Learning Technology Increases the Perception of Online Learning

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ABSTRACT
Teachers are important part in the process of education. One of the basic competencies of a teacher that must be possessed is professional competence. The researcher focused on the problem, how is the professionalism of pre-service physics teachers with online learning? To figure out the answer, the researchers use a mixed method approach with Exploratory Sequential Design. The findings of this study indicate that the knowledge of the professionalism of the pre-service physics teacher is quite good, but after working on the questions the professionalism of the prospective physics teacher still seems to be hampered. The novelty of this study is that while the outcomes of teaching professionalism can’t predict professionalism in the future, they can be utilized as a starting point for future studies on how prospective teachers’ professionalism is maintained. This finding suggests conducting further research to find the design of teacher professionalism training to be able to face the challenges of modern education.

Keywords: Pre-service teacher, online, professionalism

INTRODUCTION
Professionalism is a must for someone who has the teaching profession (Allen dkk., 2019). Teachers are an important part of facilitating educators to be able to global challenges (Reisman dkk., 2018). Not only students who are faced with the modern world, but teachers must also continue to follow the development of knowledge and challenges in the present and in the future. Currently, education is confronted by COVID-19 (Donitsa-Schmidt & Ramot, 2020). Current conditions require pre-service teachers to be professionally prepared teaching with online, even before they become teachers.
Teachers who are said to be professional in knowledge or subject matter that will be taught in teaching and learning interactions (Sulisworo dkk., 2016; Abida Ferindistika Putri dkk., 2019), and develop skills on an ongoing basis, both in terms of their knowledge and experience. In addition, the ability to plan, conducts, and carries out learning evaluations. Professional teachers are the hope of all of us (Michelle C, 2021; Bergmark dkk., 2018), because with the increase in the ability of teachers so that they become professional teachers, it is hoped that the quality of education in Indonesia will increase.

Professional teachers should have four competencies that have been stipulated in the Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers, namely, pedagogic, personality, professional and social competencies. Therefore, in addition to being skilled at teaching, a teacher also has extensive knowledge, is wise, and can socialize well. Standar di indonesia tidak jauh berbeda dengan ketentuan di Negara lain, seperti standar professional di malasya (Amzat dkk., 2022).

Teacher professionalism is a determining factor for the success of quality education (Curry & Docherty, 2017; Safitri dkk., 2022; Liu & Hallinger, 2018; Margot & Kettler, 2019). The challenge in the world of education today lies in the learning process that requires online (Rapanta dkk., 2020; Peters & Romero, 2019; Rasheed dkk., 2020). The ability of a teacher to teach through integration using digital is the key to professionalism today (Allen dkk., 2019; Noureen dkk., 2020). Therefore, teachers are expected to not only carry out their profession as usual, but teachers must also have a strong will to learn and continue to develop as the world changes (Sulisworo dkk., 2016; Sprott, 2019; Cardinal, 2019; Kay & Kummerfeld, 2019).

The professionalism of a teacher becomes a topic of ongoing discussion (Wardoyo dkk., 2017), (Kholis & Murwanti, 2019). As the government's efforts that have been carried out and implemented by the government and educational institutions. These efforts include;

1. Requires teachers to take education at a higher level according to academic qualifications. The Law on Teachers and Lecturers stipulates that teachers to gain professional competence must go through professional education and teachers are also required to have a minimum academic qualification of bachelor degree. Especially at this time, the development of the world of education and the education system is increasing (Cooc, 2019). By continuing the level of education, it is hoped that the teacher can increase his knowledge and obtain new information.

2. Requires to take part in the Teacher Certification Program. The certification program is carried out to improve the professionalism of teachers. Where certification is reflected in the existence of a fit and proper test that a person must undergo, against the criteria that have ideally been set. With the certification, teachers automatically try to improve themselves, improve the quality of knowledge, and professionalism in the world of education (Kusumawardhani, 2017).
3. Require teachers for teacher education and training. Education and training are always applied to add insight into teaching according to the times (Ben-Peretz & Flores, 2018).

Some of the above efforts have been made by the government to teachers. Where the researcher reviewed the activity, it did not involve pre-service teachers. More specifically, the researcher will conduct research with the subject of prospective physics teachers. The professionalism of prospective physics teachers must be honest, teachers must be involved in the teaching process to improve professionalism in terms of experience (Cabedo dkk., 2018; Rahiem, 2020). This may be an additional role for professionalism. Thus, it is currently the worst condition in the world of education. Applied boldly and poses a challenge for teachers or prospective teachers.

As in the introduction, the researcher focuses on how teacher candidates are able to meet the criteria for professional teachers? so that the researcher can break down into several points the objectives of this research are as follows;

1. The readiness of prospective physics teachers to teach in online system.
2. Readiness of prospective physics teachers to become professional teachers in nowadays.

RESEARCH METHODOLOGY

Researchers focus on research on a practical scale: how is the professionalism of pre-services physics teachers in online teaching? The researcher completed this research using a mixed method approach with an exploratory sequential design (Purwanto dkk., 2021). Researchers took qualitative data to find out how the views of pre-services teachers are referred to as professional teaching. Next, the researcher will describe quantitatively the ability of prospective teachers about professionalism as a teacher. The researcher presents a chart for the data collection procedure for this research as follows;

Figure 1 data collection and analysis procedure

Figure 1, it is found that qualitative data is obtained and analyzed first to find a foothold. Qualitative data obtained by using the interview method with professional teacher indicators (Fitchett & Heafner, 2018; Murat Dogan & Öztürk, 2019; Arifani dkk., 2019). The data were analyzed using Miles and Huberman analysis (Miles, Matthew B., A. Michael Huberman, and Johnny Saldaña, 2018). The researcher took quantitative data in the form of a questionnaire, and this data was analyzed statistically (Purwanto dkk., 2021). Finding data in the form of quantitative data are interpreted using descriptive statistics, mean, frequency and presentation. Researchers categorize the professionalism abilities of prospective physics teachers into four, namely;
Table 1 category of professionalism

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>76-100</td>
</tr>
<tr>
<td>Good</td>
<td>51-75</td>
</tr>
<tr>
<td>Poor</td>
<td>25-50</td>
</tr>
<tr>
<td>Very poor</td>
<td>0-25</td>
</tr>
</tbody>
</table>

Table 1 shows the categories of physics teacher candidates' professional abilities to the challenges of distance learning. This table will be the criteria for determining the category of pre-services teacher abilities. The analysis that has been done, the researcher will determine the final results of the research findings into conclusions and suggestions that can be implemented.

RESULT AND DISCUSSION

This research was carried out with the complexity and conditions of a pandemic, but procedurally the research carried out complied with the research rules and procedures for social restrictions in accordance with social rules during a pandemic. The researcher divides the research findings into two, first the results of qualitative research and followed by quantitative.

Research result

The findings of this study began with interview data, while the core findings can be summarized in table 2 below:

Table 2 resume of interview

<table>
<thead>
<tr>
<th>Finding variation code</th>
<th>Interview findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimistic</td>
<td>“…professionalism is a challenge during a pandemic or online teaching. This is complicated; in my opinion... moreover, our teaching practice has not been maximized. But, I'm working on it…”</td>
</tr>
<tr>
<td></td>
<td>“must master technology, zoom, Google team. But the problem is whether students understand and have the same facilities…this is a new problem”</td>
</tr>
<tr>
<td></td>
<td>&quot;It's easy, we hold training for teacher candidates every week. Consultation with experienced senior teachers. It's easy, so based on their stories, we can experience and become professionals. Source cut...”</td>
</tr>
<tr>
<td>Pessimist</td>
<td>&quot;...not sure. Even senior teachers still complain. What else are we going to be teachers?”</td>
</tr>
<tr>
<td></td>
<td>“I'm not sure if I'm a teacher in this condition. During a pandemic, it is quite complicated, especially when the salary is not much.”</td>
</tr>
<tr>
<td></td>
<td>“Professionalism seems to be achievable if we become teachers who are already affluent. When our salary is above 3 million. Then I can become a professional”</td>
</tr>
<tr>
<td></td>
<td>&quot;The pandemic period is not an obstacle, but the teacher's honorarium is a matter of professionalism. How do you want to be professional, just for tomorrow's meal, you're still thinking about where you want to be in debt.”</td>
</tr>
</tbody>
</table>

Table 2 shows that prospective physics teachers have optimistic and pessimistic views in responding to professionalism during the pandemic. The results show that the
pessimism experienced by prospective teachers will be a motivator. Meanwhile, the optimism of prospective teachers will make this education move forward and improve by using the online system. Other findings, table 3 shown to be quantitative data findings. Table 3 predictions of the competence of pre-services physics teachers in online teaching

<table>
<thead>
<tr>
<th>Category</th>
<th>sex</th>
<th>f</th>
<th>% of gender</th>
<th>Percent</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>Male</td>
<td>56</td>
<td>7.07%</td>
<td>18.18%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>88</td>
<td>11.11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>Male</td>
<td>66</td>
<td>8.33%</td>
<td>45.45%</td>
<td>71.25</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>294</td>
<td>37.12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>Male</td>
<td>105</td>
<td>13.26%</td>
<td>27.27%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>111</td>
<td>14.02%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very poor</td>
<td>Male</td>
<td>50</td>
<td>6.31%</td>
<td>9.09%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>22</td>
<td>2.78%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
<td>277</td>
<td>34.97%</td>
<td>100%</td>
<td>71.25</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>515</td>
<td>65.03%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows that the professionalism of pre-services physics teachers who participated in this study amounted to 792 pre-services physics teacher in the good category. The frequencies categorized as very good of 18.18% with male less than female sample, the pre-services teachers in the good category with are 45.45% male less than female sample, in the poor category are 27.27%, and very poor category with a 9.09% in all sample.

Based on the results of the research findings indicate that the ability of prospective teachers can be said to be professional. This is shown from the findings of the interviews that the researcher summarizes in table 2. Furthermore, the descriptive analysis shows a good category. The ability of professional teacher candidates is the expectation of the teaching agency (Slade dkk., 2019). In this case, efforts continue to be made to improve the professional ability of teachers.

The professional demands of a job basically describe a number of requirements that must be possessed by someone. Without having a number of these requirements, a person cannot be said to be a professional. Teaching is a professional job (Jeon dkk., 2019), therefore educational institutions and education personnel have implemented a competency-based curriculum (Kwan dkk., 2021; Mutale Muleng & Malambo Kabombwe, 2019). Professional teachers are able to master the characteristics of teaching materials and the characteristics of students (Curry & Docherty, 2017). This can be seen from the interview snippet that "to be a professional you must master technology". students say that because they strongly believe that in the future technology will be a medium for the learning process. This can be seen during the pandemic, the learning process goes online.

The problem of Indonesian education today lies in the unequal ability of teachers (Simamora, 2020). Teachers do not yet have standards to become professional teachers in accordance with pandemic conditions or teachers who understand technology. Most
senior teachers have not mastered the technology (Reisdorf dkk., 2020). This is an opportunity to improve the quality of prospective physics teachers in preparing professionalism during a pandemic. Based on the data obtained in table 3, it was found that the good and very good categories were dominated by females, this is contrary to the results of previous studies (Tambak dkk., 2021). This it is assumed that females are more willing to learn new things and have good readiness for online teaching (Safitri dkk., 2022).

Efforts are being made to improve teacher professionalism (Eggleston, 1986), the information technology revolution is a challenge as well as an opportunity for the teaching process. The role and function of technology will be meaningful if it is utilized by professional teacher candidates (Kimmons & Hall, 2018; Krutka dkk., 2017). So that when you try to become a teacher you are really professional. However, if we look at table 2 the interview findings state that the professionalism of teachers during the pandemic is not on the ability to technology but on the unfulfilled rights of teachers. This can be seen in "... the salary is not much." . This is a concern for policy makers.

The inhibiting factors that become obstacles to education related to the teaching profession can be seen from the number of teachers who do not fully pursue their profession (Taimalu & Luik, 2019). the existence of private universities as producers of teachers whose graduates are random without taking into account their future output in the field, and the lack of motivation to improve quality. The teacher also doubles as a planter, the teacher doubles as a construction worker, the teacher doubles as an employee in the company. This becomes the concentration of professionalism is disturbed. However, in the case of prospective teachers, the minds of prospective teachers are still not divided on the necessities of life.

This analysis is an excavation of information and findings that are slightly different from what the researchers expected. Researchers turned out to analyze the findings of prospective physics teachers, but in reality in the field researchers found interesting findings in the field of professionalism. However, this finding shifts slightly to professionalism that is not hampered by the pandemic, but professionalism is hampered by unfulfilled teacher rights.

These different findings are based on the findings of interviews with prospective teachers. Prospective teachers voiced about the low salary of teachers, thereby reducing the obligation to teach. Prospective teachers actually understand the condition of teachers better, so that some of the prospective teachers are reluctant to become teachers. Some of them have good optimism to become a teacher, this is because it is possible that there is another incentive to become a professional teacher.

In originality, the findings in table 3 indicate that prospective teachers have good professional abilities. This is tested by working on questions, related to cognitive. However, the weakness in this case lies in the reality on the ground. Because the professionalism should be measured when they carry out their duties as teachers. Prospective teachers experience teacher conditions affected by the pandemic. How do teachers deal with complicated situations, where they have to teach using internet
facilities, use smartphones, require an internet network, plus the complexity of the unfinished pandemic problem. The problem of the pandemic will be a trigger for the decline in teacher professionalism, this is evidenced by teachers who have not been able to master digital. In contrast, if prospective teachers are still studying, they do not feel disturbed by their professionalism because they have not faced the reality that is happening at school.

At the end of this analysis and discussion, the researcher agrees that the prospective physics teacher can be said to have good professional abilities. However, in reality later they cannot be concluded as professional researchers. Researchers also cannot predict that current professional teacher candidates will have professionalism in the world of work later. The professionalism of a teacher must be measured regularly and receive periodic evaluations in order to improve the quality of education in various situations.

CONCLUSION

The professionalism of prospective physics teachers is categorized as good. Professionalism is formed from knowledge that becomes the basic knowledge of prospective teachers facing the pandemic. The professionalism of prospective teachers is still purely cognitive based, while the professionalism of teachers is based on real time, this makes it difficult for researchers to say that current professional teacher candidates are also professional when they become teachers later. The novelty of this research is that the results of teaching professionalism are good but cannot determine professionalism in the future however it can be used as a basis for further research on how the consistency of the professionalism of prospective teachers takes place.

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REFERENCES


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