

TEACHING PERFORMANCE ASSESSMENT AND THE STUDENT'S ACADEMIC ACHIEVEMENT

Estiningtyas Estiningtyas¹, Christiana Arin Proborini²

Earthing Research Lab¹

STIKes Mitra Husada Karanganyar²

*Email korespondensi: bidanesti@gmail.com

ABSTRACT

Student achievement has focused on several empirical studies to measure the education output by examining the student performance measured by the standardised test and school resources characteristic concerning educational quality. Teacher performance assessment is a vital aspect of the learning process that directly affects students' knowledge attainment. This study aimed to analyse the difference between the teaching performance assessment and students' academic performance. The design used was an observational analytic study with a cross-sectional approach. The population of the study is the Level 1 Nursing Students at Mitra Husada Health College. The sampling techniques used were total sampling, resulting in 53 respondents. The instrument used was the Teaching Performance Assessment rubrics filled by the students and the final exam scores. The Kolmogorov-Smirnov and Kruskal Wallis were deployed to analyse the data. The study results show that the difference in teaching performance assessment is not associated with students' academic achievements. Teaching performance assessment does not contribute to cognitive outcomes but may significantly impact non-cognitive outcomes. The level of the exam affects the test scores. Teachers and policymakers should rely on more than just the cognitive effects measured by test scores. However, teacher performance may have a high impact on the skill and attitude development of the students.

Keywords: Test Score, Teacher Performance, Teacher Professional Skill, Student Outcomes

INTRODUCTION

Student achievement has focused on several empirical studies to measure the education output by examining the characteristics of student performance tests and school resources concerning educational quality (Sirait, 2016). Policymakers, stakeholders, education institutions, parents, and the students themselves frequently use the standard test as an indicator to assess education output. The student's achievement is frequently measured by the test score given in the mid and final exam of the semester, the assignments score and attendance percentage. The policy of measuring student achievement may vary based on each school's system. Nevertheless, the semester exam test score usually contributes the highest portion to the calculation of academic achievement. Excellent final exam scores significantly increase the chance of having

a good grade point. Student achievement is an essential indicator in assessing the teaching process (Darling-Hammond, 2014)

According to Borman and Kimball (2005), standardised systems for teaching performance assessment use comprehensive standards and rubrics to improve instruction and strengthen accountability. The requirements for improving education quality in the United States included (a) designing and implementing standards and high-quality assessments, (b) attracting and retaining excellent teachers and leaders in schools, (c) enhancing data systems that improve decisions and instructions, (d) reforms to transform struggling schools and (e) implement sustainable educational improvement system ("United States Department of Education," 2009a).

In Indonesia, many programs have been developed to enhance the educational background and classroom teaching performance. Teachers must continuously improve their teaching skills as an essential modality to effectively transform knowledge into students. Academic scores have been an essential consideration in the academic community and the professional setting in assessing the student's level of knowledge. However, there are other factors besides the standard academic score for success. Communities and health provider institutions need more professional and soft skills, such as an attitude towards high-quality care. The Framework for Teaching provides a common language to emphasise teacher performance evidence-based judgments (Rowley, 2010). Teaching practice is summarised by four domains: planning and preparation, classroom environment, instruction, and professional training (Danielson, 2013).

The main factors related to students' academic achievements are parental education, family size, and income (Coleman et al., 1996), which means that teacher performance is not significantly related to student academic achievements. The study reported that family education background strongly influences the students' achievement. The students with weak family education backgrounds, if mixed with the family with a robust educational experience, will likely increase their academic achievement. In another study by Hanushek (1992), as cited in Sirait (2016), a student's family consistently affects student achievement. School resources, such as teacher characteristics, school expenditure, class size, and classroom management, are examined in the various studies. In contrast, according to Aaronson, Barroe, and Sanders (2007) and Hanushek (2010), as cited in Sirait (2016), teacher characteristics significantly affect the students' achievement instead of class size. Milanowski (2004b) conducted a similar study in Cincinnati that analysed the relationship between teacher evaluation scores and student achievement.

As it stands, assessing student achievement in teacher evaluation remains a critical field of research as it states new policies to measure effective teaching practice. If performance evaluation results have a positive relationship with student achievement, it could provide information on the effects of teacher quality (Borman & Kimball, 2005). A positive relationship between performance evaluation scores and student achievement would suggest that helping teachers improve professional practice would improve student learning (Kimball, White, & Milanowski, 2004). The following chapter will establish a foundation for studying the relationship between performance evaluation ratings and student achievement.

Further study has linked teacher classroom practices to student achievement. These practices include specific teaching strategies such as communicating clear learning objectives and expectations for student performance, utilising standards-based learning objectives and assessments, and utilising best instructional practices. Holtzapple (2003) compared student achievement with teachers' evaluation scores derived from Danielson's Framework for Teaching. The study found that teachers who received low ratings on Danielson's instruments' instructional domain had lower achievement scores. Conversely, teachers with advanced or distinguished ratings generally had students with higher-than-expected test scores, and teachers

rated proficient had students with average gains. This study aimed to analyse teacher performance assessment related to student academic performance based on the various study findings of the relationship between teacher performance assessment and student academic performance.

METHOD

This study was a quantitative correlational design using the cross-sectional approach. The study investigates the relationship between the Teaching Performance Assessment (TPA) score as perceived by the students and students' achievement measured by the final exam scores on four subjects studied: Philosophy and Nursing Theory, Fundamental Nursing Concepts, Indonesian Language, and English for Nursing I.

This study was conducted at Mitra Husada Health College in August 2020. The study population were Level I of Bachelor of Science Nursing Students of STIKes Mitra Husada Karanganyar. The sampling techniques used were total sampling, with 53 students. The study's independent variable is the Teaching Performance Assessment score, and the dependent variable is student academic achievement. The inclusion criteria were (1) students who attended a minimum of 75% of the total meetings in the Philosophy and Nursing Theory, Fundamental Nursing Concepts, Indonesian Language, and English for Nursing I and (2) students who agreed to be the respondents after being given informed consent. The exclusion criteria were students who were absent when the questionnaire was distributed in class.

This study's instrument adapted the standard Teaching Performance Evaluation Form from Universidade Nova de Lisboa, translated into Indonesian. The evaluation form is valid and reliable in Universidade Nova de Lisboa, Portugal. The instrument is a questionnaire that consists of 5 expectations, and each has performance indicators. The expectations are (1) establish a safe, respectful, and effective environment (2) plan, design, and assess instruction effectively (3) Implement education that engages students in learning; students construct meaning and participate in a community of learners (4) Communicates effectively with students, families, staff, and society (5) professionally conducts oneself. Each of the expectations has indicators with a total of 18 numbers. Every indicator's scale is a minimum of 0 and a maximum of 3, which resulted in the total point of the form is 54.

The assessment form was distributed after the last meeting of the semester (the 14th meeting). Primary data were taken from students who completed the Teaching Performance Evaluation Form. The secondary data, the student's final exam scores, were taken from the Committee of Exam of the Nursing Study Program. The final exam scores were Philosophy and Theory of Nursing, Fundamental Nursing Concept English for Nursing I, and Indonesian Language subjects. The test form is all multiple choice.

The univariate analysis tool used was the Kolmogorov-Smirnov Statistical Test to analyse the data normality of teacher performance assessment and final exam score. Furthermore, every subject used the Kruskal Wallis to analyse the difference between teacher performance assessment and final exam scores.

RESULT

Analysis Univariate

The Teacher Performance Assessment (TPA) normality test data using the Kolmogorov-Smirnov Statistical Test resulted in the abnormal data distribution with p-value 0.001. TPA scores were then transformed, and the normality of the data is still not generally distributed with a p-value of 0.002.

The final exam scores were tested using the Kolmogorov-Smirnov Statistical Test, which resulted in a P-value of 0.000. This means that the data was not normally distributed. Furthermore, the transformed data still needed to be generally distributed with a P-value of 0.000.

Furthermore, the mean of the TPA scores and final exam scores is shown in the table below.

Table 1. Comparison of Mean of TPA Scores and Final Exam Scores

Teacher of the subject	Mean of TPA Scores	Mean of Final Exam Scores
Philosophy and Theory of Nursing	42.21	69.13
English for Nursing I	39.58	37.00
Indonesian Language	39.04	70.00
Fundamental Concept of Nursing	38.81	67.57

As shown in Table 1, the highest mean score is Philosophy and Theory of Nursing Teacher (42.21), followed by English for Nursing I (39.58), then followed by the Indonesian language (39.04), and the lowest mean score is Fundamental Concept of Nursing (38.81). It can be seen that the teacher of Philosophy and Theory of Nursing has the highest performance as the students perceive.

As indicated from Table 1, the highest mean of final exam score is on the Indonesian Language subject that is 70,00, followed by Philosophy and Theory of Nursing that is 69.13, then followed by Fundamental Concept of Nursing that is 67.57, and the least is English for Nursing I with 37.00

The next step of the data analysis is the parametric test. The parametric test conditions to utilize the *One Way ANOVA* is not met in this data; therefore, the *Kruskal Wallis* was employed.

Table 2. Comparison of the Difference Between the Group of TPA Score and Final Exam Score

	Teacher Performance Assessment Score	Interpretation	Final Exam Score	Interpretation
Asymp. Sig	.019	there is a difference in TPA score	.000	There is a difference in the final exam score

Analysis Bivariate

a. Teacher Performance Assessment (TPA) score

Analysis post Hoc is utilized to examine the difference of TPA scores among the teachers with the Mann-Whitney statistical test.

Table 3. The Difference in TPA Scores Among Teachers

Teacher of the subject	Philosophy and Theory of Nursing	Indonesian Language	Fundamental Concept Nursing
English for Nursing	.046	.681	.520
Indonesian Language	.007	-	.882
Fundamental Concept Nursing	.005	-	-

As shown in Table 3, the p-value of comparison between TPA score of Philosophy and Theory of Nursing and TPA score of the teacher who teaches English for Nursing, Indonesian Language, Fundamental Concept of Nursing are 0.046, 0.007, and 0.005 that indicates the significant difference as compared to the other TPA scores. The teacher of subject Philosophy and Theory of Nursing performance is significantly different than the others. From the mean score, it can be seen that the Philosophy and Theory of Nursing teacher show a better performance score than the other teachers.

b. Students academic achievement

Analysis post Hoc is utilized to examine the difference of final exam scores among the teachers with the Mann-Whitney statistical test.

Table 4. The difference of the Final Exam Scores of The Subjects

Teacher of the subject	Philosophy and Theory of Nursing	Indonesian Language	Fundamental Concept Nursing
English for Nursing	.000	.000	.000
Indonesian Language	.013	-	.964
Fundamental Concept Nursing	.332	-	-

Table 4 illustrates the significant difference between the final score of each subject. The p-value of the final exam score of English for Nursing subject compared to Philosophy and Theory of Nursing, Indonesian Language, and Fundamental Concept of Nursing is 0.000, 0.000, 0.000. In comparison, the p-value of Philosophy and Theory of Nursing and Indonesian Language is 0.013, which means a significant difference between the final score of Philosophy and Theory of Nursing and Indonesian Language.

From table 1, the mean score of English for Nursing is the lowest with 37.00 as compared to Indonesian Language subject that is 70.00, followed by Philosophy and Theory of Nursing that is 69.13, then followed by Fundamental Concept of Nursing that is 67.57, indicates that English for Nursing shows a minor students achievement. The lowest mean score in

English for Nursing Subject is because English is not the mother language. English has considered the most challenging subjects that the students experience difficulty learning during the learning process in class even though the teacher's TPA score is correct.

DISCUSSION

From the result findings, there is a significant difference in the teacher performance assessment (TPA) on the p-value of Philosophy and Theory of Nursing. The TPA score of the teacher who teaches English for Nursing, Indonesian Language, Fundamental Concept of Nursing is 0.046, 0.007, and 0.005 that indicates the significant difference as compared to the other TPA scores. The teacher of subject Philosophy and Theory of Nursing performance is significantly different than the others. From the mean score, it can be seen that the Philosophy and Theory of Nursing teacher show a better performance score than the other teachers.

The study confirms that teachers are one of the most critical school-based resources in determining students' future academic success and lifetime outcomes, yet have simultaneously had difficulties defining what teacher characteristics make for an effective teacher (Košir, Tement, 2013). Teacher experience, teacher professional knowledge are significantly associated with student academic achievements (Burroughs, Gardner, Lee, Guo, Touitou, Jansen, Schmidt, 2019).

Teacher Performance Evaluation Form is a questionnaire consists of 5 expectations, and each has performance indicators. The expectations are (1) establishes a safe, respectful, and effective environment (2) plans, design, and assesses instruction effectively (3) Implements education which engages students in learning; students construct meaning, and participate in a community of learners (4) Communicates effectively with students, families, staff, and society (5) professionally conducts oneself.

The expectation number (1) establishes a safe, respectful, and effective environment means that teacher accept the students, respect their identity and self-worth, and also build an excellent environment to achieve the learning objectives. The acceptance that students are learners who need to be facilitated during the process enables students to get the guidance of learning and minimize confusion. Respect of the teachers' personal identity improves the sense of worth of the students. It improves students' interest to learn more about the subject. A suitable environment enables the teacher to organize the learning process towards achieving the learning objective and preventing the material that is unrelated to the learning objectives.

The expectation number (2) plans, design, and assesses instruction effectively benefit the teacher in organizing the material and learning process more effectively. The expectation number (3) implements an engaging learning strategy, construct meaning, and participate in a community of learners, enable the students to focus their attention on the teacher and learning material and facilitate critical thinking and a sense of belonging and maintaining students active participation in the learning process.

Expectation number 4) communicates effectively with students, families, staff, and community supports the effective delivery of the material and instruction. Effective communication enables students to understand the material given. While the last expectation number (5) professionally conducts oneself to establish the professional performance on the appearance and speaking manner in the classroom and at school and ensure the teacher acts according to the standard of ethics.

However, there is no significant difference in the teacher performance assessment to students' academic achievements in this study. Following David (2016), this finding stated that there is no relationship between classroom management by the teachers and student achievement. These results diverge from recent research highlighting the importance of classroom organization and interactions with students, often above other classroom features (Loeb, Miller,

& Wyckoff, 2013). In particular, Kane et al. (2013) found positive relationships between these sorts of classroom practices, as captured on the Framework for Teaching observation instrument, and student achievement; estimates were similar in magnitude to the relationship between classroom instruction and student outcomes. One reason for these differences may be that these other studies did not account for additional dimensions of teacher and teaching quality. Therefore, the observed relationship between classroom organization and student achievement may be driven by other practices and skills related to this type of instruction.

Nevertheless, teacher performance has no significant difference in the students' academic achievement because the academic achievement is measured by the multiple-choice type that only measure the cognitive function. It may be a substantial contributor to the high-stakes achievement test or non-cognitive outcomes as an important topic for future research.

Over the last decade, researchers have leveraged data from subsequent experiments to validate the use of non-experimental methods for estimating teacher effects on students' test scores (Bacher-Hicks et al., 2015; Kane et al., 2013; Kane & Staiger, 2008; Glazerman & Prottik, 2015). These studies have been consistent in their findings: controlling for students' prior achievement accounts for the vast majority of bias in teacher performance effects on students' current achievement. Thus, the evidence to date suggests that researchers and policymakers may no longer need to rely on experiments and random assignment to identify teachers who are effective on the raised test scores.

The finding in this study showed that English for Nursing has a significant difference in the mean score than the other subject because English is considered a complex subject by the students. English is not often used at school, which is in a rural area. It contributes to the low exams score (37.00) even though the teacher performance is no different from the other teachers. This finding suggests that the level of difficulty of the test has contributed to the low mean scores. This study's limitation is that we did not control the proportion of the level of difficulty of the exam set by analysis of test items. It is highly suggested that in the future study, the balance of difficulty of exam test need to be controlled, so there is no bias on the level of difficulty.

CONCLUSION AND RECOMMENDATION

There is no significant difference in the teacher performance assessment on the students' academic achievements that only measure cognitive outcomes. The teacher performance may positively contribute to the non-cognitive results. The level of difficulty of the test positively contributes to the academic achievement measured by the cognitive outcomes. Teachers and policymakers should not rely only on the cognitive outcomes that are measured by test scores. However, teacher performance may have a high impact on the skill and attitude development of the students.

REFERENCES

- Aaronson, D., Barrow, L., & Sander, W. (2007). Teachers and student achievement in the Chicago public high schools. *Journal of Labour Economics*, 25(1), 95-135.
- Bacher-Hicks, A., Chin, M., Kane, T. J., & Staiger, D. O. (2015, March). *Validating components of teacher effectiveness: A random assignment study of value-added, classroom observation, and student perception survey scores*. Paper presented at the Society for Research on Educational Effectiveness annual conference, Washington, DC.

- Blazar, D., Kraft M. A. (2017). *Teacher and Teaching Effects on Students' Academic Performance, Attitudes, and Behaviors*. Doctoral dissertation, Harvard Graduate School of Education. <https://doi.org/10.3102%2F0162373716670260>
- Borman, G., & Kimball, S. (2005). Teacher quality and educational equality: Do teachers with higher standards-based evaluation ratings close student achievement gaps? *The Elementary School Journal*, 106(1), 3-20 DOI: 10.1086/496904
- Burroughs N, Garner J, Lee Y, Guo S, Touitou I, Jansen K, Schmidt W. (2019). *Teaching for Excellence and Equity*. Springer Open. IEA. Cham, Switzerland. <https://doi.org/10.1007/978-3-030-16151-4>
- Coleman, J. S. (1966). Equal schools or equal students?. *The Public Interest*, (4), 70.
- Danielson, C. (2013). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision & Curriculum Development.
- Darling-Hammond, L., Amrein-Beardsley, A., Haertel, E., & Rothstein, J. (2012). Evaluating teacher evaluation. *The Phi Delta Kappan*, 93(6), 8-15. <https://doi.org/10.1177/003172171209300603>
- Glazerman, S. & Protik, A. (2015). Validating Value-Added Measures of Teacher Performance. Working Paper. Retrieved 20 August 2020 from <https://www.aea-web.org/aea/2015conference/program/retrieve.php?pdfid=1241>
- Holtzapple, E. (2005). Criterion-related validity evidence for a standards-based teacher evaluation system. *Journal of Personnel Evaluation in Education*, 17(3), 207–219.
- Kane, T. J., McCaffrey, D. F., Miller, T., & Staiger, D. O. (2013). *Have we identified effective teachers? Validating measures of effective teaching using random assignment*. Seattle, WA: Bill and Melinda Gates Foundation.
- Kane, T. J., & Staiger, D. O. (2008). Estimating teacher impacts on student achievement: An experimental evaluation (No. w14607). *National Bureau of Economic Research*.
- Kimball, S., White, B., & Milanowski, A. (2004). Examining the relationship between teacher evaluation and student assessment results in Washoe county. *Peabody Journal of Education*, 79(4), 54. https://doi.org/10.1207/s15327930pje7904_4
- Košir, K., Tement, S. (2014). Teacher-student relationship and academic achievement: a cross-lagged longitudinal study on three different age groups. *Eur J Psychol Educ* 29, 409–428. <https://doi.org/10.1007/s10212-013-0205-2>
- Loeb, S., Miller, L. C., & Wyckoff, J. (2015). Performance screens for school improvement: The case of teacher tenure reform in New York City. *Educational Researcher*, 44(4), 199-212.
- Milanowski, A. (2004). The relationship between teacher performance evaluation scores and student achievement: Evidence from Cincinnati. *Peabody Journal of Education*, 79(4), 33–53. https://doi.org/10.1207/s15327930pje7904_3

Rowley, J., Hunt, T., Carper, J., Lasley, T., & Raisch, D. (2010). *Teacher Evaluation (Vol. 2)*. Thousand Oaks, CA: Sage Publications, Inc. DOI: 10.4135/9781412957403.n107

Sirait, S. (2016). Does Teacher Quality Affect Student Achievement? An Empirical Study in Indonesia. *Journal of Education and Practice*. Vol.7, No.27 Available at SSRN: <https://ssrn.com/abstract=2846795>

United States Department of Education. (2009b). The facts about no child left behind. Retrieved from <http://www2.ed.gov/nclb/overview/intro/parents/parentfacts.html>