The Effect of Human Resource Management on Learning Effectiveness in Vocational Schools

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Abstract

This study aims to analyze the effect of human resource management (HRM) on the effectiveness of learning in vocational schools. This research uses quantitative methods with a meta-analysis approach. The data source came from an analysis of 10 national and international journals. The data collection process is through searching the google database, ProQuest and ScienceDirect. Data analysis techniques in quantitative analysis research by calculating the value of effect size with the help of the JSAP application. The results of this study concluded that human resource management has a significant influence on the effectiveness of learning in vocational schools with an effect size value of 0.814; P < 0.001. The findings have a positive impact on vocational school teachers to provide professional and competent teacher candidates in work. Vocational schools need to implement good HR practices to improve the quality of education and produce job-ready graduates.

Keywords: Management; Human Resources; Learning; Meta-analysis

INTRODUCTION

Vocational education plays an important role in preparing young people to enter the workforce. With vocational education, students can gain skills and knowledge that are specific and relevant to their desired industry (Grath & Yamada, 2023). This allows them to have skills that match the needs of the job market, thus increasing their chances of getting a job that matches their interests and talents (Borghans & Golsteyn, 2009). In addition, vocational education also helps students to develop soft skills such as communication, teamwork, and problem-solving that are very useful in various professional situations (Barigye, 2024)

Vocational education also helps the younger generation to become more competitive and adaptive in various work situations. By having specific skills and knowledge, students can more easily adapt to rapid technological and industrial changes. This allows them to be more innovative and
creative in solving problems encountered in the workplace (Lin, 2019; Tønder & Aspøy, 2017).
Therefore, vocational education is very important in preparing the younger generation to enter the
workforce and become part of a more competitive and innovative generation.

Vocational schools play an important role in equipping students with the skills and knowledge
needed to become a competent workforce. This allows students to have a skill set that matches the
needs of the job market, thus increasing their chances of getting a job that matches their interests and
talents (Billett & Le, 2024). Vocational schools also help students to develop soft skills such as
communication, teamwork, and problem-solving that are very useful in a variety of professional
situations. With an education that focuses on practical skills and soft skills, students can more easily
adapt to rapid technological and industrial changes (Rojewski & Hill, 2015). This allows them to be
more innovative and creative in solving problems encountered in the workplace. Therefore, vocational
schools are essential in equipping students with the skills and knowledge needed to become a
competent workforce ready to enter the workforce (Ludwig & Mayerhofer et al., 2011; Colley et al.,
2003).

Effective Human Resource Management (HRM) is very important in supporting the learning
process in vocational schools. With effective HRM, schools can ensure that their teachers and staff
have the skills and knowledge that match students’ needs. This allows teachers to deliver more
effective and industry-relevant teaching that students want (Miller, 2020). In addition, effective HRM
also helps schools in developing organizational cultures that support student success, such as a culture
of teamwork and a culture of innovation.

Effective human resources also assist schools in developing learning programs that are
integrated with industry. With an integrated learning program, students can gain experience that is
more realistic and relevant to the needs of the job market (Ágren, 2021). This allows students to have
expertise that matches industry needs, thus increasing their chances of getting a job that matches their
interests and talents. In addition, effective human resources also help schools in developing
cooperation with industry (Unwin, 2004), so that students can gain broader and relevant work
experience.

In improving the quality of education in vocational schools, effective human resources also help
schools develop a more effective evaluation system. With a more effective evaluation system, schools
can monitor student progress and identify areas for improvement (Bednall et al., 2014). This allows
schools to make more effective changes and improve the quality of education provided. Therefore,
effective human resources are very important in supporting the learning process in vocational schools
and improving the quality of education provided (Tabassi & Bakr, 2009).

The problem associated with the influence of human resource management on the effectiveness
of learning in vocational schools is the lack of quality teachers and principals that can hinder the
effectiveness of learning. Teachers who do not have the skills and knowledge that match the needs of
students can hinder the effectiveness of learning (Boxall & Purcell, 2000). In addition, lack of
motivation and career development of teachers can also hinder the effectiveness of learning (Chew & Horwitz, 2004; Colley et al., 2003). Therefore, effective human resource management is essential in improving the quality of teachers and principals, as well as increasing their motivation and career development. Based on this, this study aims to analyze the effect of human resource management (HRM) on the effectiveness of learning in vocational schools.

METHODS

This research is a quantitative research with a meta-analysis approach. Meta-analysis is a research approach that collects and analyzes primary research quantitatively to obtain a conclusion (Solissa et al., 2023; Zulkifli et al., 2022; Zulyusri et al., 2023; Nurtamam et al., 2023; Bachtiar et al., 2023; Mackey et al., 2021). The meta-analysis aims to determine the effect of human resource management (HRM) on the effectiveness of learning in vocational schools. The data source comes from an analysis of 10 national and international journals published in 2022-2024. The data collection process is through searching the google database, ProQuest and ScienceDirect. Data analysis techniques in quantitative analysis research by calculating the value of effect size with the help of the JSAP application. Furthermore, the criteria for effect size values can be seen in Table 1.

Table 1. Effect Size Value

<table>
<thead>
<tr>
<th>Effect Size</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 ≤ ES ≤ 0.20</td>
<td>Low</td>
</tr>
<tr>
<td>0.20 ≤ ES ≤ 0.80</td>
<td>Medium</td>
</tr>
<tr>
<td>ES ≥ 0.80</td>
<td>High</td>
</tr>
</tbody>
</table>

Result and Discussion

From the results of searching data sources through Google Scholar, ProQuest and Science Direct databases, 10 journals were included in the meta-analysis research. Next, the journal is analyzed based on the journal code, year of publication; journal index, source and effect size values can be seen in Table 2.

Table 2. Analysis 10 Research Data Meta-analysis

<table>
<thead>
<tr>
<th>Journal Code</th>
<th>Year</th>
<th>Journal Index</th>
<th>Source</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP1</td>
<td>2024</td>
<td>SINTA</td>
<td>Google Scholar</td>
<td>0.61</td>
</tr>
<tr>
<td>JP2</td>
<td>2022</td>
<td>SINTA</td>
<td>Mendeley</td>
<td>0.55</td>
</tr>
<tr>
<td>JP3</td>
<td>2023</td>
<td>Scopus</td>
<td>Mendeley</td>
<td>1.03</td>
</tr>
<tr>
<td>JP4</td>
<td>2023</td>
<td>SINTA</td>
<td>Google Scholar</td>
<td>0.82</td>
</tr>
<tr>
<td>JP5</td>
<td>2024</td>
<td>SINTA</td>
<td>Mendeley</td>
<td>0.78</td>
</tr>
<tr>
<td>JP6</td>
<td>2022</td>
<td>Scopus</td>
<td>ScienceDirect</td>
<td>1.19</td>
</tr>
<tr>
<td>JP7</td>
<td>2022</td>
<td>Scopus</td>
<td>ProQuest</td>
<td>2.01</td>
</tr>
<tr>
<td>JP8</td>
<td>2023</td>
<td>SINTA</td>
<td>Google Scholar</td>
<td>0.94</td>
</tr>
<tr>
<td>JP9</td>
<td>2024</td>
<td>SINTA</td>
<td>Google</td>
<td>0.84</td>
</tr>
</tbody>
</table>
Based on Table 2, the lowest effect size value of the 10 journals analyzed was 0.55 medium effect size criteria and the highest effect size value was 2.01 high effect size criteria. Furthermore, according to the effect size criterion (Balemen & Özer Keskin, 2018) of the 10 effect sizes analyzed, 7 studies had high effect size values and 3 studies had medium effect size values. Next, conduct a heterogeneity test to determine the heterogeneity of the 10 research data analyzed. The results of the heterogeneity test can be seen in Figure 3.

Table 3. Heterogeneity Test Results

<table>
<thead>
<tr>
<th>Type</th>
<th>n</th>
<th>Effect Size</th>
<th>Z</th>
<th>ONE</th>
<th>Q</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>10</td>
<td>0.715</td>
<td>0.523</td>
<td>0.015</td>
<td>44.190</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Random</td>
<td>10</td>
<td>0.827</td>
<td>0.698</td>
<td>0.262</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 3, heterogeneity test analysis obtained a fixed random effect model value of 0.715 and random effect model of 0.827. This finding shows that the 10 effect sizes analyzed are heterogeneously distributed with a value of $Q = 44.190; P < 0.001$. In addition, the model used in this meta-analysis is the random effect model. Next, check publication bias with funnel plot and Egger's test which can be seen in Table 4.

Figure 1. Funnel Plot

Figure 1, the results of effect size analysis through funnel plots cannot be known whether the curve is symmetrical or asymmetrical. Therefore, it is necessary to conduct the Egger's test which can be seen in Table 4.
Table 4. Egger's Test Results

<table>
<thead>
<tr>
<th>Sei</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.733</td>
<td>&lt; 0.006</td>
</tr>
</tbody>
</table>

Based on Table 4, the z value is 2.733 and p < 0.006. The findings concluded that the 10 effect sizes analyzed did not have publication bias and the funnel plot curve was symmetrical. Next, test the hypothesis through summary effect size with random effect model which can be seen in Table 5.

Table 5. Summary Effect Size

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Standard error</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.814</td>
<td>0.261</td>
<td>0.612</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Table 5, the results of the summary effect size analysis obtained an overall effect size value of 0.814. This finding concludes that human resource management provides a high significant influence on the effectiveness of learning in teaching schools with a value of Z = 0.612; P < 0.001. These findings are consistent with research (Klimovskikh et al., 2023) Management of Menusia resources has a positive influence on learning in vocational schools. These results are supported by (Cheng et al., 2023) Human resource management can improve the professionalism and performance of teachers in schools.

Learning in vocational schools has become an important concern in improving the quality of education. Research has shown that teacher human resource development has an important role in improving teacher performance and the quality of education in schools. The development of teacher human resources can improve work discipline and teacher performance, as well as improve the overall quality of education (Ngoc &; Hoang-tien, 2022). Therefore, the development of teacher human resources must be the main focus in improving the effectiveness of learning in vocational schools. Teacher HR development can be done through various ways, such as training and professional development, achievement motivation, and career development. Training and professional development can improve teachers' skills and knowledge, so they can provide more effective teaching (Unwin, 2004). Achievement motivation can increase teachers' motivation to improve their performance, while career development can increase opportunities for teachers to improve their skills and knowledge. Thus, the development of teacher human resources can improve the effectiveness of learning in vocational schools.

In addition, the development of teacher human resources can also improve the quality of education through the development of more effective learning strategies. More effective learning strategies can improve the quality of education by improving students' skills and increasing students' awareness of the importance of education (Shah &; Soomro, 2023). Thus, the development of teacher human resources can increase the effectiveness of learning in vocational schools and improve the overall quality of education (Balatbat, 2010). In improving the effectiveness of learning in vocational schools, the development of teacher human resources must be carried out in an integrated manner with
the development of more effective learning strategies. Teacher human resource development should be done by improving teachers' skills and knowledge, increasing teacher motivation, and increasing opportunities for teachers to improve their skills and knowledge (Zhang & Chen, 2023). Thus, the development of teacher human resources can increase the effectiveness of learning in vocational schools and improve the overall quality of education.

CONCLUSION

From the results of this study, it can be concluded that human resource management has a significant influence on the effectiveness of learning in vocational schools with an effect size value of 0.814; P< 0.001. The findings have a positive impact on vocational school teachers to provide professional and competent teacher candidates in work. Vocational schools need to implement good HR practices to improve the quality of education and produce job-ready graduates. The development of excellent and quality human resources of teachers and principals contributes to improving the quality of education. Work discipline and teacher achievement motivation also play an important role in improving teacher performance and education quality. Therefore, this study suggests that human resource development should be the main focus in improving the effectiveness of learning in vocational schools, as well as paying attention to the needs of human resource development and school goals.

REFERENCE


