) budget, and (5) teachers' competence and technical qualities. Moreover, the media must be selected due to the initial aim, which refers to one or a combination of two or three of the following aspects: cognitive, affective, or psychomotor.

In the development of instructional media, the first step is analyzing the needs and characteristics of the target students, followed by setting the instructional objective and the material points in detail regarding the instructional objectives. Next, a benchmark is required to determine the success of the developed media. Finally, the last step is to develop the media and conduct an assessment and make revisions (Sadiman, 2007).

The process of using and developing instructional media are two different things. Using of media in learning can be defined as using media in learning by utilizing the existing media; meanwhile, developing the instructional media is an effort to modify or create a new media specifically appreciate to criteria's such as competence conformity, characteristics of students, media technical quality and capability of media user operational. The process of media development requires a long process and must pass through various stages, making the teachers prefer to use the existing media rather than developing new learning media.

In a study conducted by Kamdi (2014) on workload analysis and learning characteristics of VHS teachers, found an interesting data that the teachers of VHS have an average teaching hours of 52.06 hours per week. Then, almost all teachers do not have time to develop learning media following the determined criteria. Not only limited time, but teachers are also faced with limited facilities and infrastructure, especially facilities in the laboratory. Slamet (2010) stated that the condition of workshops and educational facilities in vocational high school is still not standarized. The number of equipment is not available for learning in the workshop.

To this day, there have not been many studies that offer information on the extent of instructional media use, especially in VHS in Yogyakarta. Demographically, from many different points of view, including education, Sorong and Yogyakarta are two different regions. Yogyakarta is known as the student city. The quality of teachers in Sorong Regency and Special Region of Yogyakarta can be seen from Teacher Competency Test at 2015. Sorong, which belongs to the Papua Province, was ranked twenty-fourth, while DIY was ranked sixth (Kemendikbud, 2015). The ability to use instructional media is included in the pedagogical competence, which is one of the benchmarks of UKG. This competence leads the researchers to believe that instructional media in VHS in Special Region of Yogyakarta is more significant than that in Sorong.

For the above reasons, this study aims to depict the use and development of instructional media as one of the teachers' obligations because of its highly positive impacts on the improvement of learning results and what the teaching profession demands. Moreover, this study is also intended to examine the teachers' constraints in the use and development of media. A study by Batubara (2015) discovered that the teacher's ICT competence in using ICT-based instructional me-

dia could be classified as fair.

METHODS

This research was a survey with a quantitative approach. Survey research is a critical observation or investigative study aimed to obtain information either on a specific issue in a particular area or location or an extensive study designed to obtain the required information. It is used to "answer questions that have been raised, to solve problems that have been posed or observed, to assess needs and set goals, to determine whether or not specific objectives have been met, to establish base lines against which future comparisons can be made, to analyze trends across time, and generally, to describe what exists, in what amount, and in the context." (Isaac & Michele, 1995)

The research population consisted of all Office Administration Vocational School (OAVS) teachers in Special Region of Yogyakarta, consisting of nine state VHS's and 20 private VHS's. The total population of this study was 375 teachers. Due to the research limitation, this study employed the purposive sampling technique by taking only three teachers who had taught productive subjects for at least five years. The total sample obtained as many as 83 people or 22.13% of teachers representing the study population. After distributing questionnaires, the data occupancy rate was 100%.

The study's indicator variables included instructional media use, instructional media development, the technical obstacle of instructional media use and development, and non-technical constraints of instructional media use and development. The data collection used a positive modified Likert-scale questionnaire that was directly given to respondents. It consisted of open and closed questions. The data were analyzed using the help of the SPSS program in order to gain descriptive statistics. The validity and reliability of the research instruments had been tested before it was used for research purposes.

RESULT AND DISCUSSION

The findings of the study depicting the use and development of instructional media and the constraints in its use and development, are presented below. There are several points of discussion based on the research findings. The first is on instructional media usage. The result of data analysis on instructional media use by OAVS teachers in Special Region of Yogyakarta is presented in the table 1.

Table 1. Instructional Media Use in OAVS

| Variable | N | F | % |
|--|----|----|-----|
| Instructional media use in state VHS's | 29 | 29 | 100 |
| Instructional media use in private VHS's | 54 | 54 | 100 |

Source: Processed Primary Data (2018)

As shown in Table 1, overall teacher of OAVS in Special Region of Yogyakarta used instructional media in the teaching process. According to Curriculum 2013, instructional media in the teaching process is compulsory for teachers at all levels of education. The research findings show that overall teacher of OAVS di Special Region of Yogyakarta used instructional media in the teaching process. A study by Triyoso & Sudibyo (2012) revealed that there were only 54% of the office administration teachers who used instructional media in the classroom.

The high percentage of teachers using the media in this study suggests that they have made an effort to improve the students' learning motivation. Nearly all teachers are aware that the use of instructional media can make up for all the disadvantages of the conventional verbal lecture method which can be confusing and hard to understand for the students. This is in accordance with a study by Kurniawan et al. (2017) on how the use of ICT media can improve students' learning motivation.

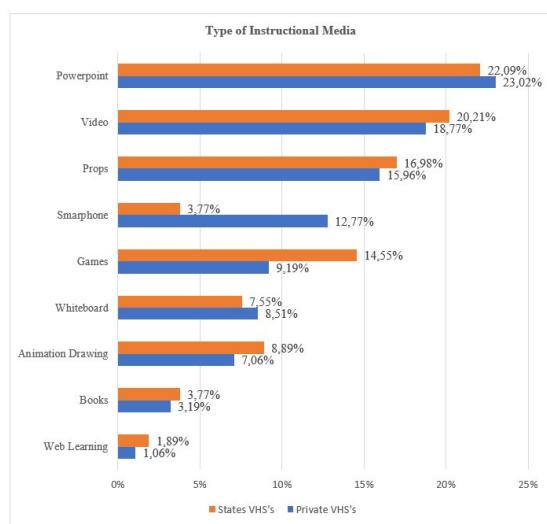


Figure 1. Type of Instructional Media

As in that figure, most of the learning media utilized by OAVS teachers is by utilizing PowerPoint. With details on state VHSs amounted to 22.09% and in private VHSs by 23.02%. While

the least used learning media is web learning with details on state VHSs at 1.89% and private VHSs at 1.06%. The most commonly used instructional media in the teaching process is the PowerPoint program. PowerPoint is often preferred over other media because it is easier to use.

In contrast, other media such as learning website, games, video, or animation often take longer time to be developed. The use of PowerPoints in learning media is beneficial in the learning process to make students active and create a pleasant learning atmosphere. This finding was stated by Jalil et al. (2016) that the discovery learning process using PowerPoint media was very effective in making students active in discovery learning and a fun learning environment.

These findings contradict Baker et al. (2018) state that there is no difference in teaching effectiveness between chalk (traditional method) and using PowerPoint. The next point to discuss is teachers' constraints in using the instructional media, which can be classified into technical and non-technical constraints.

Table 2. Technical Constraints in the Instructional Media Use in OAVS

| Variable | N | F | % |
|---|----|----|-------|
| Constraints in instructional media preparation in state VHS's | 29 | 27 | 93,1 |
| Constraints in instructional media preparation in private VHS's | 54 | 54 | 100 |
| Constraints in the instructional media operation in state VHS's | 29 | 27 | 93,1 |
| Constraints in the instructional media operation in private VHS's | 54 | 49 | 90,74 |

Source: Processed Primary Data (2018)

As shown in Table 2, as many as 93.1% of the state VHS's teachers and 100% of the private VHS's teachers experience technical constraints in preparing the instructional media. On the other hand, 91.57% of teachers experience technical problems when operating the instructional media, including 93.1% of state VHS's teachers, and 90.74% of private VHS's teachers.

The technical constraints are present in the preparation of using the instructional in operating the media. Many of OAVS teachers in DIY experience difficulties in using the instructional media. Based on the school, 93.1% of state VHS's teachers and 100% of private VHS's te-

achers have the same experience, as well. In the operation of the instructional media experienced by teachers consist of 93.1% of state VHS's, and 90.74% of private VHS's.

ICT-based media dominate most of the instructional media used by teacher of OAVS in the Special Region of Yogyakarta. The constraints are usually found in the preparation before using the media and operating the ICT-based media. These findings are partly due to the teachers' lack of background and skill in ICT, which makes them dependent on other party (ICT technicians) to prepare and operate the instructional media. This finding is supported by a study that found that teachers' competence in ICT-based learning was classified as average (Batubara, 2015).

Another study found that the constraints teachers faced in ICT-based media are their education background from ICT major, hence their lack of mastery (Soewarno, Hasmiana, and Faiiza, 2016). On the other hand, the level of Teacher Competency Test in 2017 reveals that VHS teachers' competence is low. The average grade of VHS teachers in the Teacher Competency Test is 66, while the minimum passing grade in 2017 is 80 (Anonim, 2019).

Table 3. Non-Technical Constraints in the Instructional Media Use in OAVS

| Variable | N | F | % |
|--|----|----|-------|
| Limited facilities and infrastructures in state VHS's | 29 | 22 | 75,86 |
| Limited facilities and infrastructures in private VHS's | 54 | 49 | 90,74 |
| Motivational constraints in using instructional media in state VHS's | 29 | 20 | 68,96 |
| Motivational constraints in using instructional media in private VHS's | 54 | 42 | 77,78 |

Source: Processed Primary Data (2018)

As shown in Table 3, that the percentage of teachers in with non-technical constraints related to limited infrastructures state experienced by States VHS's teachers is 75.86% and teachers of private VHS's is 90.74%. It can also be inferred from the table that the percentage of teachers with motivational constraints in instructional media use in state VHS's teachers is 68.96% and 77.78% of private VHS's teachers.

In addition to the technical problems, the teachers also faced non-technical constraints in using the instructional media, namely the availability of infrastructure and facilities in VHS's

and the problem of their low motivation in using the instructional media. Many of the OAVS teachers stated that the facilities and infrastructure available for them to use as instructional media in VHS in the Special Region of Yogyakarta were limited in number and quality. As many as 75.86% of state VHS's teachers and 90.74% of private VHS's teachers felt the same way.

The lack of School facilities is one of the most prominent issues because it is highly related to the quality improvement of education in Indonesia (Winigsih et al., 2017). This finding is supported by (Sudiyono & Alip, 2016) states that many of the workshops and education infrastructure in VHS are not yet standardized, and many tools are not even available for training in the workshop. However, this contrasts with a study by (Sinaga, 2017), which found that facilities in private schools were more adequate than those in state-owned schools due to independent management and funding, as they do not rely on government funding.

Another obstacle is the teachers' low motivation in using instructional media. As many as 83.13% of office administration VHS teachers in the Special Region of Yogyakarta comprising of 68.96% of state VHS's teachers and 77.78% of private VHS's teachers had motivational constraints in using the instructional media in the teaching process. The great amount of time in the teaching-learning process in the classroom has been said to be the main factor of the teachers' low motivation level in using the instructional media.

Table 4. Instructional Media Development in OAVS

| Variable | N | F | % |
|--|----|----|-------|
| Instructional media development in state VHS's | 29 | 14 | 48,27 |
| Instructional media development in private VHS's | 54 | 23 | 61,11 |

Source: Processed Primary Data (2018)

As shown in Table 4 that only 61.11% of them are state VHS's teachers and 48.28% of them are private VHS's teachers develop instructional media. In the use of instructional media by teachers, several things need to consider, namely the relevance between instructional media and learning objectives, the type of learning material, the students' characteristics, time allocation, and the ability to use the instructional media (Azhar, 2014). In order to find the best media, those things need to be considered.

The development of instructional media should go through several steps: planning, design, development, and evaluation. This study's findings reveal that most office administration teachers have developed some instructional media. In the Special Region of Yogyakarta, many teachers have developed instructional media, with 48.27% of them in state VHS's and 61.11% of them in private ones. It is imperative as no studies have measured the levels of instructional media development. This discovery is interesting because there has been no research measuring the level of development of learning media so far.

It is, therefore, an exciting finding to follow up. Support facilities in state VHS's are better than private VHS's because state VHS's get more support from the government (Ramadhan, 2015). The next point of discussion is the technical constraints faced by teachers in developing the instructional media concerning the planning, the media expert, and the success-measuring instrument.

Table 5. Technical Constraints in Instructional Media Development in OAVS

| Variable | N | F | % |
|--|----|----|-------|
| Constraints in planning the instructional media development in state VHS's | 29 | 29 | 100 |
| Constraints in planning the instructional media development in private VHS's | 54 | 51 | 94.44 |
| Constraints in finding media validation expert in state VHS's | 29 | 27 | 93.1 |
| Constraints in finding media validation expert in private VHS's | 54 | 49 | 90.74 |
| Constraints in making an instrument for measuring success in developing instructional media in private VHS's | 29 | 28 | 96.55 |
| Constraints in making an instrument for measuring success in developing instructional media in state VHS's | 54 | 50 | 92.59 |

Source: Processed Primary Data (2018)

Table 5 shows that the percentage of teachers experiencing technical problems in planning the instructional media development in VHS in the Special Region of Yogyakarta. It consists of 100% teachers of state VHS's and 94.4% teachers of private VHS's. Moreover, VHS teachers

in the Special Region of Yogyakarta struggle to find media validation experts it consists of 93.1% of teachers of state VHSs and 90.74% of private VHSs. The table also shows that the percentage of VHS teachers in the Special Region of Yogyakarta struggling in making an instrument for measuring success in developing instructional media consisting of 96.55% teachers of state VHSs and 92.56% teachers of private VHSs.

Around 96.38% of office administration VHS teachers comprising of 100% of state VHSs and 94.44% of private VHSs stated that they had difficulties in the planning step of the instructional media development. The planning process of media development requires so much time, energy, thoughts, and money, that teachers must be prepared to do various tasks. A good planning process, however, will result in appropriate instructional media that address the students' learning needs.

One of the main problems is the limited budget the school provides for the instructional media development, which prompts teachers to use their own personal fund. The teachers' salary is ultimately what makes them less motivated in developing the instructional media. This is in line with a study by Soewarno & Faiza (2016) which found that money was one of the main constraints that prevent the teachers from using and developing media. This is because the procurement of media, especially ICT-based ones, is quite costly as the devices required are ones such as computers, laptops, and software programs.

This study found that 93.1% of OAVS of States VHSs in the Special Region of Yogyakarta and 90.74% of private VHS's teachers stated that they were difficulties looking for experts to validate the instructional media developed. A validator is an absolute requirement in instructional media development. Their teachers' difficulties in looking for media and design experts were because they were already occupied with the teaching activities and other school businesses.

Teachers are required to fulfill the 40-hour per week teaching requirement. Because of this, even certified teachers have to teach at other schools. In a study by (Kamdi, 2014) on the analysis of VHS teachers' workload and characteristics, it was found that VHS teachers worked an average of 52.06 hours per week. In this study, the technical constraints were the teachers' limitation in developing an instrument for measuring the developed media's success. As many as 96.55% of OAVS state VHS teachers and 92.59% of private VHS teachers experience constraints.

Table 6. Non-Technical Constraints in Instructional Media Development in OAVS

| Variable | N | F | % |
|---|----|----|-------|
| Lack of supporting facilities in the instructional media development in state VHS's | 29 | 28 | 96,55 |
| Lack of supporting facilities in the instructional media development in private VHS's | 54 | 50 | 92,59 |
| Teachers' low motivation in the instructional media development in state VHS's | 29 | 25 | 86,21 |
| Teachers' low motivation in the instructional media development in private VHS's | 54 | 50 | 92,59 |

Source: Processed Primary Data (2018)

Table 6 shows that the percentage of teachers experiencing constraints related to the lack of supporting facilities for instructional media development in VHS in the Special Region of Yogyakarta consisting of 96.55% of state VHSs teachers and 92.59% of private VHSs teachers. The table also shows that the percentage of VHS teachers in the Special Region of Yogyakarta experiencing non-technical constraints related to the teachers' low motivation in the instructional media development consisting of 86.21% of state VHSs teachers and 92.59% of private VHSs teachers.

The non-technical constraints are the lack of facilities to develop instructional media provided by the school. As many as 90.36% state VHSs teachers and 92.59% private VHSs teachers agreed on that. The data revealed that the percentage in private VHSs was higher than that in state VHSs. State VHSs generally have more facilities compared to the private VHSs. This findings is following the research by Sutrisno & Siswanto (2016) which found that the infrastructure and facilities in VHS were inadequate. Another non-technical issue lies on the motivation of the teachers to develop instructional media. As many as 86.21% state VHSs teachers and 92.59% private VHSs teachers experienced this problem. Teachers also have a high teaching burden which have limited time to develop instructional media. Time constraint leads to the teachers' low motivation in developing media in their teaching process.

CONCLUSION

Based on the results and discussions, the main conclusions in this study can be drawn as

follow. First, all the teachers of VHSs in the Special Region of Yogyakarta have utilized learning media in teaching and learning activities. The most widely used type of learning media is PowerPoint. The results have shown that the teachers of VHSs in the Special Region of Yogyakarta realize that the use of learning media can support the achievement of learning goals. But another fact that the researchers successfully revealed is that although all teachers have used IT-based learning media, VHSs teachers in the Special Region of Yogyakarta still face obstacles in the operation of the learning media.

The obstacles faced are technical and non-technical constraints. The technical constraints experienced by teachers in utilizing learning media are related to the preparation of using learning media and constraints in the operation of learning media. While the technical ones are related to the availability of facilities and infrastructure that support learning media that will be used in VHS and motivation in utilizing various learning media, both teachers VHSs in the Special Region of Yogyakarta who have developed learning media are still at a low level.

Technical things experienced by teachers in developing learning media are (1) constrained in the process of planning the development of learning media, (2) difficulties in looking for media experts who will validate, (3) difficulty in making media success measuring instruments. The non-technical constraints faced by teachers in media development related to facilities prepared by the school to develop learning media and teacher motivation in developing learning media. In the future, more research is needed on the ability of teachers to utilize and develop instructional media in the era of the Covid-19 pandemic. It is necessary to provide training in the use and development of instructional media to OAVS teachers. Therefore, it is necessary to see how teachers can adapt to the process of distance learning by using web-based learning media or learning videos because they cannot use PowerPoint as the primary instructional media.

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