

# The Effect of Knowledge Management and Teamwork on Teaching Effectiveness

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**Abstract.** This research describes the role of knowledge management and teamwork in teaching effectiveness. This research uses the quantitative approach with survey methods. The research sample of 101 civil servant teachers in Sukabumi City, West Java, Indonesia. Data collection using valid and reliable questionnaire instruments. The results showed a significant positive relationship between knowledge management and teaching effectiveness. In addition, there is a significant positive relationship between teamwork and teaching effectiveness. Based on these findings, teaching effectiveness can be improved by strengthening knowledge management and teamwork in school.

**Keywords:** teaching effectiveness, knowledge management, teamwork.

## 1 Introduction

Teachers have a crucial role in educational institutions. Teachers are role models for students. The teacher shapes the future of the student. The implication is that teachers need the ability to perform teaching effectively. The teacher's success in influencing the student's success depends on his teaching effectiveness ability [1]. Students will succeed if the teacher is effective in teaching.

The teaching effectiveness shows the achievement of the goals or objectives the teacher has set for his students. Research shows that teaching effectiveness positively impacts learning motivation, student satisfaction, and quality of education [2–4]. In addition, other research shows that teaching effectiveness positively impacts school performance, teacher job satisfaction, and a favorable climate in schools [2–7]. Therefore, efforts to improve teachers' ability to effectiveness in teaching effectiveness, including the search for variables that affect teaching effectiveness, need to be elaborated.

The literature study results showed that no studies investigated the correlation between knowledge management and teamwork in schools and teaching effectiveness. Therefore, conducting correlation research on these three variables is very important. The position on the point of teaching the teacher must be high. If the findings are that there is a significant positive relationship, then an increase in teaching effectiveness can be through improved knowledge management and teamwork in schools.

Teaching effectiveness refers to the teacher's achievement in meeting teaching objectives, student participation, student adaptation, and the achievement of student learning outcomes which are reflected in the results of learning evaluation [8]. Hernández [1] states that teaching effectiveness has six domains: learning climate, classroom management, teaching clarity,

enabling teaching, teaching strategies – different learning. Meanwhile, Assalihee & Boonsuk [5] stated that the effectiveness of education is reflected in the ability of teachers to formulate instructional approaches, manage learning resources, and organize classrooms based on local needs and identities.

Knowledge management refers to knowledge creation, knowledge flow management, and the effective and efficient use of knowledge in an organization [9]. Knowledge management generally becomes three basic processes: knowledge acquisition, integration, and application [10]. Caputo et al. [11] stated that knowledge management consists of knowledge acquisition activities, documentation, transfer, creation, and application that have a significant impact on organizational performance, human resources (HR), and technology infrastructure (IT). Knowledge management positively impacts employee performance, job satisfaction, learning, knowledge distribution, and work productivity [12]. Factors affecting the success of knowledge management depend on organizational policies, leadership, communication, motivation, technological resources, and evaluation for knowledge management assessment and measurement [13].

Teamwork refers to the collaborative activities of individuals in a cooperative environment with sound and mutually beneficial relationships in achieving common goals through knowledge and skills-sharing activities [14]. Sridharan & Boud [15] stated that teamwork is a small group that works in an interdependent manner to achieve common goals through various skills, interpersonal communication, and joint decision-making.

Quality teamwork can improve school performance. The quality of teamwork can be attributed to high-quality interaction in the team, which affects the team and individual success. Four factors affect the quality of teamwork: communication, the balance of member contributions, mutual support, and cohesion [16]. According to Gersdorf-Van den Berg et al. [17], teamwork has a variety of attributes, including team member commitment, motivation in the team, feelings of respect in the group, a shared ability to address issues, community, and a shared focus. Work teams are essential to creating a conducive team climate and teamwork engagement [17].

## **2 Method**

The purpose of this study is to describe the correlation of knowledge management and teamwork with teaching effectiveness. Research design using a quantitative approach [18, 19] by survey method [20–22]. Research site in Sukabumi City, West Java, Indonesia. The study population was public elementary school teachers. The study sample was 101 teachers. The research instrument used three questionnaires: the effectiveness of teaching, knowledge management, and teamwork. Research instruments refer to the study of previous concepts, theories, and research [23, 24].

Researchers define teaching effectiveness as teacher activities in teaching that achieve a certain level of success indicated by: the achievement of learning objectives, the use of learning media, the use of time following the lesson plan, the regulation of the learning environment, and the accuracy of evaluation [5, 8, 25–28]. Knowledge management is a teacher's activity in identifying, creating, sharing, using, and managing knowledge systematically to achieve school goals with indications: the use of technology, organizing knowledge, motivating, growing inside, and providing knowledge resources [9, 12, 29, 30]. Meanwhile, teamwork is teachers' group activity to achieve common school goals with

indications: cooperation, common goals, communication, good relations, and trust [31–33].

Data collection used previously tested instruments on 30 teachers outside the sample. Instrument trials aim to ensure that tools meet validity standards [34–36] and reliability [37, 38]. Test validity using *Pearson product-moment* [39, 40]. Reliability test using *the alpha Cronbach formula* [41, 42]. The results of the instrument trial of 40 statement points obtained valid statement items of 34 teaching effectiveness points, 35 knowledge management points, and 34 teamwork points. The reliability value of the instrument is 0.8774 for teaching effectiveness, 0.876 for knowledge management, and 0.8922 for teamwork. Measurement scale using the Likert scale [43].

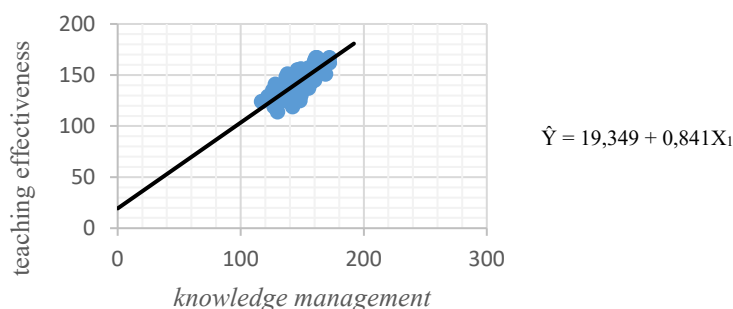
Teknik analysis uses inferential statistics so that the data must meet normal and linear requirements. Hasil normality test using Liliefors test on *variable knowledge management* on teaching effectiveness obtained  $L_{test} = 0.039$  and  $L_{table} = 0.088$ . The normality test results using the Liliefors test on the teamwork variable against teaching effectiveness were obtained  $L_{test} = 0.058$ ,  $L_{table} = 0.088$ . Based on these findings, research data is usually distributed. The data linearity test using ANAVA showed that  $F_{test}$  is smaller than  $F_{table}$ , so the *variables knowledge management* and *teamwork* on teaching effectiveness are declared linear.

Finally, the study tested the hypothesis [44, 45] using simple correlation, double correlation, and coefficient determination analysis. Hypotheses tested: (1) There is a positive correlation between knowledge management with the effectiveness of teaching; (2) There is a positive correlation between teamwork with teaching effectiveness.

### 3 Results and Discussion

#### 3.1 Results

The test results on the first hypothesis found a positive and very significant *correlation between knowledge management* and teaching effectiveness. The functional relationship between the two variables is explained in the form of a graph as follows:



**Fig. 1.** Testing the Linearity of *Knowledge Management* on Teaching Effectiveness

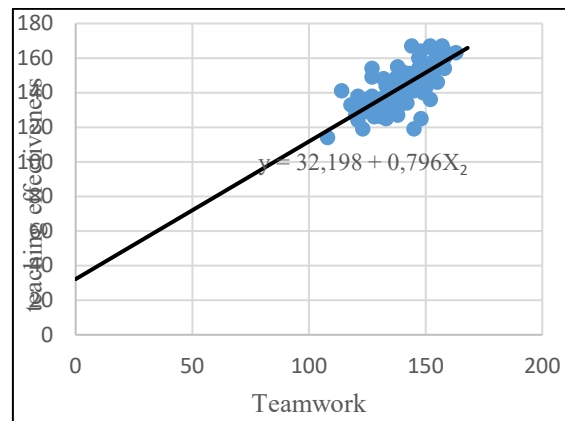
The results of testing with SPSS showed that the correlation coefficient for *knowledge management* to teaching activity was 0.8189. The results of the correlation significance test showed the  $t_{test}$  value ( $24.74$ )  $>$   $t_{table}$  ( $2.626$ ). This means that the correlation between knowledge management and teaching effectiveness is positive and significant (see table 1).

The coefficient of determination is 0.6707. That is, the contribution of knowledge management to teaching effectiveness is 67.07%.

**Table 1.** Correlation Coefficient Testing Results

$r_{y1}$	$r^2_{y1}$	$t_{test}$	$T_{table}$ ( $\alpha=0,01$ )	$T_{table}$ ( $\alpha=0,05$ )	Conclusion
0,8189	0,6707	24,74	2,626	1,984	Very Significant
Significance level testing requirements: $t_{test} > t_{table}$					

The test results on the second hypothesis found a positive and very significant relationship between *teamwork* and teaching effectiveness. The functional relationship between the two variables is explained in the form of a graph as follows:



**Fig. 2.** Linear Testing between *Teamwork* and Teaching Effectiveness

The research results through SPSS found that the coefficient correlation of *teamwork* on teaching effectiveness was 0.7424. The results of the correlation significance test show the value of  $t_{test} (16,461) > t_{tabel} (2,626)$ . This means the correlation between the teamwork  $t$  coefficient and teaching effectiveness is positive and significant (see table 2). The coefficient of determination is 0.5512. This means that the contribution of *the teamwork t* coefficient to teaching effectiveness is 55.12%.

**Table 2.** Results of Significance Level Testing

$r_{y2}$	$r^2_{y2}$	$t_{test}$	$T_{tabel}$ ( $\alpha=0,01$ )	$T_{tabel}$ ( $\alpha=0,05$ )	Conclusion
0,742	0,5512	16,461	2,626	1,984	Very Significant
Significance level testing requirements: $t_{test} > t_{tabel}$					

## 3.2 Discussion

The findings of this study have implications. First, improving the effectiveness of teaching can be done through the improvement of *knowledge management*. Second, this study's results confirm that *knowledge management* plays a vital role in organizational performance [46] and employee performance [47]. Third, knowledge management improvements impact the implementation of learning organizations (Bordeianu, 2015) and healthy organizations [12]. Fourth, in educational *institutions*, *knowledge management* increases teacher innovation [48] and teaching effectiveness [49].

Based on this research, the improvement of *knowledge management*, which is statistically proven to improve the effectiveness of teaching, is the use of technology, organization of knowledge, motivation, cultivation of knowledge, and provision of knowledge resources. The findings of this research are in line with previous research that the use of technology [50], organizing knowledge in schools [51], motivation [52], culture [53], and school resources [54] plays a role in improving the effectiveness of teaching.

The subsequent implication is that improving teaching effectiveness can improve *teamwork* in schools. These findings confirm that teamwork in the organization plays an important role. Teamwork, in general, plays a role in enhancing organizational performance [55], increasing the spirit of learning and innovation [16], and collaboration [15]. Furthermore, school teamwork has been shown to affect school work climate and teaching effectiveness [56, 57].

Based on this research, the improvement in *teamwork* in schools that is statistically proven to increase teaching effectiveness is cooperation, kesamaan tujuan, communication, good relations, and trust. The findings of this study are in line with previous research that collaboration [31], the similarity of goals [58], communication [59], good relations [60], and trust [61] have proven to affect the effectiveness of teaching.

## 4 Conclusion

The effectiveness of teaching, which is reflected in the achievement of learning objectives, the use of media, the use of appropriate time efficiency, the regulation of the learning environment, and the accuracy of evaluation, can continue to increase. In addition, this research has shown that teaching effectiveness can be improved through the *variables of knowledge management* and *teamwork* in schools. Based on these findings, schools can continue to improve teaching effectiveness by continuously improving various indicators related to *knowledge management* and *teamwork*. These indicators include technology, organizing knowledge, motivating, cultivating knowledge, providing knowledge sources, cooperation, similarity of goals, communication, good relations, and trust.

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