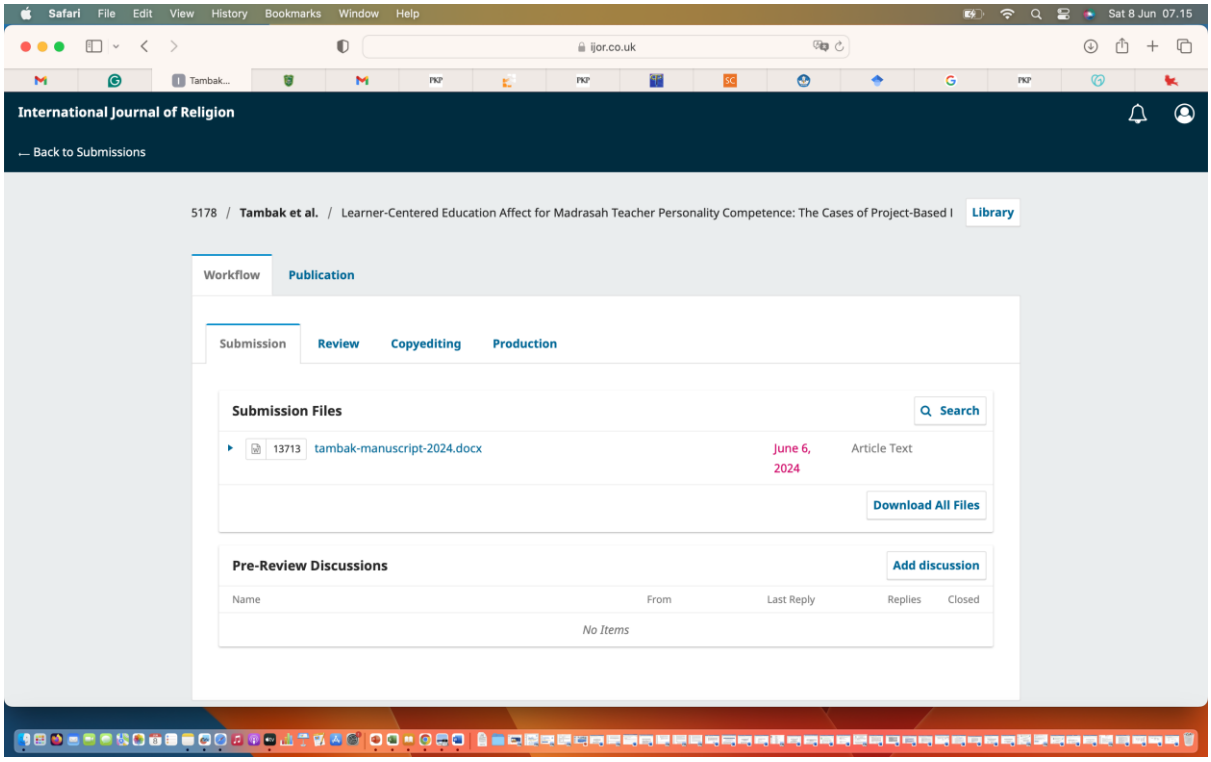
BUKTI KORESPONDENSI
ARTIKEL JURNAL INTERNASIONAL BEREPUTASI

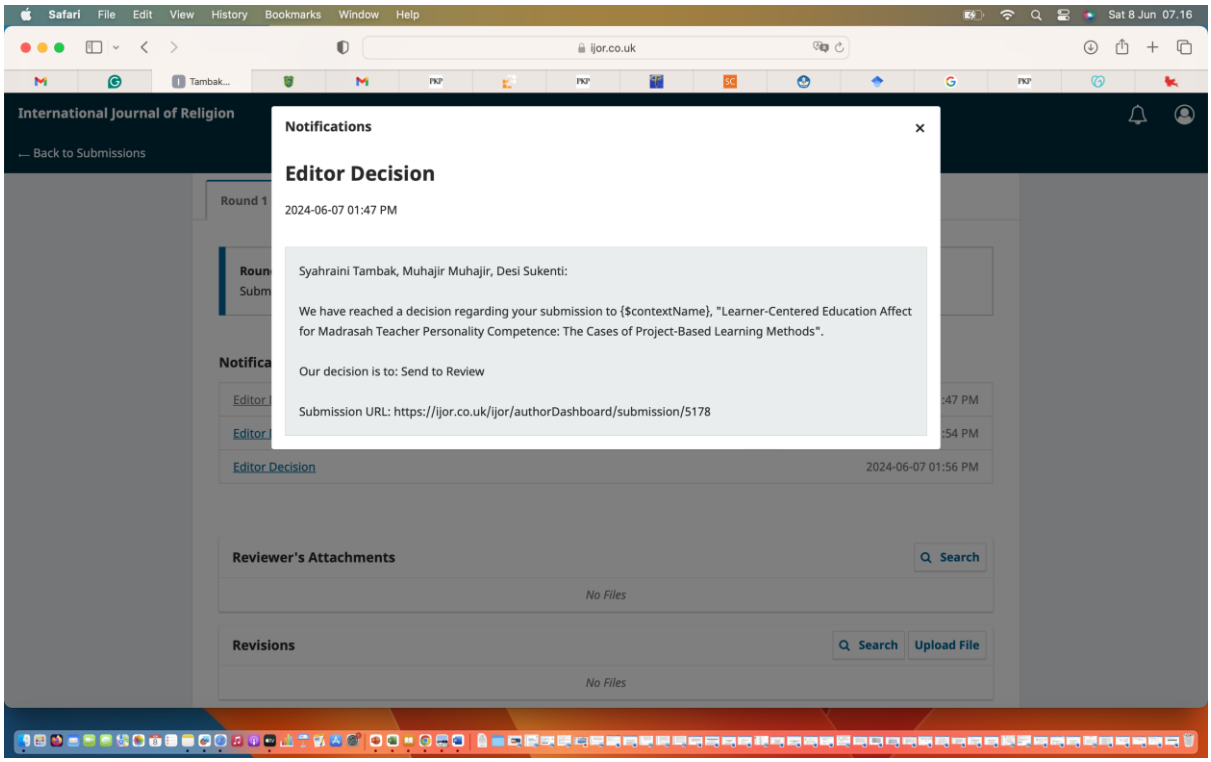
Judul artikel : Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods
Jurnal : International Journal of Religion 2024 Volume: 5| Number 11 | pp. 947 – 959
Penulis : Muhajir Muhajir, Syahraini Tambak and Desi Sukenti

No	Perihal	Tanggal
1	Bukti Konfirmasi submit artikel dan artikel yang disubmit	06 Juni 2024
2	Bukti konfirmasi review	07 Juni 2024
3	Bukti konfirmasi submit revisi, respon kepada reviewer, dan artikel yang diresubmit	07 Juni 2024
4	Bukti penilaian reviewer terhadap artikel	07 Juni 2024
5	Bukti konfirmasi artikel accepted	07 Juni 2024
6	Letter Of Acceptance	07 Juni 2024
7	Perintah untuk melakukan publication fee ke Jurnal	07 Juni 2024
8	Bukti finalisasi artikel	07 Juni 2024
9	Bukti melakukan pembayaran publication fee ke Jurnal	11 Juni 2024
10	Bukti artikel published online	14 Juni 2024

1. Bukti Konfirmasi submit artikel dan artikel yang disubmit 06 Juni 2024

Korespondensi dengan Editor International Journal of Religion





Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods

Abstract: This study aims to explore whether increasing the use of project-based learning (PBL) by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers in learning. Using data collected from a project-based learning (PBL) intervention program, this study used a quasi-experimental method to assess how PBL is associated with teachers' personality competence, and analyzed using a t-test. Generally, the personality competence of madrasah teachers is only considered as a determinant of the practice of teaching Islamic religious education, but we found that the personality competence of madrasah teachers can be positively influenced by the increased use of PBL in learning. Among the madrasah teacher personality competence subscales, PBL is positively related to student engagement and teaching in learning. Analysis using student data shows that students' positive responses to Islamic religious education learning practices can mediate the relationship between PBL and the personality competence of madrasa teachers. This research has implications for the development of the PBL model in improving the personality competence of madrasa teachers in learning Islamic religious education.

Keywords: *Project-based learning, personality competence, learning and instruction, madrasah teacher professionalism.*

INTRODUCTION

The personality competence of madrasa teachers is the ability to teach in themselves as well as the ability to become personality teachers (König, et al. 2021; Irmawati, Asri, & Aziz, 2021; Murkatik, Harapan, & Wardiah, 2020; Rusilowati, & Wahyudi, 2020), has been found to be associated with various teacher characteristics and behaviors (Rusilowati, & Wahyudi, 2020; Karuniawati, Rahayu, & Ladamay, 2021). In particular, various theories describe that the personality competence of madrasah teachers determines the abilities and teaching methods related to instructional practice (Guillén-Gámez, et al. 2021; König, et al. 2021; Snoek, 2021; Suprayogi, Valcke, & Godwin, 2017; Tambak & Sukenti, 2024). In addition, the personality competence of teachers contributes to self-personality development (McGarr, & McDonagh, 2021; Guillén-Gámez, et al. 2021; Snoek, 2021; Tambak & Sukenti, 2024) and also improves the quality of an educational institution.

However, most studies examining the relationship between teachers' personality competence and learning practices have relied on cross-sectional data (Rusilowati, & Wahyudi, 2020; König, et al. 2021; McGarr, & McDonagh, 2021; Tambak, et al. 2020; Tambak et al., 2022). This means that the data used for the analysis can allow for comparisons across respondents, but cannot explain changes over time, severely limiting the empirical ability to identify causality. Furthermore, the theoretical discussion of teacher personality competence implies that there is a reciprocal or cyclical relationship with classroom experience (Tambak & Sukenti, 2020; Lukiianchuk, et al. 2021; Komar, et al. 2021; Muna, Sunardi, & Widyastono, 2021). Thus, teacher personality competence itself may be an outcome that is influenced by changes in instructional practice. Other research reveals that personality competence implies the process of self-development with personalityism in learning at madrasas (Efendi, 2021;

Hamzah, Tambak, & Tanjung, 2020; Tambak, Ahmad, & Sukenti, 2020; Muna, Sunardi, & Widyastono, 2021).

These various studies illustrate that personality competence is more psychologically researched in the learning process, but has not revealed the strengthening of project-based learning in madrasa teacher learning. This research is a new thing where the personality competence of madrasa teachers is given a solution with a project-based learning method that is different from previous research. Thus, to explore empirically the relationship between the personality competence of madrasah teachers and instructional learning practices, this study uses data from a project-based learning (PBL) program intervention that took place in Pekanbaru City, Riau, Indonesia. In 2019, the Ministry of Religion of Riau Province provided four public madrasah aliyah in Pekanbaru City with PBL program interventions to encourage teachers in madrasas by changing the learning method from teacher-centered lectures to student-centered PBL. In the PBL program, the treatment group teachers were given training on how to apply PBL and asked to use it in the classroom for one semester, while the seven control group teachers did not receive any encouragement to change their learning practices. With data pooled on teachers and students from the program, we used a quasi-experimental research method to assess how increased use of PBL over one semester was associated with changes in teacher personality competence in madrasas in learning.

This research is very urgent to be carried out in order to empirically explore the relationship between the personality competence of madrasa teachers and instructional practices using data from project-based learning (PBL) program interventions in teaching Islamic religious education for madrasa teachers. PBL in various theories provides development in the learning process (Syakur, et al. 2020; Guo, et al. 2020; Miller, Severance, and Krajcik, 2021; Sukenti & Tambak, 2022; Santyasa, Rapi & Sara, 2020; Sukenti & Tambak, 2020). The application of PBL can develop a quality and competitive learning atmosphere and environment, as well as the development of a tradition of higher-order thinking for students (Wu, & Wu, 2020; Safaruddin, et al. 2020; Pérez, & Rubio, 2020; Kim, 2020; Abuhmaid, 2020; Tambak et al., 2023). Thus, the focus of this study is to explore the following: the use of project-based learning affect the personality competence of madrasa teachers in Islamic religious education.

METHOD

Participant

A total of fourteen Madrasah Aliyah in Pekanbaru City, Riau, Indonesia participated in this study, seven of which consisted of a treatment group and seven a control group. The main targets of the program are teachers from these madrasas who teach one of the four core subjects of Islamic religious education: Akidah Akhlak, Al-Qur'an Hadith, Fiqh, and Islamic Cultural History, to students from Madrasah Aliyah (grade XI). A total of 139 teachers who meet these criteria participate in the PBL program. The response rates of the treatment group teachers for the pretreatment survey were 78% (56 teachers out of 72) and 67% (48 teachers out of 72) for the post-treatment survey. The control group teacher response rates were 55% (37 teachers out of 67) for the pre-treatment survey and 49% (33 teachers out of 67) for the post-treatment survey.

The analysis for this study was conducted based on disproportionate data, meaning that some teachers and students only participated in either the pre-treatment or post-treatment surveys. Among the 117 unique teachers in the sample, 57 (48.7%) teachers took part in both the pre-treatment and post-treatment surveys, while 36 (30.8%) teachers took part only in the pre-treatment survey and 24 (20 .5%) took part only in the post-treatment survey. In the final analysis of the sample for teacher survey data, the number of observations in the pre-treatment

period was 93 (53.4%) and the number of observations in the post-treatment period was 81 (46.6%). For student survey data, among a unique sample of 1268 students, 1107 (87.3%) took part in the pre- and post-treatment survey, while 109 (8.6%) only took part in the pre-treatment survey and 52 (4.1) %) took part only in the post-treatment survey.

A summary of the basic background characteristics of teachers and students is presented that among the 56 teachers in the treatment group, 82% were female, 38% had attained a master's degree or higher education level, the average total teaching experience was 150.13 months (SD 99 ,39), or about 12.5 years, the average school year at the current school is 24.15 months (SD 41.81), or about 2 years, and 79% are on permanent contracts. The basic means t-test between the treatment group and the control group found no statistically significant difference between the two groups. Among the treatment group students in the pre-treatment phase, 44% were female and had a mean language score of 2.66 (score range: 0 to 5; SD 1.48). T-tests of the baseline revealed that there were no significant differences between the treatment and control group students in terms of gender composition and Islamic religious education scores, but the treatment group had a higher proportion of students with parents who had a bachelor's degree. To directly account for these differences, we included them as control variables across all regression models.

Sample selection

The selection of madrasahs in the treatment and control groups was not random, which could potentially bias estimates and limit the extent to which causal interpretations can be made. Taking into account the representativeness of the sample, one treatment school is selected from seven different school districts within the city, and a suitable control school is selected within the same district. Control madrasas were selected to be the same sex (one sex, at the madrasah and grade level) as treatment schools, and were located within 2 km. Thus, we have two madrasah (one experimental school and one control school) per district in our sample, as close as possible to each other in terms of gender structure and geographic location. Madrasa teachers or students themselves did not voluntarily or self-select into the treatment or control groups, which eliminates concerns for potential selection bias.

Although the study sample was not randomly selected, the differences in background characteristics across madrasa teachers and students in the treatment and control groups were minimal. Also, we show that the probability of being in the treatment group versus the control group does not differ between teachers based on most of the observable characteristics. The same can be said for students. Each variable characteristic was controlled for all regressions. In terms of policy, the madrasas in our study are in the same city of Pekanbaru, and Pekanbaru operates a very centralized education system, where madrasas are identical in terms of minimum training and certification requirements to become a teacher, curriculum and textbooks, teacher salaries, and finances. operational. The relatively high degree of homogeneity across treatment and control schools lends credence to the validity of the quasi-experimental research design.

Design

To assess the relationship between PBL and the personality competence of madrasah teachers, this study used a quasi-experimental method using survey data collected from teachers and students in two periods; before and after the use of PBL in the classroom for one semester. We mainly use two empirical methods: the difference-in-difference design and the instrumental variables through a two-stage least squares estimate. These two methods are often

used in policy evaluation studies that aim to analyze the causal impact of policies on the outcome variables of interest (Angrist & Pischke, 2008). For the analysis using teacher data, the dependent variable of interest is a measure of teacher self-efficacy and its subscale. For the analysis using student data, the dependent variables of interest were students' perceptions of their teacher's efforts to encourage interest, level of class preparation, students' self-assessments about their class participation, and self-assessments about how often they shared ideas in class. class. Since teacher and student data can only be linked at the school level, and there were only 14 madrasah in the study, directly assessing the relationship between student and madrasa teacher variables is not feasible. Therefore, we first analyzed teacher data to assess how PBL was associated with teachers' personality competence and its subscales. Next, we analyzed student data to evaluate how students responded to PBL. This made it possible to indirectly assess whether the relationship between PBL and personality competence might be related to PBL-induced changes in students.

Measurement

Over the years, various methods of measuring teacher personality competence have been developed (Zee & Koomen, 2016). This study uses the short form of the Madrasah Teacher Personality Competency Test developed by Tambak (2017). TKPGM consists of a factor structure that is stable and broad enough to cover a wide range of relevant teacher abilities for teaching. It is one of the most widely used madrasa teacher personality competency instruments, including in the national madrasa teacher survey. The questionnaire for the TKPGM used in this study consisted of 54 items which were divided into three subscales of madrasah teacher personality competence, with madrasah teacher personality competence as a whole being the average of ten subscales. Each of the 54 items measures the extent to which madrasah teachers feel they have the ability to manage learning and is rated on a 4-point Likert scale, ranging from “not at all” to “A” a lot.” The subscale of madrasa teacher pedaodic competence is (a) personality competence Madrasah teachers in learning (b) Madrasah teachers' personality competencies in learning management (c) and Madrasah teachers' personality competencies in engagement Cronbach's Alpha was used to assess the internal consistency of the instrument, which showed (a 0.93) for the entire instrument.

To measure PBL frequency, we used a dummy variable derived from teacher self-reported use of “multiple projects in progress” reported on a four-point Likert scale: 1) Never or almost never; 2) Sometimes; 3) Often; 4) In all or almost all lessons. If the teacher reported using PBL either “never or almost never” or “sometimes,” the variable was coded as 0, and if the teacher reported using PBL “often” or “In all or almost all lessons,” the variable was coded as 1. The measure of PBL frequency in the student survey was constructed in the same way as the madrasa teacher survey.

For student outcomes, we measured their perceptions of their teacher's level of effort to stimulate student interest, level of class preparation, students' own level of participation in class, and their own frequency of brainstorming with other students in the class. All measures are reported on a four-point Likert scale: 1) Strongly disagree; 2) Disagree; 3) Agree; 4) Strongly agree. In addition, to assess the academic ability of students, we provide an Islamic religious education exam consisting of five questions, with possible scores ranging from 0 to 5.

Procedure

The PBL program consists of pre-semester training sessions and actual implementation during the madrasa semester. Between June and July 2019, teachers from the seven treatment madrasahs were trained for a total of about 30 hours (across four days) on how to conduct PBL

in their classrooms. The sessions are led by six doctors who specialize in researching and implementing PBL. A pair of lecturers is responsible for training meetings for each of the two madrasas. The training content consists of learning the basic concepts of PBL, developing inquiry questions for PBL, understanding the roles of teachers and students, and designing and planning courses. For each pair of lecturers in charge of training for two madrasah, one focuses on the first two elements of the training while the remaining lecturers focus on the last two.

Data analysis

For madrasa teacher survey data, across all variables and periods, the rate of missing scores ranged from 0.6% to 2.3%. For student survey data, the two variables had two missing values each, for a 0.08% loss rate. Average imputation is used to handle missing cases. Each missing value is replaced by the mean value of the relevant variable, taken from the appropriate school and respondent period. Although not presented in the study, there was no significant difference in the results compared with the analysis performed after deletion of the list of respondents with missing values for any of the variables included in the regression model.

We first estimated the treatment effect of the PBL program using a difference-in-difference design. The difference-in-difference method captures the effect of treatment by comparing the change in the mean over time of the outcome variable for the treatment group with the change in the mean over time for the control group. The required assumption is that in the absence of treatment, changes over time in the outcome variables for the treatment and control groups will be identical. This assumption is known as the parallel trend assumption, because it requires time trends in the outcome variables to be parallel between the two groups prior to treatment. He should note that the assumptions require trends to be identical, not the rate of outcome variables. If this assumption holds, the difference in changes over time between the treatment and control groups is interpreted as a causal effect of treatment (Khaldi, 2017). Empirical verification of the assumption of parallel trends requires data to be collected at multiple time points before treatment takes place. However, because we only have data for a single period before and after treatment, we cannot directly assess the assumption of parallel trends. Nonetheless, due to the relatively high degree of homogeneity across the treatment and control groups, it is unlikely that any differences in trends in the outcome variables were attributable to factors other than the PBL program intervention. The empirical model (Gaciu, 2020) that we used to derive the difference-in-difference estimate is stated:

$$Yijt=\beta0+\beta1TreatjxPostt+\beta2Treatj+\beta3Postt+Xig+\varepsilon ijt$$

where is the subscript i; J; and t represents the individual (either teacher or student), school, and period, respectively. yijt is the dependent variable of interest, such as personality competence for madrasah teachers or student responses for students, individual i in school j at time t: All dependent variables are standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of group scores control. This was done to facilitate interpretation, especially in terms of how the results changed relative to the control group. If it is equal to 1, then the respondent belongs to a nursing school, and if 0, then the respondent is part of the madrasa control. Postt is equal to 1 if time t is the post-treatment period (i.e., after the fall 2016 semester) and 0 if time t is the pre-treatment period (i.e., before the intervention). Treatj Postt (Djafar, et al. 2021) is an interaction between indicator variables for treatment and time period. Xi is a vector control variable consisting of individual characteristics such as: respondents. For madrasah teachers, they included gender, education level, total teaching experience (in months), current teaching experience at madrasas (in months), and type of employment contract. For students, they included the student's gender, parental education level, eldest child status, and test math scores. ijt is an error term, clustered at the school level.

In addition to using PBL in the classroom, treatment group teachers were given PBL consultations during the semester, which may be independently related to teacher self-efficacy. Although we found that the use of PBL by treatment group teachers increased significantly after treatment, any treatment effects we found through the difference-in-difference design may still be partly attributable to consultation. To solve this problem, we use a two-stage least squares instrumental variable estimation. This approach allows us to empirically estimate the changes in PBL use caused by PBL programs, and analyze how these exogenous changes are associated with the personality competence of madrasah teachers.

RESULTS AND DISCUSSIONS

Teacher analysis

Table 1 reports the effect of the PBL program on the personality competence of madrasah teachers and their subscales, estimated through the design differences expressed in (Equation (1)). The first column shows that the PBL program is associated with an increase in the personality competence of madrasah teachers by 0.942 standard deviations ($p < 0.01$). Column 2 reports that the PBL program has a significant relationship with the personality competence of madrasah teachers in instruction with a standard deviation of 1.011 ($p < 0.01$), and Column 4 reports that personality competence in engagement is significantly related to the PBL program of 0.899 standard deviations ($p <0.01$). The results in column 3 show that the PBL program has no significant effect on the personality competence of madrasah teachers in classroom management. This indicates that personality competence in teaching and student engagement drive the positive impact that PBL programs have on the personality competence of madrasah teachers as a whole. Among the madrasah teacher personality competence subscales, PBL had the strongest impact on teachers' personality competence in engagement, which might be expected, given that the central change reflected in treatment was changes in instructional practice.

Table 2 reports the results of the instrumental approach variables on the impact of using PBL on the personality competence of madrasah teachers and their subscales. The results of the first stage regression (Equation (2)) are found in column 1 of Panel (b). The intervention program increased the likelihood of implementing PBL in the classroom either “often” or “in all or almost all subjects” by 44.6 percentage points ($p < 0.05$). This provides further evidence that the PBL intervention program causes significant changes in the way teaching takes place in the classroom. Panel (a) of Table 2 reports the estimates of the second stage of the instrumental-variable approach regression (Equation (3)). The predicted PBL frequency values obtained from the first-stage regression estimation were collected and entered into the regression to estimate Equation (3). In column 1 of panel (a), an exogenous increase in the use of PBL was associated with an increase in the personality competence of madrasah teachers by 2,270 standard deviations ($p < 0.1$). Self-efficacy in instruction and engagement was also found to be positively influenced by PBL, increasing by 2.115 standard deviations ($p < 0.1$) and 2.016 standard deviations ($p < 0.05$), respectively. As was the case in the difference-within-difference estimate, PBL was found to have no significant effect on personality competence in classroom management.

Student analysis

The positive associations found between madrasah teachers' personality competencies and PBL could be mediated by the effect that PBL has on students. At Madrasah aliyah Pekanbaru, students are placed in one classroom, and teachers in charge of different subjects come in different classes at different hours to teach their respective subjects, so grade level

analyzes linking student and teacher outcomes cannot be carried out. Students and teachers can connect at the madrasah level, but because our data contains only twelve madrasas, the school-level analysis would lack sufficient statistical power. Because of this, we can only estimate the relationship between PBL student reports and student responses, and indirectly conclude that any effect found in the student data may be related to the positive association found between PBL and teachers' personality competence in the madrasah teacher data.

Table 3 reports the estimated difference-in-difference obtained through equation (1) using student survey data. Estimates were obtained for the entire sample as well as for the madrasah subsample consisting of the three treatment group madrasah in which PBL increased the most and their respective control madrasahs matched. Responses from the teacher survey and student survey showed that teachers from Madrasah Aliyah Negeri 1, Madrasah Aliyah Negeri 2, and Madrasah Aliyah Negeri 4 had the largest increase in the use of PBL after the PBL program. Column 2 of panel (a) shows that the PBL intervention program led to an increase in the perception of efforts to attract teachers' interest by 0.155 standard deviation ($p < 0.1$). There was no statistically significant relationship between the PBL program and other student variables. In panel (b), where the analysis was limited to the three care schools in which: PBL increased the most and their matched control madrasah, we found that the PBL program increased the madrasa teacher's perception of interest by persuasion effort by 0.360 standard deviation ($p < 0, 05$). This shows very good development.

Tabel 1

Project-based learning and personality competence: Difference-in-Differences estimates.

	(1)	(2)	(3)	(4)
Dependent variable:	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Post Treat	0.942***	1.011***	0.509	0.899***
	(0.299)	(0.272)	(0.327)	(0.242)
Post	0.012	0.318	0.028	0.013
	(0.202)	(0.184)	(0.235)	(0.166)
Treat	0.740**	0.811**	0.588**	0.571***
	(0.245)	(0.263)	(0.250)	(0.179)
Student math score	0.046	0.103	0.089	0.067
	(0.165)	(0.136)	(0.160)	(0.157)
Female	0.091	0.202	0.088	0.020
	(0.473)	(0.452)	(0.497)	(0.315)
MA and above	0.082	0.022	0.077	0.083
	(0.304)	(0.264)	(0.311)	(0.237)
Total teaching experience	0.004**	0.003**	0.003*	0.003*
	(0.002)	(0.001)	(0.002)	(0.001)
Experience at current school	0.001	0.002	0.000	0.002
	(0.002)	(0.003)	(0.002)	(0.002)
Permanent	0.724*	0.559	0.662	0.674**
	(0.378)	(0.328)	(0.446)	(0.272)
Observations	174	174	174	174
R-squared	0.222	0.319	0.131	0.212

Note: Postal code: 1 if the post-treatment period, 0 if the pre-treatment period; Treatment: coded 1 if in the treatment group, 0 if in the control group; Math scores: School-level students' average math test scores (score 0e5); Female: coded 1 if female, 0 if male; MA and above: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent: coded 1 if the employee is permanent, 0 if the contract is temporary. The dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher self-efficacy was obtained through the average of three self-efficacy subscales (instruction, student engagement, classroom management). The survey questions to assess the madrasa teachers' personality competence subscale were answered on

four points: The Likert scale (1: "Not at all" ~ 4: "A lot"), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Estimates obtained through the instrumental variable approach are reported in table 4. Separate estimates are reported for those obtained with the entire sample (Panel (a)) and the subset of the three madrasah with the greatest improvement in PBL and their matched control schools (Panel (b)). In Panel (a), it was found that PBL increased the perception of madrasa teacher interest induction efforts by 0.792 standard deviation ($p < 0.1$) and the extent to which students shared ideas with each other in class with a standard deviation of 0.995 ($p < 0.1$). There is no significant relationship with the perception of teacher class preparation or student class participation. When the analysis is limited to three madrasahs that experienced the greatest increase in PBL and their matched control madrasahs, increased use of PBL was associated with an increase in the perception of classroom preparation teachers by 0.674 standard deviations ($p < 0.1$), an increase in perceptions of the madrasa teacher's interest in persuasion efforts of 1.010 standard deviations ($p < 0.1$ 0.01), and an increase in students' sharing of ideas in class with a standard deviation of 0.724 ($p < 0.1$).

Table 2
Project-based learning and madrasah teacher personality competence: Two-stage least squares estimates.

(a) Second stage

Dependent variable:	(1)	(2)	(3)	(4)
	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Predicted PBL	2.270*	2.115*	1.143	2.016**
	(1.190)	(1.159)	(0.945)	(0.949)
Post	0.122	0.421	0.250	0.378
	(0.646)	(0.636)	(0.509)	(0.522)
Treat	841**	0.768**	.603**	0.597**
	(0.334)	(0.325)	(0.288)	(0.259)
Observations	174	174	174	174

(b) First stage

Dependent variable: Project-based learning	(1)
Post Treat	0.446**
	(0.158)
Post	0.194
	(0.131)
Treat	0.013
	(0.066)
Observations	174
F-statistic	14.89

Note: Project-based learning: The dummy variable is coded 1 if project-based learning is used either "Often" or "In all or almost all lessons," 0 if "Never or almost never" or "Sometimes"; PBL prediction in Panel (a) is the PBL prediction value obtained from regression in Panel (b); Post: coded 1 if the post-treatment period, 0 if the pre-treatment period. Treatment: coded 1 if in the treatment group, 0 if in the control group. All regressions controlled for the following: Gender: coded 1 for female, 0 for male; Teacher education level: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: code 1 if permanent employee, 0 if temporary contract. The second stage dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Madrasah teacher personality competence was obtained through an average of three subscales of madrasah teacher personality competence (instruction, student involvement, classroom management). Survey questions to assess the personality competence subscale of madrasah teachers were answered on a four-point Likert scale (1: "Not at all" ~ 4: "A lot"), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Table 3:
Project-based learning and student outcomes: Difference-in-differences estimates.

(a) Sample: All schools				
Dependent variable:	(1)	(2)	(3)	(4)
	Teacher preparation	Teacher inducement	Share idea	Class participation
Treat Post	0.090	0.155*	0.159	0.093
	(0.086)	(0.084)	(0.114)	(0.079)
Observations	2266	2266	1944	2266
R-squared	0.013	0.011	0.011	0.072
Dependent variable:	(1)	(2)	(3)	(4)
	Teacher preparation	Teacher inducement	Share idea	Class participation
Post Treat	0.240	0.360**	0.214	0.027
	(0.130)	(0.090)	(0.157)	(0.114)
Observations	1146	1146	988	1146
R-squared	0.012	0.018	0.011	0.059

Note: All dependent variables were standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher inducement: students' general perception of the teacher's efforts to encourage participation (1: “Strongly disagree” ~ 4: “Strongly agree”); Teacher preparation: students' general perception of teacher preparation for class (1: “Strongly disagree” ~ 4: “Strongly agree”); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: "Not at all" ~ 4: "A lot"); Class participation: self-assessment of enthusiastic class participation (1: “Strongly disagree” ~ 4: “Strongly agree”). All control regressions were as follows: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Type of work: coded 1 if permanent worker, 0 if temporary contract. Top 3 PBL Madrasah refers to the treatment madrasah and its rival madrasas where the increase in the use of PBL is among the largest (top 3) among the treatment schools. Standard error clustered at school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Tabel 4:
Project-based learning and student outcomes: Two-stage least squares estimates.

(a) Second stage - All schools				
Dependent variable:	(1)	(2)	(3)	(4)
	Teacher preparation	Teacher inducement	Share idea	Class participation
Predicted PBL	0.457	0.792*	0.995*	0.472
	(0.438)	(0.439)	(0.603)	(0.429)
Observations	2266	2266	1944	2266
Dependent variable:	(1)	(2)	(3)	(4)
	Teacher preparation	Teacher inducement	Share idea	Class participation
	(0.348)	(0.355)	(0.433)	(0.303)
Observations	1146	1146	988	1146

Dependent variable: Project-based learning	(1)	(2)
	All schools	PBL top 3
Treat Post	0.196***	0.357***
	(0.038)	(0.052)
Observations	2266	1146
F-statistic	346.90	295.38

Note: Regression in Panel (b) is limited to the top 3 treatment madrasas in terms of increased use of PBL as well as corresponding control madrasas. PBL predictions in Panel (a) are obtained from the first stage regression in Panel (c), Column 1; PBL predictions in Panel

(b) were obtained from the first stage regression in Panel (c), Column 2. Teacher induction: student motivation general perceptions of teacher efforts to encourage participation (1: “Strongly disagree” ~ 4: “Strongly agree”) ; Teacher preparation: students' general perceptions of class preparation teachers (1: “Strongly disagree” ~ 4: “Strongly agree”); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: “Not at all” ~ 4: “A lot”); Class participation: self-assessment of enthusiastic class participation (1: “Strongly disagree” ~ 4: “Strongly agree”). All regressions controlled for the following: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: coded 1 if permanent employee, 0 if temporary contract. Standard error clustered at the madrasa level. ***p < 0.01, **p < 0.05, *p < 0.1.

In this study, we explore whether increasing the use of PBL by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers. Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class.

The positive associations found between PBL and the personality competence of madrasah teachers indicate that learning practices are not only the result of madrasah teachers' personality competence, as is generally perceived, but can also lead to changes in madrasah teachers' personality competences. Based largely on analysis using cross-sectional data, researchers tend to treat the personality competence of madrasa teachers only as a determinant of the learning method approach (Suprayogi, Valcke, & Godwin, 2017; Zee & Koomen, 2016; Tambak, & Sukenti, 2020; Tambak, et al. al.2020; Ritonga, et al. 2021). This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers. Analysis of the data collected over two time periods with the quasi-experimental PBL method provided greater support for interpreting causality than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor influencing the pedagogy of madrasah teachers, contributing to the literature seeking to understand teacher personality competency development (Lobczowski, et al. 2021; Tambak, & Sukenti, 2019; Tambak, et al. 2021; Ritonga, et al. 2021).

From the three main sources of developing personality competence of madrasah teachers rooted in social cognitive theory, it is possible that experience plays a major role in improving the personality competence of madrasah teachers. Experience mastery occurs when teachers view their performance as madrasa teachers to be successful. It is possible that PBL leads to a more positive educational experience among students, leading to an increase in the personality competence of madrasah teachers (Owens, and Hite. 2020; Untari, et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020; Untari. , et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020;). Due to data limitations, we did not directly assess the relationship between students and the personality competence of madrasah teachers. However, the positive associations found between PBL and student outcomes support the possibility of mastery experiences (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019; Tambak, Amril, & Sucenti, 2021; Hamzah, Sucenti, Tambak, & Tanjung, 2020). Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers'

positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence.

This study is not without limitations which should be addressed in future research. First, the potential limitation of this study is the use of a subject-netr measure of madrasah teacher personality competence. Some scholars argue the need to develop the personality competence of madrasa teachers in a closer relationship with the specific teacher context such as the subject being taught (Ljung-Djärf, Agneta, & Peterson., 2014; Chaijum, & Hiranyachattada, 2020; Akharraz, 2021; Sukenti, Tambak, & Siregar, 2021). Although the additional predictive value and generalizability of such constructs have not been determined, the use of various measures of madrasa teacher personality competence in future research may lead to more robust estimates. Second, this study only used teacher self-reported measures of teacher personality competence. However, simply assessing teachers' own assessments can lead to positive or negative self-assessment bias, which can distort and underestimate the relationship between teachers' personality competencies and others. Drawing on multiple data sources to measure personality competence, such as using teacher and student ratings, can allow for more reliable and stable measurements (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019). Third, there are limitations with regard to the generalizability of the main findings. The sample size of this study was relatively small, and the study was only conducted in schools in Pekanbaru Metropolitan City. Also, the madrasa teacher survey has a relatively low response rate. Thus, there may be limitations in generalizing the findings to national or international levels. Future studies should aim to expand the sample of madrasah teachers, both in scope and number, to obtain more generalizable findings. Finally, this study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the instructional approach can be expanded (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time points.

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers in Islamic religious education learning. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to teachers' perceptions of class preparation, attempts to induce teacher interest, and the frequency with which students share ideas in class.

This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers in learning Islamic religious education. Analysis of the data collected over two time periods by quasi-experimental methods provided greater support for causal interpretation than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor that affects the personality competence of madrasah teachers, a contribution to the literature that seeks to understand the development of madrasah teachers' personality competencies in Islamic religious education learning. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the duration of using the instructional approach can be extended (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time

points. So, madrasa teacher self-efficacy is a crucial thing to be developed in language learning through a capable PBL process in the madrasa teacher profession.

CONCLUSION

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class. Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers' positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester.

ACKNOWLEDGMENT

We thank to the Institute of Research and Community Service at the Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Serang, Indonesia for funding this research. Hopefully the resulting scientific work can be a trigger to bring up better works in the future.

REFERENCES

Abuhmaid, A. M. (2020). The Efficiency of Online Learning Environment for Implementing Project-Based Learning: Students' Perceptions. *International Journal of Higher Education, 9*(5), 76-83. https://doi.org/10.5430/ijhe.v9n5p76.

AKHARRAZ, M. (2021). The Impact of Project-Based Learning on Students' Cultural Awareness. *International Journal of Language and Literary Studies, 3*(2), 54-80. https://doi.org/10.36892/ijlls.v3i2.601

Aksela, M., & Haatainen, O. (2019). Project-Based Learning (PBL) in Practise: Active Teachers' Views of Its' Advantages And Challenges. In *Integrated Education for the Real World 5th International STEM in Education Conference Post-Conference Proceedings*. Queensland University of Technology.

Alotaibi, M. G. (2020). The Effect of Project-Based Learning Model on Persuasive Writing Skills of Saudi EFL Secondary School Students. *English Language Teaching*, *13*(7), 19-26. https://doi.org/10.5539/elt.v13n7p19.

Angrist, J. D., & Pischke, J. S. (2008). Parallel worlds: fixed effects, differences-in-differences, and panel data. In *Mostly harmless econometrics* (pp. 221-248). Princeton University Press. https://doi.org/10.1515/9781400829828-010.

Berselli, G., Bilancia, P., & Luzi, L. (2020). Project-based learning of advanced CAD/CAE tools in engineering education. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, *14*(3), 1071-1083. https://doi.org/10.1007/s12008-020-00687-4.

Chaijum, N., & Hiranyachattada, T. (2020). Integrated Learning and Project-Based Learning for Project of Electrical Measurement and Instrumentations in Electrical Engineering Course. *European Journal of Science and Mathematics Education*, *8*(1), 6-11. https://files.eric.ed.gov/fulltext/EJ1242181.pdf.

Djafar, H., Yunus, R., Pomalato, S. W. D., & Rasid, R. (2021). Qualitative and Quantitative Paradigm Constellation In Educational Research Methodology. International Journal of Educational Research & Social Sciences, *2(2), 339-345. https://doi.org/10.51601/ijersc.v2i2.70*.

Efendi, S. (2021). Lecturer's Professional Competence in Developing Student Learning at the National University. *Jurnal Mantik*, *5*(2), 701-706. https://doi.org/10.35335/mantik.Vol5.2021.1385.pp701-706.

Gaciu, N. (2020). *Understanding Quantitative Data in Educational Research*. Sage.

Guillén-Gámez, F. D., Mayorga-Fernández, M., Bravo-Agapito, J., & Escribano-Ortiz, D. (2021). Analysis of teachers' professionalal digital competence: Identification of factors predicting their acquisition. *Technology, Knowledge and Learning*, *26*(3), 481-498. https://doi.org/10.1007/s10758-019-09432-7.

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, *102*, 101586. https://doi.org/10.1016/j.ijer.2020.101586.

Guo, P., Saab, N., Wu, L., & Admiraal, W. (2021). The Community of Inquiry perspective on students' social presence, cognitive presence, and academic performance in online project-based learning. *Journal of Computer Assisted Learning*, *37*(5), 1479-1493. https://doi.org/10.1111/jcal.12586.

Hamzah, D. S., Tambak, S., & Tanjung, W. U. (2020). Overcoming self-confidence of Islamic religious education students: The influence of personal learning model. *Journal of Education and Learning (EduLearn)*, *14*(4), 582-589. https://doi.org/10.11591/edulearn.v14i4.16759.

Hussein, B. (2021). Addressing Collaboration Challenges in Project-Based Learning: The Student's Perspective. *Education Sciences*, *11*(8), 434. https://doi.org/10.3390/educsci11080434.

Irmawati, D. K., Asri, T. M., & Aziz, A. L. (2021). How EFL Teachers Deal with Professionalal Competence Development for the Teaching of Writing: A Study on Higher Educational Level in Indonesian Context. *Journal of Education and e-Learning Research*, *8*(1), 42-51. https://doi.org/10.20448/journal.509.2021.81.42.51.

Jalinus, N., Syahril, S., Nabawi, R. A., & Arbi, Y. (2020). How Project-Based Learning and Direct Teaching Models Affect Teamwork and Welding Skills Among Students. *International Journal of Innovation, Creativity and Change.*, *11*(11), 85-111. https://files.eric.ed.gov/fulltext/ED610846.pdf.

Karuniawati, E., Rahayu, S., & Ladamay, I. (2021, April). Education, Working Group Activities and Professional Competencies Their Effect on Teacher Professionalism. In *2nd Annual Conference on Social Science and Humanities (ANCOSH 2020)* (pp. 75-78). Atlantis Press. https://doi.org/10.2991/assehr.k.210413.018.

Khaldi, K. (2017). Quantitative, qualitative or mixed research: which research paradigm to use?. *Journal of Educational and Social Research*, *7*(2), 15-15. https://doi.org/10.5901/jesr.2017.v7n2p15.

Kim, K. J. (2020). Project-based learning approach to increase medical student empathy. *Medical education online*, *25*(1), 1742965. https://doi.org/10.1080/10872981.2020.1742965.

Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving schools*, *19*(3), 267-277. https://doi.org/10.1177/1365480216659733.

Komar, O. A., Chuchalina, Y. M., Kramarenko, A. N., Torchynska, T. A., & Shevchuk, I. V. (2021). Agile Approach in Training Future Primary School Teachers for Resolving Complex Professional Situation. *International Electronic Journal of Elementary Education*, *13*(4), 469-477. https://doi.org/10.26822/iejee.2021.205.

König, J., Blömeke, S., Jentsch, A., Schlesinger, L., née Nehls, C. F., Musekamp, F., & Kaiser, G. (2021). The links between professionalal competence, instructional quality, and mathematics achievement in the lower secondary classroom. *Educational Studies in Mathematics*, *107*(1), 189-212. https://doi.org/10.1007/s10649-020-10021-0.

Ljung-Djärf, A., Magnusson, A., & Peterson, S. (2014). From doing to learning: Changed focus during a pre-school learning study project on organic decomposition. *International Journal of Science Education*, *36*(4), 659-676. https://doi.org/10.1080/09500693.2013.822604.

Lobczowski, N. G., Lyons, K., Greene, J. A., & McLaughlin, J. E. (2021). Socially shared metacognition in a project-based learning environment: A comparative case study. *Learning, Culture and Social Interaction*, *30*, 100543. https://doi.org/10.1016/j.lcsi.2021.100543.

Lukiianchuk, A., Kharahirlo, V., Sakhno, O., Tataurova-Osyka, G., & Stadnik, N. (2021). Conditions for the development of psychological and professionalal competence of teachers of vocational (professional and technical) education. *Linguistics and Culture Review*, *5*(S3), 678-696.

McGarr, O., & McDonagh, A. (2021). Exploring the digital competence of pre-service teachers on entry onto an initial teacher education programme in Ireland. *Irish Educational Studies*, *40*(1), 115-128. https://doi.org/10.1080/03323315.2020.1800501.

Miller, E. C., Severance, S., & Krajcik, J. (2021). Motivating teaching, sustaining change in practice: Design principles for teacher learning in project-based learning contexts. *Journal of Science Teacher Education*, *32*(7), 757-779. https://doi.org/10.1080/1046560X.2020.1864099.

Mukti, Y. P., Masykuri, M., Sunarno, W., Rosyida, U. N., Jamain, Z., & Dananjoyo, M. D. (2020). Exploring the Impact of project-based learning and discovery learning to the students' learning outcomes: Reviewed from the analytical skills. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *9*(1), 121-131. https://doi.org/10.24042/jipfalbiruni.v9i1.4561.

Muna, A. N., Sunardi, S., & Widyastono, H. (2021). Teachers' Efforts to Improve Professional Competency in Learning Children with Special Needs in Inclusion Basic Schools in Surakarta. *IJDS: Indonesian Journal of Disability Studies*, *8*(1), 61-72. https://doi.org/10.21776/ub.ijds.2021.008.01.04.

Murkatik, K., Harapan, E., & Wardiah, D. (2020). The Influence of Professional and Professional Competence on Teacher's Performance. Journal of Social Work and Science Education, 1(1), 58-69. https://doi.org/10.52690/jswse.v1i1.10.

Owens, A. D., & Hite, R. L. (2020). Enhancing student communication competencies in STEM using virtual global collaboration project based learning. *Research in Science & Technological Education*, 1-27. https://doi.org/10.1080/02635143.2020.1778663.

Pérez, B., & Rubio, Á. L. (2020, February). A project-based learning approach for enhancing learning skills and motivation in software engineering. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (pp. 309-315). https://doi.org/10.1145/3328778.3366891.

Ritonga, M., Tambak, S., Lahmi, A., Handayani, I., & Riyadi, S. (2021). Strategies for developing tarkib arabic exercises instruments for strengthening the understanding of yellow book. *International Journal of Entrepreneurship*, *25*, 1-9. https://www.proquest.com/openview/16be9cf59b3d6665821366079f826837/1?cbl=29727&pq-origsite=gscholar.

Rusilowati, U., & Wahyudi, W. (2020, March). The Significance of Educator Certification in Developing Pedagogy, Personality, Social and Professional Competencies. In *2nd Social and Humaniora Research Symposium (SoRes 2019)* (pp. 446-451). https://doi.org/10.2991/assehr.k.200225.095.

Safaruddin, S., Ibrahim, N., Juhaeni, J., Harmilawati, H., & Qadrianti, L. (2020). The Effect of Project-Based Learning Assisted by Electronic Media on Learning Motivation and Science Process Skills. *Journal of Innovation in Educational and Cultural Research*, *1*(1), 22-29. https://doi.org/10.46843/jiecr.v1i1.5.

Santamaría-Cárdaba, N. (2020). Families, experiments, and nature: Learning science through project-based learning. *School Science and Mathematics*, *120*(8), 467-476. **https://doi.org/10.1111/ssm.12438**.

Santyasa, I. W., Rapi, N. K., & Sara, I. (2020). Project Based Learning and Academic Procrastination of Students in Learning Physics. *International Journal of instruction*, *13*(1), 489-508. https://doi.org/10.29333/iji.2020.13132a.

Simonton, K. L., Layne, T. E., & Irwin, C. C. (2021). Project-based learning and its potential in physical education: an instructional model inquiry. *Curriculum Studies in Health and Physical Education*, *12*(1), 36-52. https://doi.org/10.1080/25742981.2020.1862683.

Snoek, M. (2021). Educating quality teachers: how teacher quality is understood in the Netherlands and its implications for teacher education. *European Journal of Teacher Education*, 1-19. https://doi.org/10.1080/02619768.2021.1931111.

Sukenti, D., & Tambak, S. (2020). Developing Indonesian Language Learning Assessments: Strengthening the Personal Competence and Islamic Psychosocial of Teachers. *International Journal of Evaluation and research In education*, *9*(4), 1079-1087.

Sukenti, D., Tambak, S., & Siregar, E. (2021). Learning Assessment for Madrasah Teacher: Strengthening Islamic Psychosocial and Emotional Intelligence. *AL-ISHLAH: Jurnal Pendidikan*, *13*(1), 725-740. https://doi.org/10.35445/alishlah.v13i1.552.

Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, *67*, 291-301. https://doi.org/10.1016/j.tate.2017.06.020.

Syakur, A., Musyarofah, L., Sulistiyaningsih, S., & Wike, W. (2020). The Effect of Project-Based Learning (PjBL) Continuing Learning Innovation on Learning Outcomes of English in Higher Education. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, *3*(1), 625-630. https://doi.org/10.33258/birle.v3i1.860.

Tambak, S., & Sukenti, D. (2024). Case-Based Learning Method in Learning: Is it Effective to Improve Teaching Skills of Madrasa Teachers in Indonesia?. *Journal of Learning for Development*, *11*(1), 151-164. https://doi.org/10.56059/jl4d.v11i1.763

Tambak, S., & Sukenti, D. (2024). Student Involvement Within Islamic Teacher Education: For a Future Profession. *QIJIS (Qudus International Journal of Islamic Studies)*, *11*(2), 317-352. http://dx.doi.org/10.21043/qijis.v11i2.8141

Tambak, S., Marwiyah, S., Sukenti, D., Husti, I., & Zamsiswaya, Z. (2023). Problem-based learning methods: Is it effective for developing madrasa teacher social competence in teaching?. *Journal of Education and Learning (EduLearn), 17*(3), 342-353. https://doi.org/10.11591/edulearn.v17i3.20796

Tambak, S., Ahmad, M. Y., Amril, A., Sukenti, D., Hamzah, H., & Marwiyah, S. (2022). Madrasa teacher professionalism: Effects of gender and teaching experience in learning. *International Journal of Evaluation and Research in Education*, *11*(3), 1490-1499. http://doi.org/10.11591/ijere.v11i3.22539

Tambak, S., Firdaus, F., Harahap, M., Sukenti, D., & Zaylani, M. (2023). Islamic Professional Madrasa Teachers and Makarim Syari'ah in Teaching: A Phenomenological Approach. *AL-ISHLAH: Jurnal Pendidikan*, *15*(4), 4343-4354. https://doi.org/10.35445/alishlah.v15i4.3475

Tambak, S., & Sukenti, D. (2020). Strengthening Islamic Behavior and Islamic Psychosocial in Developing Professional Madrasah Teachers. *Jurnal Cakrawala Pendidikan*, *39*(1), 65-78. https://doi.org/10.21831/cp.v39i1.26001.

Tambak, S., Ahmad, M. Y., & Sukenti, D. (2020). Strengthening Emotional Intelligence in Developing the Madrasah Teachers' Professionalism (Penguatan Kecerdasan Emosional dalam Mengembangkan Profesionalisme Guru Madrasah). *Akademika*, *90*(2), 27-38. https://doi.org/10.17576/akad-2020-9002-03.

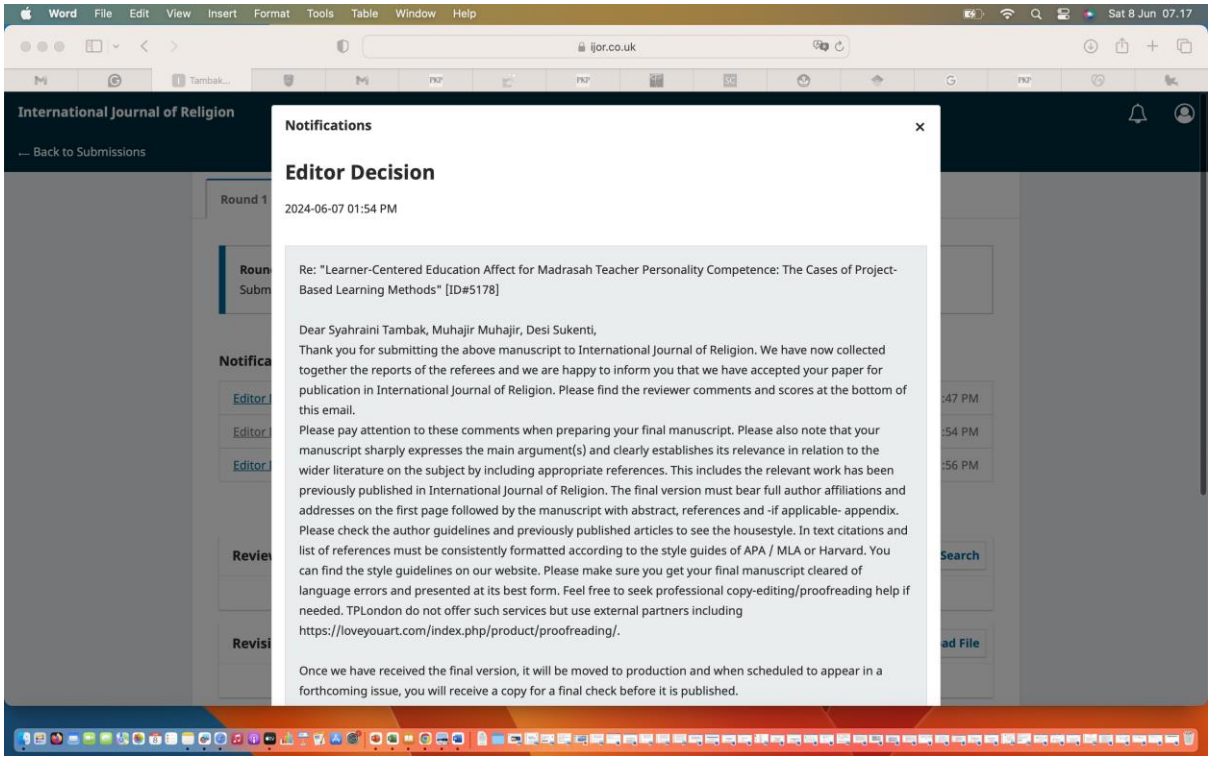
Tambak, S., Hayati, M., & Bahjat, M. M. (2023). Academic Writing Skills in Islamic Higher Education: Engaging Inquiry-based Learning Methods. *Jurnal Pendidikan Agama Islam Al-Thariqah, 8*(1), 18-34. https://doi.org/10.25299/al-thariqah.2023.vol8(1).12882

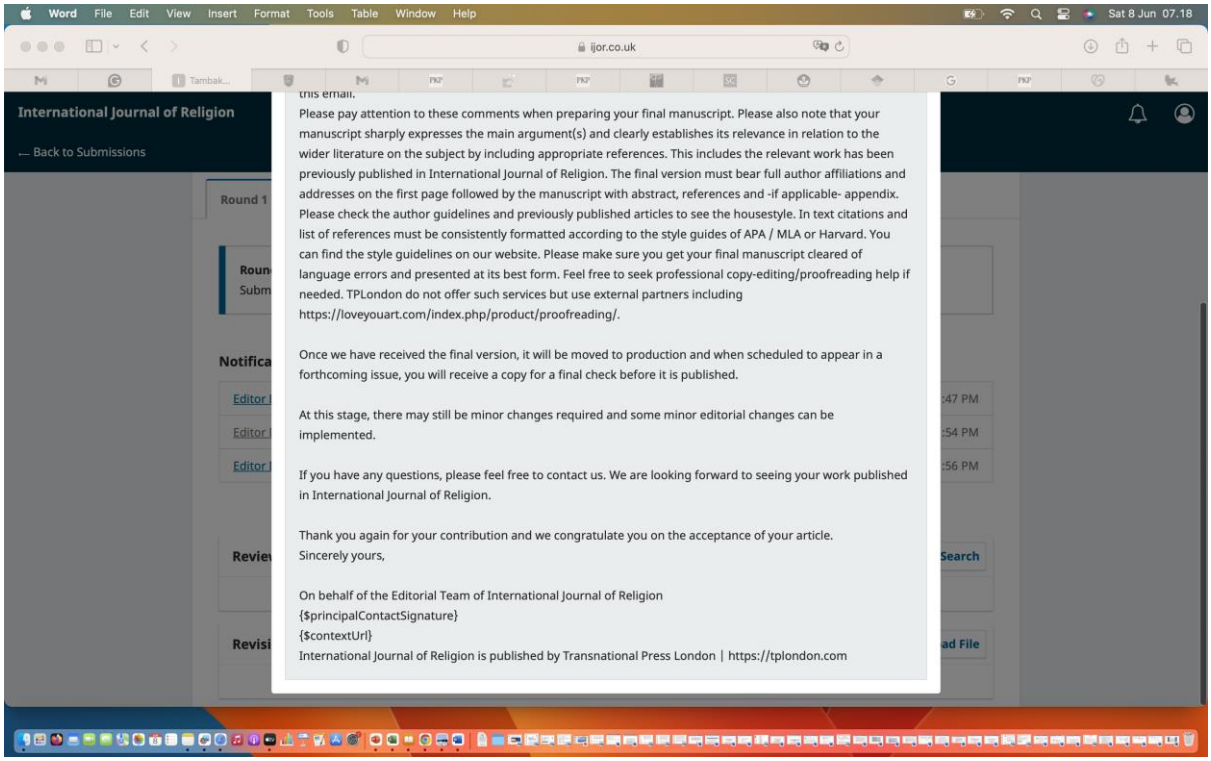
Untari, R., Kamdi, W., Dardiri, A., Hadi, S., & Nurhadi, D. (2020). The Development and Application of Interactive Multimedia in Project-Based Learning to Enhance Students' Achievement for 2D Animation Making. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(16), 17-30. https://www.learntechlib.org/p/217965/.

Wilson, K. (2021). Exploring the Challenges and Enablers of Implementing a STEM Project-Based Learning Programme in a Diverse Junior Secondary Context. *International Journal of Science and Mathematics Education*, *19*(5), 881-897. https://doi.org/10.1007/s10763-020-10103-8.

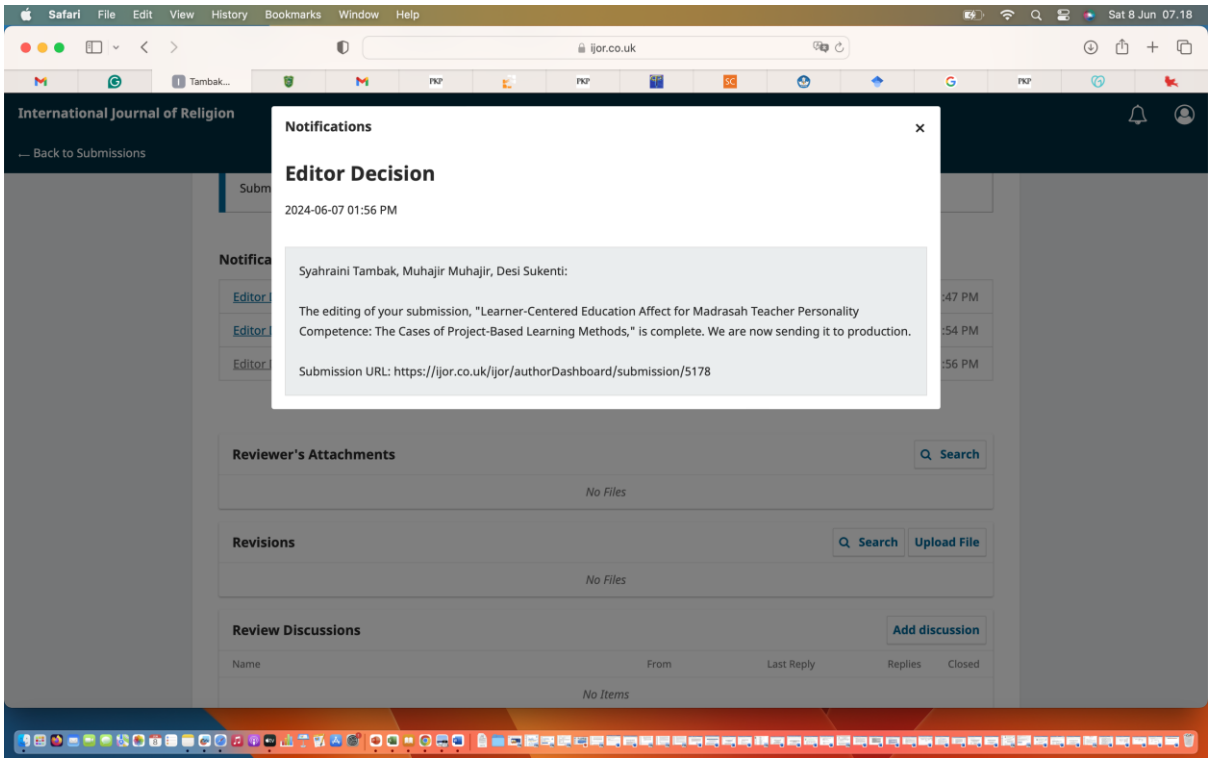
Wu, T. T., & Wu, Y. T. (2020). Applying project-based learning and SCAMPER teaching strategies in engineering education to explore the influence of creativity on cognition, personal motivation, and personality traits. *Thinking Skills and Creativity*, *35*, 100631. https://doi.org/10.1016/j.tsc.2020.100631

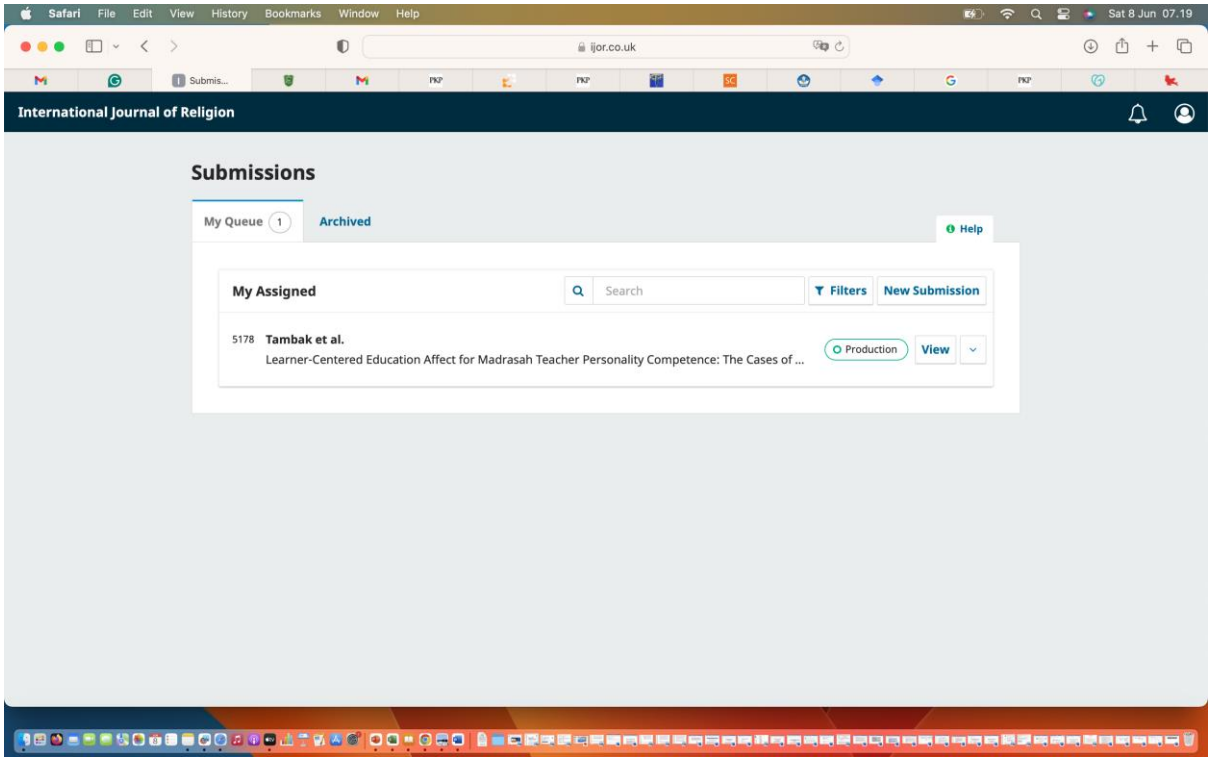
2.Bukti konfirmasi review
07 Juni 2024


Word File Edit View Insert Format Tools Table Window Help
Sat 8 Jun 07.17
ijor.co.uk
International Journal of Religion
Back to Submissions
Notifications
Editor Decision
2024-06-07 01:54 PM
Re: "Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods" [ID#5178]
Dear Syahraini Tambak, Muhajir Muhajir, Desi Sukenti,
Thank you for submitting the above manuscript to International Journal of Religion. We have now collected together the reports of the referees and we are happy to inform you that we have accepted your paper for publication in International Journal of Religion. Please find the reviewer comments and scores at the bottom of this email.
Please pay attention to these comments when preparing your final manuscript. Please also note that your manuscript sharply expresses the main argument(s) and clearly establishes its relevance in relation to the wider literature on the subject by including appropriate references. This includes the relevant work has been previously published in International Journal of Religion. The final version must bear full author affiliations and addresses on the first page followed by the manuscript with abstract, references and -if applicable- appendix. Please check the author guidelines and previously published articles to see the housestyle. In text citations and list of references must be consistently formatted according to the style guides of APA / MLA or Harvard. You can find the style guidelines on our website. Please make sure you get your final manuscript cleared of language errors and presented at its best form. Feel free to seek professional copy-editing/proofreading help if needed. TPLondon do not offer such services but use external partners including https://loveyouart.com/index.php/product/proofreading/.
Once we have received the final version, it will be moved to production and when scheduled to appear in a forthcoming issue, you will receive a copy for a final check before it is published.


Word File Edit View Insert Format Tools Table Window Help
Sat 8 Jun 07.18
ijor.co.uk
International Journal of Religion
Back to Submissions
this email.
Please pay attention to these comments when preparing your final manuscript. Please also note that your manuscript sharply expresses the main argument(s) and clearly establishes its relevance in relation to the wider literature on the subject by including appropriate references. This includes the relevant work has been previously published in International Journal of Religion. The final version must bear full author affiliations and addresses on the first page followed by the manuscript with abstract, references and -if applicable- appendix. Please check the author guidelines and previously published articles to see the housestyle. In text citations and list of references must be consistently formatted according to the style guides of APA / MLA or Harvard. You can find the style guidelines on our website. Please make sure you get your final manuscript cleared of language errors and presented at its best form. Feel free to seek professional copy-editing/proofreading help if needed. TPLondon do not offer such services but use external partners including https://loveyouart.com/index.php/product/proofreading/.
Once we have received the final version, it will be moved to production and when scheduled to appear in a forthcoming issue, you will receive a copy for a final check before it is published.
At this stage, there may still be minor changes required and some minor editorial changes can be implemented.
If you have any questions, please feel free to contact us. We are looking forward to seeing your work published in International Journal of Religion.
Thank you again for your contribution and we congratulate you on the acceptance of your article.
Sincerely yours,
On behalf of the Editorial Team of International Journal of Religion
{$principalContactSignature}
{$contextUrl}
International Journal of Religion is published by Transnational Press London | https://tplondon.com

3. Bukti konfirmasi submit revisi, respon kepada reviewer, dan artikel yang diresubmit
07 Juni 2024


Safari File Edit View History Bookmarks Window Help
Sat 8 Jun 07.18
ijor.co.uk
International Journal of Religion
Back to Submissions
Notifications
Editor Decision
2024-06-07 01:56 PM
Syahraini Tambak, Muhajir Muhajir, Desi Sukenti:
The editing of your submission, "Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods," is complete. We are now sending it to production.
Submission URL: https://ijor.co.uk/ijor/authorDashboard/submission/5178
Reviewer's Attachments
Search
No Files
Revisions
Search
Upload File
No Files
Review Discussions
Add discussion
Name
From
Last Reply
Replies
Closed
No Items


Safari File Edit View History Bookmarks Window Help
Sat 8 Jun 07.19
ijor.co.uk
International Journal of Religion
Submissions
My Queue 1
Archived
Help
My Assigned
Search
Filters
New Submission
5178 Tambak et al.
Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of ...
Production
View

Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods

Muhajir Muhajir[1], Syahraini Tambak[2*], & Desi Sukenti[3]
[1]Department of Islamic Religion Education, Universitas Islam Negeri Sultan Maulana Hasanuddin Benten, Indonesia.
[2]Department of Islamic Religion Education, Universitas Islam Riau, Indonesia.
[3]Department of Indonesian Language and Literature Education, Universitas Islam Riau, Indonesia.
[*]e-mail: syahraini_tambak@fis.uir.ac.id

Abstract: This study aims to explore whether increasing the use of project-based learning (PBL) by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers in learning. Using data collected from a project-based learning (PBL) intervention program, this study used a quasi-experimental method to assess how PBL is associated with teachers' personality competence, and analyzed using a t-test. Generally, the personality competence of madrasah teachers is only considered as a determinant of the practice of teaching Islamic religious education, but we found that the personality competence of madrasah teachers can be positively influenced by the increased use of PBL in learning. Among the madrasah teacher personality competence subscales, PBL is positively related to student engagement and teaching in learning. Analysis using student data shows that students' positive responses to Islamic religious education learning practices can mediate the relationship between PBL and the personality competence of madrasa teachers. This research has implications for the development of the PBL model in improving the personality competence of madrasa teachers in learning Islamic religious education.

Keywords: *Project-based learning, personality competence, learning and instruction, madrasah teacher professionalism.*

INTRODUCTION

The personality competence of madrasa teachers is the ability to teach in themselves as well as the ability to become personality teachers (König, et al. 2021; Irmawati, Asri, & Aziz, 2021; Murkatik, Harapan, & Wardiah, 2020; Rusilowati, & Wahyudi, 2020), has been found to be associated with various teacher characteristics and behaviors (Rusilowati, & Wahyudi, 2020; Karuniawati, Rahayu, & Ladamay, 2021). In particular, various theories describe that the personality competence of madrasah teachers determines the abilities and teaching methods related to instructional practice (Guillén-Gámez, et al. 2021; König, et al. 2021; Snoek, 2021; Suprayogi, Valcke, & Godwin, 2017; Tambak & Sukenti, 2024). In addition, the personality competence of teachers contributes to self-personality development (McGarr, & McDonagh, 2021; Guillén-Gámez, et al. 2021; Snoek, 2021; Tambak & Sukenti, 2024) and also improves the quality of an educational institution.

However, most studies examining the relationship between teachers' personality competence and learning practices have relied on cross-sectional data (Rusilowati, & Wahyudi, 2020; König, et al. 2021; McGarr, & McDonagh, 2021; Tambak, et al. 2020; Tambak et al., 2022). This means that the data used for the analysis can allow for comparisons across respondents, but cannot explain changes over time, severely limiting the empirical ability to

identify causality. Furthermore, the theoretical discussion of teacher personality competence implies that there is a reciprocal or cyclical relationship with classroom experience (Tambak & Sukenti, 2020; Lukiianchuk, et al. 2021; Komar, et al. 2021; Muna, Sunardi, & Widyastono, 2021). Thus, teacher personality competence itself may be an outcome that is influenced by changes in instructional practice. Other research reveals that personality competence implies the process of self-development with personalityism in learning at madrasas (Efendi, 2021; Hamzah, Tambak, & Tanjung, 2020; Tambak, Ahmad, & Sukenti, 2020; Muna, Sunardi, & Widyastono, 2021).

These various studies illustrate that personality competence is more psychologically researched in the learning process, but has not revealed the strengthening of project-based learning in madrasa teacher learning. This research is a new thing where the personality competence of madrasa teachers is given a solution with a project-based learning method that is different from previous research. Thus, to explore empirically the relationship between the personality competence of madrasah teachers and instructional learning practices, this study uses data from a project-based learning (PBL) program intervention that took place in Pekanbaru City, Riau, Indonesia. In 2019, the Ministry of Religion of Riau Province provided four public madrasah aliyah in Pekanbaru City with PBL program interventions to encourage teachers in madrasas by changing the learning method from teacher-centered lectures to student-centered PBL. In the PBL program, the treatment group teachers were given training on how to apply PBL and asked to use it in the classroom for one semester, while the seven control group teachers did not receive any encouragement to change their learning practices. With data pooled on teachers and students from the program, we used a quasi-experimental research method to assess how increased use of PBL over one semester was associated with changes in teacher personality competence in madrasas in learning.

This research is very urgent to be carried out in order to empirically explore the relationship between the personality competence of madrasa teachers and instructional practices using data from project-based learning (PBL) program interventions in teaching Islamic religious education for madrasa teachers. PBL in various theories provides development in the learning process (Syakur, et al. 2020; Guo, et al. 2020; Miller, Severance, and Krajcik, 2021; Sukenti & Tambak, 2022; Santyasa, Rapi & Sara, 2020; Sukenti & Tambak, 2020). The application of PBL can develop a quality and competitive learning atmosphere and environment, as well as the development of a tradition of higher-order thinking for students (Wu, & Wu, 2020; Safaruddin, et al. 2020; Pérez, & Rubio, 2020; Kim, 2020; Abuhmaid, 2020; Tambak et al., 2023). Thus, the focus of this study is to explore the following: the use of project-based learning affect the personality competence of madrasa teachers in Islamic religious education.

METHOD

Participant

A total of fourteen Madrasah Aliyah in Pekanbaru City, Riau, Indonesia participated in this study, seven of which consisted of a treatment group and seven a control group. The main targets of the program are teachers from these madrasas who teach one of the four core subjects of Islamic religious education: Akidah Akhlak, Al-Qur'an Hadith, Fiqh, and Islamic Cultural History, to students from Madrasah Aliyah (grade XI). A total of 139 teachers who meet these criteria participate in the PBL program. The response rates of the treatment group teachers for the pretreatment survey were 78% (56 teachers out of 72) and 67% (48 teachers out of 72) for the post-treatment survey. The control group teacher response rates were 55% (37 teachers out of 67) for the pre-treatment survey and 49% (33 teachers out of 67) for the post-treatment survey.

The analysis for this study was conducted based on disproportionate data, meaning that some teachers and students only participated in either the pre-treatment or post-treatment surveys. Among the 117 unique teachers in the sample, 57 (48.7%) teachers took part in both the pre-treatment and post-treatment surveys, while 36 (30.8%) teachers took part only in the pre-treatment survey and 24 (20 .5%) took part only in the post-treatment survey. In the final analysis of the sample for teacher survey data, the number of observations in the pre-treatment period was 93 (53.4%) and the number of observations in the post-treatment period was 81 (46.6%). For student survey data, among a unique sample of 1268 students, 1107 (87.3%) took part in the pre- and post-treatment survey, while 109 (8.6%) only took part in the pre-treatment survey and 52 (4.1) %) took part only in the post-treatment survey.

A summary of the basic background characteristics of teachers and students is presented that among the 56 teachers in the treatment group, 82% were female, 38% had attained a master's degree or higher education level, the average total teaching experience was 150.13 months (SD 99 ,39), or about 12.5 years, the average school year at the current school is 24.15 months (SD 41.81), or about 2 years, and 79% are on permanent contracts. The basic means t-test between the treatment group and the control group found no statistically significant difference between the two groups. Among the treatment group students in the pre-treatment phase, 44% were female and had a mean language score of 2.66 (score range: 0 to 5; SD 1.48). T-tests of the baseline revealed that there were no significant differences between the treatment and control group students in terms of gender composition and Islamic religious education scores, but the treatment group had a higher proportion of students with parents who had a bachelor's degree. To directly account for these differences, we included them as control variables across all regression models.

Sample selection

The selection of madrasahs in the treatment and control groups was not random, which could potentially bias estimates and limit the extent to which causal interpretations can be made. Taking into account the representativeness of the sample, one treatment school is selected from seven different school districts within the city, and a suitable control school is selected within the same district. Control madrasas were selected to be the same sex (one sex, at the madrasah and grade level) as treatment schools, and were located within 2 km. Thus, we have two madrasah (one experimental school and one control school) per district in our sample, as close as possible to each other in terms of gender structure and geographic location. Madrasa teachers or students themselves did not voluntarily or self-select into the treatment or control groups, which eliminates concerns for potential selection bias.

Although the study sample was not randomly selected, the differences in background characteristics across madrasa teachers and students in the treatment and control groups were minimal. Also, we show that the probability of being in the treatment group versus the control group does not differ between teachers based on most of the observable characteristics. The same can be said for students. Each variable characteristic was controlled for all regressions. In terms of policy, the madrasas in our study are in the same city of Pekanbaru, and Pekanbaru operates a very centralized education system, where madrasas are identical in terms of minimum training and certification requirements to become a teacher, curriculum and textbooks, teacher salaries, and finances. operational. The relatively high degree of homogeneity across treatment and control schools lends credence to the validity of the quasi-experimental research design.

Design

To assess the relationship between PBL and the personality competence of madrasah teachers, this study used a quasi-experimental method using survey data collected from teachers and students in two periods; before and after the use of PBL in the classroom for one semester. We mainly use two empirical methods: the difference-in-difference design and the instrumental variables through a two-stage least squares estimate. These two methods are often used in policy evaluation studies that aim to analyze the causal impact of policies on the outcome variables of interest (Angrist & Pischke, 2008). For the analysis using teacher data, the dependent variable of interest is a measure of teacher self-efficacy and its subscale. For the analysis using student data, the dependent variables of interest were students' perceptions of their teacher's efforts to encourage interest, level of class preparation, students' self-assessments about their class participation, and self-assessments about how often they shared ideas in class. class. Since teacher and student data can only be linked at the school level, and there were only 14 madrasah in the study, directly assessing the relationship between student and madrasa teacher variables is not feasible. Therefore, we first analyzed teacher data to assess how PBL was associated with teachers' personality competence and its subscales. Next, we analyzed student data to evaluate how students responded to PBL. This made it possible to indirectly assess whether the relationship between PBL and personality competence might be related to PBL-induced changes in students.

Measurement

Over the years, various methods of measuring teacher personality competence have been developed (Zee & Koomen, 2016). This study uses the short form of the Madrasah Teacher Personality Competency Test developed by Tambak (2017). TKPGM consists of a factor structure that is stable and broad enough to cover a wide range of relevant teacher abilities for teaching. It is one of the most widely used madrasa teacher personality competency instruments, including in the national madrasa teacher survey. The questionnaire for the TKPGM used in this study consisted of 54 items which were divided into three subscales of madrasah teacher personality competence, with madrasah teacher personality competence as a whole being the average of ten subscales. Each of the 54 items measures the extent to which madrasah teachers feel they have the ability to manage learning and is rated on a 4-point Likert scale, ranging from “not at all” to “A” a lot.” The subscale of madrasa teacher pedaodic competence is (a) personality competence Madrasah teachers in learning (b) Madrasah teachers' personality competencies in learning management (c) and Madrasah teachers' personality competencies in engagement Cronbach's Alpha was used to assess the internal consistency of the instrument, which showed (a 0.93) for the entire instrument.

To measure PBL frequency, we used a dummy variable derived from teacher self-reported use of “multiple projects in progress” reported on a four-point Likert scale: 1) Never or almost never; 2) Sometimes; 3) Often; 4) In all or almost all lessons. If the teacher reported using PBL either “never or almost never” or “sometimes,” the variable was coded as 0, and if the teacher reported using PBL “often” or “In all or almost all lessons,” the variable was coded as 1. The measure of PBL frequency in the student survey was constructed in the same way as the madrasa teacher survey.

For student outcomes, we measured their perceptions of their teacher's level of effort to stimulate student interest, level of class preparation, students' own level of participation in class, and their own frequency of brainstorming with other students in the class. All measures are reported on a four-point Likert scale: 1) Strongly disagree; 2) Disagree; 3) Agree; 4) Strongly agree. In addition, to assess the academic ability of students, we provide an Islamic

religious education exam consisting of five questions, with possible scores ranging from 0 to 5.

Procedure

The PBL program consists of pre-semester training sessions and actual implementation during the madrasa semester. Between June and July 2019, teachers from the seven treatment madrasahs were trained for a total of about 30 hours (across four days) on how to conduct PBL in their classrooms. The sessions are led by six doctors who specialize in researching and implementing PBL. A pair of lecturers is responsible for training meetings for each of the two madrasas. The training content consists of learning the basic concepts of PBL, developing inquiry questions for PBL, understanding the roles of teachers and students, and designing and planning courses. For each pair of lecturers in charge of training for two madrasah, one focuses on the first two elements of the training while the remaining lecturers focus on the last two.

Data analysis

For madrasa teacher survey data, across all variables and periods, the rate of missing scores ranged from 0.6% to 2.3%. For student survey data, the two variables had two missing values each, for a 0.08% loss rate. Average imputation is used to handle missing cases. Each missing value is replaced by the mean value of the relevant variable, taken from the appropriate school and respondent period. Although not presented in the study, there was no significant difference in the results compared with the analysis performed after deletion of the list of respondents with missing values for any of the variables included in the regression model.

We first estimated the treatment effect of the PBL program using a difference-in-difference design. The difference-in-difference method captures the effect of treatment by comparing the change in the mean over time of the outcome variable for the treatment group with the change in the mean over time for the control group. The required assumption is that in the absence of treatment, changes over time in the outcome variables for the treatment and control groups will be identical. This assumption is known as the parallel trend assumption, because it requires time trends in the outcome variables to be parallel between the two groups prior to treatment. He should note that the assumptions require trends to be identical, not the rate of outcome variables. If this assumption holds, the difference in changes over time between the treatment and control groups is interpreted as a causal effect of treatment (Khaldi, 2017). Empirical verification of the assumption of parallel trends requires data to be collected at multiple time points before treatment takes place. However, because we only have data for a single period before and after treatment, we cannot directly assess the assumption of parallel trends. Nonetheless, due to the relatively high degree of homogeneity across the treatment and control groups, it is unlikely that any differences in trends in the outcome variables were attributable to factors other than the PBL program intervention. The empirical model (Gaciu, 2020) that we used to derive the difference-in-difference estimate is stated:

$$Yijt=\beta0+\beta1TreatjxPostt+\beta2Treatj+\beta3Postt+Xig+\varepsilon ijt$$

where is the subscript i; J; and t represents the individual (either teacher or student), school, and period, respectively. yijt is the dependent variable of interest, such as personality competence for madrasah teachers or student responses for students, individual i in school j at time t: All dependent variables are standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of group scores control. This was done to facilitate interpretation, especially in terms of how the results changed relative to the control group. If it is equal to 1, then the respondent belongs to a nursing school, and if 0, then the respondent is part of the madrasa control. Postt is equal to 1 if time t is the post-treatment period (i.e., after the fall 2016 semester) and 0 if time t is the pre-treatment period (i.e., before the

intervention). Treatj Postt (Djafar, et al. 2021) is an interaction between indicator variables for treatment and time period. Xi is a vector control variable consisting of individual characteristics such as: respondents. For madrasah teachers, they included gender, education level, total teaching experience (in months), current teaching experience at madrasas (in months), and type of employment contract. For students, they included the student's gender, parental education level, eldest child status, and test math scores. ijt is an error term, clustered at the school level.

In addition to using PBL in the classroom, treatment group teachers were given PBL consultations during the semester, which may be independently related to teacher self-efficacy. Although we found that the use of PBL by treatment group teachers increased significantly after treatment, any treatment effects we found through the difference-in-difference design may still be partly attributable to consultation. To solve this problem, we use a two-stage least squares instrumental variable estimation. This approach allows us to empirically estimate the changes in PBL use caused by PBL programs, and analyze how these exogenous changes are associated with the personality competence of madrasah teachers.

RESULTS AND DISCUSSIONS

Teacher analysis

Table 1 reports the effect of the PBL program on the personality competence of madrasah teachers and their subscales, estimated through the design differences expressed in (Equation (1)). The first column shows that the PBL program is associated with an increase in the personality competence of madrasah teachers by 0.942 standard deviations ($p < 0.01$). Column 2 reports that the PBL program has a significant relationship with the personality competence of madrasah teachers in instruction with a standard deviation of 1.011 ($p < 0.01$), and Column 4 reports that personality competence in engagement is significantly related to the PBL program of 0.899 standard deviations ($p <0.01$). The results in column 3 show that the PBL program has no significant effect on the personality competence of madrasah teachers in classroom management. This indicates that personality competence in teaching and student engagement drive the positive impact that PBL programs have on the personality competence of madrasah teachers as a whole. Among the madrasah teacher personality competence subscales, PBL had the strongest impact on teachers' personality competence in engagement, which might be expected, given that the central change reflected in treatment was changes in instructional practice.

Table 2 reports the results of the instrumental approach variables on the impact of using PBL on the personality competence of madrasah teachers and their subscales. The results of the first stage regression (Equation (2)) are found in column 1 of Panel (b). The intervention program increased the likelihood of implementing PBL in the classroom either “often” or “in all or almost all subjects” by 44.6 percentage points ($p < 0.05$). This provides further evidence that the PBL intervention program causes significant changes in the way teaching takes place in the classroom. Panel (a) of Table 2 reports the estimates of the second stage of the instrumental-variable approach regression (Equation (3)). The predicted PBL frequency values obtained from the first-stage regression estimation were collected and entered into the regression to estimate Equation (3). In column 1 of panel (a), an exogenous increase in the use of PBL was associated with an increase in the personality competence of madrasah teachers by 2,270 standard deviations ($p < 0.1$). Self-efficacy in instruction and engagement was also found to be positively influenced by PBL, increasing by 2.115 standard deviations ($p < 0.1$) and 2.016 standard deviations ($p < 0.05$), respectively. As was the case in the difference-within-difference estimate, PBL was found to have no significant effect on personality competence in classroom management.

Student analysis

The positive associations found between madrasah teachers' personality competencies and PBL could be mediated by the effect that PBL has on students. At Madrasah aliyah Pekanbaru, students are placed in one classroom, and teachers in charge of different subjects come in different classes at different hours to teach their respective subjects, so grade level analyzes linking student and teacher outcomes cannot be carried out. Students and teachers can connect at the madrasah level, but because our data contains only twelve madrasas, the school-level analysis would lack sufficient statistical power. Because of this, we can only estimate the relationship between PBL student reports and student responses, and indirectly conclude that any effect found in the student data may be related to the positive association found between PBL and teachers' personality competence in the madrasah teacher data.

Table 3 reports the estimated difference-in-difference obtained through equation (1) using student survey data. Estimates were obtained for the entire sample as well as for the madrasah subsample consisting of the three treatment group madrasah in which PBL increased the most and their respective control madrasahs matched. Responses from the teacher survey and student survey showed that teachers from Madrasah Aliyah Negeri 1, Madrasah Aliyah Negeri 2, and Madrasah Aliyah Negeri 4 had the largest increase in the use of PBL after the PBL program. Column 2 of panel (a) shows that the PBL intervention program led to an increase in the perception of efforts to attract teachers' interest by 0.155 standard deviation ($p < 0.1$). There was no statistically significant relationship between the PBL program and other student variables. In panel (b), where the analysis was limited to the three care schools in which: PBL increased the most and their matched control madrasah, we found that the PBL program increased the madrasa teacher's perception of interest by persuasion effort by 0.360 standard deviation ($p < 0, 05$). This shows very good development.

Tabel 1

Project-based learning and personality competence: Difference-in-Differences estimates.

	(1)	(2)	(3)	(4)
Dependent variable:	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Post Treat	0.942***	1.011***	0.509	0.899***
	(0.299)	(0.272)	(0.327)	(0.242)
Post	0.012	0.318	0.028	0.013
	(0.202)	(0.184)	(0.235)	(0.166)
Treat	0.740**	0.811**	0.588**	0.571***
	(0.245)	(0.263)	(0.250)	(0.179)
Student math score	0.046	0.103	0.089	0.067
	(0.165)	(0.136)	(0.160)	(0.157)
Female	0.091	0.202	0.088	0.020
	(0.473)	(0.452)	(0.497)	(0.315)
MA and above	0.082	0.022	0.077	0.083
	(0.304)	(0.264)	(0.311)	(0.237)
Total teaching experience	0.004**	0.003**	0.003*	0.003*
	(0.002)	(0.001)	(0.002)	(0.001)
Experience at current school	0.001	0.002	0.000	0.002
	(0.002)	(0.003)	(0.002)	(0.002)
Permanent	0.724*	0.559	0.662	0.674**
	(0.378)	(0.328)	(0.446)	(0.272)
Observations	174	174	174	174

R-squared	0.222	0.319	0.131	0.212

Note: Postal code: 1 if the post-treatment period, 0 if the pre-treatment period; Treatment: coded 1 if in the treatment group, 0 if in the control group; Math scores: School-level students' average math test scores (score 0e5); Female: coded 1 if female, 0 if male; MA and above: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent: coded 1 if the employee is permanent, 0 if the contract is temporary. The dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher self-efficacy was obtained through the average of three self-efficacy subscales (instruction, student engagement, classroom management). The survey questions to assess the madrasa teachers' personality competence subscale were answered on four points: The Likert scale (1: "Not at all" ~ 4: "A lot"), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Estimates obtained through the instrumental variable approach are reported in table 4. Separate estimates are reported for those obtained with the entire sample (Panel (a)) and the subset of the three madrasah with the greatest improvement in PBL and their matched control schools (Panel (b)). In Panel (a), it was found that PBL increased the perception of madrasa teacher interest induction efforts by 0.792 standard deviation ($p < 0.1$) and the extent to which students shared ideas with each other in class with a standard deviation of 0.995 ($p < 0.1$). There is no significant relationship with the perception of teacher class preparation or student class participation. When the analysis is limited to three madrasahs that experienced the greatest increase in PBL and their matched control madrasahs, increased use of PBL was associated with an increase in the perception of classroom preparation teachers by 0.674 standard deviations ($p < 0.1$), an increase in perceptions of the madrasa teacher's interest in persuasion efforts of 1.010 standard deviations ($p < 0.1$ 0.01), and an increase in students' sharing of ideas in class with a standard deviation of 0.724 ($p < 0.1$).

Table 2
Project-based learning and madrasah teacher personality competence: Two-stage least squares estimates.

(a) Second stage

Dependent variable:	(1)	(2)	(3)	(4)
	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Predicted PBL	2.270*	2.115*	1.143	2.016**
	(1.190)	(1.159)	(0.945)	(0.949)
Post	0.122	0.421	0.250	0.378
	(0.646)	(0.636)	(0.509)	(0.522)
Treat	841**	0.768**	.603**	0.597**
	(0.334)	(0.325)	(0.288)	(0.259)
Observations	174	174	174	174

(b) First stage

Dependent variable: Project-based learning	(1)
Post Treat	0.446**
	(0.158)
Post	0.194
	(0.131)
Treat	0.013
	(0.066)
Observations	174
F-statistic	14.89

Note: Project-based learning: The dummy variable is coded 1 if project-based learning is used either “Often” or “In all or almost all lessons,” 0 if “Never or almost never” or “Sometimes”; PBL prediction in Panel (a) is the PBL prediction value obtained from regression in Panel (b); Post: coded 1 if the post-treatment period, 0 if the pre-treatment period. Treatment: coded 1 if in the treatment group, 0 if in the control group. All regressions controlled for the following: Gender: coded 1 for female, 0 for male; Teacher education level: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: code 1 if permanent employee, 0 if temporary contract. The second stage dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Madrasah teacher personality competence was obtained through an average of three subscales of madrasah teacher

personality competence (instruction, student involvement, classroom management). Survey questions to assess the personality competence subscale of madrasah teachers were answered on a four-point Likert scale (1: “Not at all” ~ 4: “A lot”), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Table 3:

Project-based learning and student outcomes: Difference-in-differences estimates.

(a) Sample: All schools

Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Treat Post	0.090	0.155*	0.159	0.093
	(0.086)	(0.084)	(0.114)	(0.079)
Observations	2266	2266	1944	2266
R-squared	0.013	0.011	0.011	0.072
Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Post Treat	0.240	0.360**	0.214	0.027
	(0.130)	(0.090)	(0.157)	(0.114)
Observations	1146	1146	988	1146
R-squared	0.012	0.018	0.011	0.059

Note: All dependent variables were standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher inducement: students' general perception of the teacher's efforts to encourage participation (1: “Strongly disagree” ~ 4: “Strongly agree”); Teacher preparation: students' general perception of teacher preparation for class (1: “Strongly disagree” ~ 4: “Strongly agree”); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: "Not at all" ~ 4: "A lot"); Class participation: self-assessment of enthusiastic class participation (1: “Strongly disagree” ~ 4: “Strongly agree”). All control regressions were as follows: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Type of work: coded 1 if permanent worker, 0 if temporary contract. Top 3 PBL Madrasah refers to the treatment madrasah and its rival madrasas where the increase in the use of PBL is among the largest (top 3) among the treatment schools. Standard error clustered at school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Tabel 4:

Project-based learning and student outcomes: Two-stage least squares estimates.

(a) Second stage - All schools

Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Predicted PBL	0.457	0.792*	0.995*	0.472
	(0.438)	(0.439)	(0.603)	(0.429)
Observations	2266	2266	1944	2266
Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
	(0.348)	(0.355)	(0.433)	(0.303)
Observations	1146	1146	988	1146
Dependent variable: Project-based learning	(1) All schools	(2) PBL top 3		

Treat Post		0.196*** (0.038)	0.357*** (0.052)
Observations		2266	1146
F-statistic		346.90	295.38

Note: Regression in Panel (b) is limited to the top 3 treatment madrasas in terms of increased use of PBL as well as corresponding control madrasas. PBL predictions in Panel (a) are obtained from the first stage regression in Panel (c), Column 1; PBL predictions in Panel (b) were obtained from the first stage regression in Panel (c), Column 2. Teacher induction: student motivation general perceptions of teacher efforts to encourage participation (1: "Strongly disagree" ~ 4: "Strongly agree") ; Teacher preparation: students' general perceptions of class preparation teachers (1: "Strongly disagree" ~ 4: "Strongly agree"); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: "Not at all" ~ 4: "A lot"); Class participation: self-assessment of enthusiastic class participation (1: "Strongly disagree" ~ 4: "Strongly agree"). All regressions controlled for the following: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: coded 1 if permanent employee, 0 if temporary contract. Standard error clustered at the madrasa level. ***p < 0.01, **p < 0.05, *p < 0.1.

In this study, we explore whether increasing the use of PBL by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers. Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class.

The positive associations found between PBL and the personality competence of madrasah teachers indicate that learning practices are not only the result of madrasah teachers' personality competence, as is generally perceived, but can also lead to changes in madrasah teachers' personality competences. Based largely on analysis using cross-sectional data, researchers tend to treat the personality competence of madrasa teachers only as a determinant of the learning method approach (Suprayogi, Valcke, & Godwin, 2017; Zee & Koomen, 2016; Tambak, & Sukenti, 2020; Tambak, et al. al.2020; Ritonga, et al. 2021). This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers. Analysis of the data collected over two time periods with the quasi-experimental PBL method provided greater support for interpreting causality than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor influencing the pedagogy of madrasah teachers, contributing to the literature seeking to understand teacher personality competency development (Lobczowski, et al. 2021; Tambak, & Sukenti, 2019; Tambak, et al. 2021; Ritonga, et al. 2021).

From the three main sources of developing personality competence of madrasah teachers rooted in social cognitive theory, it is possible that experience plays a major role in improving the personality competence of madrasah teachers. Experience mastery occurs when teachers view their performance as madrasa teachers to be successful. It is possible that PBL leads to a more positive educational experience among students, leading to an increase in the personality competence of madrasah teachers (Owens, and Hite. 2020; Untari, et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020; Untari. , et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020;). Due to data limitations, we did not directly assess the relationship between students and the personality competence of madrasah teachers. However, the positive associations found between PBL and student outcomes support the possibility of mastery

experiences (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019; Tambak, Amril, & Sucenti, 2021; Hamzah, Sucenti, Tambak, & Tanjung, 2020). Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers' positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence.

This study is not without limitations which should be addressed in future research. First, the potential limitation of this study is the use of a subject-netr measure of madrasah teacher personality competence. Some scholars argue the need to develop the personality competence of madrasa teachers in a closer relationship with the specific teacher context such as the subject being taught (Ljung-Djärf, Agneta, & Peterson., 2014; Chaijum, & Hiranyachattada, 2020; Akharraz, 2021; Sukenti, Tambak, & Siregar, 2021). Although the additional predictive value and generalizability of such constructs have not been determined, the use of various measures of madrasa teacher personality competence in future research may lead to more robust estimates. Second, this study only used teacher self-reported measures of teacher personality competence. However, simply assessing teachers' own assessments can lead to positive or negative self-assessment bias, which can distort and underestimate the relationship between teachers' personality competencies and others. Drawing on multiple data sources to measure personality competence, such as using teacher and student ratings, can allow for more reliable and stable measurements (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019). Third, there are limitations with regard to the generalizability of the main findings. The sample size of this study was relatively small, and the study was only conducted in schools in Pekanbaru Metropolitan City. Also, the madrasa teacher survey has a relatively low response rate. Thus, there may be limitations in generalizing the findings to national or international levels. Future studies should aim to expand the sample of madrasah teachers, both in scope and number, to obtain more generalizable findings. Finally, this study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the instructional approach can be expanded (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time points.

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers in Islamic religious education learning. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to teachers' perceptions of class preparation, attempts to induce teacher interest, and the frequency with which students share ideas in class.

This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers in learning Islamic religious education. Analysis of the data collected over two time periods by quasi-experimental methods provided greater support for causal interpretation than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor that affects the personality competence of madrasah teachers, a contribution to the literature that seeks to understand the development of madrasah teachers' personality competencies in Islamic

religious education learning. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the duration of using the instructional approach can be extended (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time points. So, madrasa teacher self-efficacy is a crucial thing to be developed in language learning through a capable PBL process in the madrasa teacher profession.

CONCLUSION

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class. Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers' positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester.

ACKNOWLEDGMENT

We thank to the Institute of Research and Community Service at the Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Serang, Indonesia for funding this research. Hopefully the resulting scientific work can be a trigger to bring up better works in the future.

REFERENCES

Abuhmaid, A. M. (2020). The Efficiency of Online Learning Environment for Implementing Project-Based Learning: Students' Perceptions. *International Journal of Higher Education, 9*(5), 76-83. https://doi.org/10.5430/ijhe.v9n5p76.

AKHARRAZ, M. (2021). The Impact of Project-Based Learning on Students' Cultural Awareness. *International Journal of Language and Literary Studies, 3*(2), 54-80. https://doi.org/10.36892/ijlls.v3i2.601

Aksela, M., & Haatainen, O. (2019). Project-Based Learning (PBL) in Practise: Active Teachers' Views of Its' Advantages And Challenges. In *Integrated Education for the Real*

World 5th International STEM in Education Conference Post-Conference Proceedings. Queensland University of Technology.

Alotaibi, M. G. (2020). The Effect of Project-Based Learning Model on Persuasive Writing Skills of Saudi EFL Secondary School Students. *English Language Teaching*, *13*(7), 19-26. https://doi.org/10.5539/elt.v13n7p19.

Angrist, J. D., & Pischke, J. S. (2008). Parallel worlds: fixed effects, differences-in-differences, and panel data. In *Mostly harmless econometrics* (pp. 221-248). Princeton University Press. https://doi.org/10.1515/9781400829828-010.

Berselli, G., Bilancia, P., & Luzi, L. (2020). Project-based learning of advanced CAD/CAE tools in engineering education. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, *14*(3), 1071-1083. https://doi.org/10.1007/s12008-020-00687-4.

Chaijum, N., & Hiranyachattada, T. (2020). Integrated Learning and Project-Based Learning for Project of Electrical Measurement and Instrumentations in Electrical Engineering Course. *European Journal of Science and Mathematics Education*, *8*(1), 6-11. https://files.eric.ed.gov/fulltext/EJ1242181.pdf.

Djafar, H., Yunus, R., Pomalato, S. W. D., & Rasid, R. (2021). Qualitative and Quantitative Paradigm Constellation In Educational Research Methodology. International Journal of Educational Research & Social Sciences, *2(2), 339-345. https://doi.org/10.51601/ijersc.v2i2.70*.

Efendi, S. (2021). Lecturer's Professional Competence in Developing Student Learning at the National University. *Jurnal Mantik*, *5*(2), 701-706. https://doi.org/10.35335/mantik.Vol5.2021.1385.pp701-706.

Gaciu, N. (2020). *Understanding Quantitative Data in Educational Research*. Sage.

Guillén-Gámez, F. D., Mayorga-Fernández, M., Bravo-Agapito, J., & Escribano-Ortiz, D. (2021). Analysis of teachers' professionalal digital competence: Identification of factors predicting their acquisition. *Technology, Knowledge and Learning*, *26*(3), 481-498. https://doi.org/10.1007/s10758-019-09432-7.

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, *102*, 101586. https://doi.org/10.1016/j.ijer.2020.101586.

Guo, P., Saab, N., Wu, L., & Admiraal, W. (2021). The Community of Inquiry perspective on students' social presence, cognitive presence, and academic performance in online project-based learning. *Journal of Computer Assisted Learning*, *37*(5), 1479-1493. https://doi.org/10.1111/jcal.12586.

Hamzah, D. S., Tambak, S., & Tanjung, W. U. (2020). Overcoming self-confidence of Islamic religious education students: The influence of personal learning model. *Journal of Education and Learning (EduLearn)*, *14*(4), 582-589. https://doi.org/10.11591/edulearn.v14i4.16759.

Hussein, B. (2021). Addressing Collaboration Challenges in Project-Based Learning: The Student's Perspective. *Education Sciences*, *11*(8), 434. https://doi.org/10.3390/educsci11080434.

Irmawati, D. K., Asri, T. M., & Aziz, A. L. (2021). How EFL Teachers Deal with Professionalal Competence Development for the Teaching of Writing: A Study on Higher Educational Level in Indonesian Context. *Journal of Education and e-Learning Research*, *8*(1), 42-51. https://doi.org/10.20448/journal.509.2021.81.42.51.

Jalinus, N., Syahril, S., Nabawi, R. A., & Arbi, Y. (2020). How Project-Based Learning and Direct Teaching Models Affect Teamwork and Welding Skills Among

Students. *International Journal of Innovation, Creativity and Change.*, *11*(11), 85-111. https://files.eric.ed.gov/fulltext/ED610846.pdf.

Karuniawati, E., Rahayu, S., & Ladamay, I. (2021, April). Education, Working Group Activities and Professional Competencies Their Effect on Teacher Professionalism. In *2nd Annual Conference on Social Science and Humanities (ANCOSH 2020)* (pp. 75-78). Atlantis Press. https://doi.org/10.2991/assehr.k.210413.018.

Khaldi, K. (2017). Quantitative, qualitative or mixed research: which research paradigm to use?. *Journal of Educational and Social Research*, *7*(2), 15-15. https://doi.org/10.5901/jesr.2017.v7n2p15.

Kim, K. J. (2020). Project-based learning approach to increase medical student empathy. *Medical education online*, *25*(1), 1742965. https://doi.org/10.1080/10872981.2020.1742965.

Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving schools*, *19*(3), 267-277. https://doi.org/10.1177/1365480216659733.

Komar, O. A., Chuchalina, Y. M., Kramarenko, A. N., Torchynska, T. A., & Shevchuk, I. V. (2021). Agile Approach in Training Future Primary School Teachers for Resolving Complex Professional Situation. *International Electronic Journal of Elementary Education*, *13*(4), 469-477. https://doi.org/10.26822/iejee.2021.205.

König, J., Blömeke, S., Jentsch, A., Schlesinger, L., née Nehls, C. F., Musekamp, F., & Kaiser, G. (2021). The links between professionalal competence, instructional quality, and mathematics achievement in the lower secondary classroom. *Educational Studies in Mathematics*, *107*(1), 189-212. https://doi.org/10.1007/s10649-020-10021-0.

Ljung-Djärf, A., Magnusson, A., & Peterson, S. (2014). From doing to learning: Changed focus during a pre-school learning study project on organic decomposition. *International Journal of Science Education*, *36*(4), 659-676. https://doi.org/10.1080/09500693.2013.822604.

Lobczowski, N. G., Lyons, K., Greene, J. A., & McLaughlin, J. E. (2021). Socially shared metacognition in a project-based learning environment: A comparative case study. *Learning, Culture and Social Interaction*, *30*, 100543. https://doi.org/10.1016/j.lcsi.2021.100543.

Lukiianchuk, A., Kharahirlo, V., Sakhno, O., Tataurova-Osyka, G., & Stadnik, N. (2021). Conditions for the development of psychological and professionalal competence of teachers of vocational (professional and technical) education. *Linguistics and Culture Review*, *5*(S3), 678-696.

McGarr, O., & McDonagh, A. (2021). Exploring the digital competence of pre-service teachers on entry onto an initial teacher education programme in Ireland. *Irish Educational Studies*, *40*(1), 115-128. https://doi.org/10.1080/03323315.2020.1800501.

Miller, E. C., Severance, S., & Krajcik, J. (2021). Motivating teaching, sustaining change in practice: Design principles for teacher learning in project-based learning contexts. *Journal of Science Teacher Education*, *32*(7), 757-779. https://doi.org/10.1080/1046560X.2020.1864099.

Mukti, Y. P., Masykuri, M., Sunarno, W., Rosyida, U. N., Jamain, Z., & Dananjoyo, M. D. (2020). Exploring the Impact of project-based learning and discovery learning to the students' learning outcomes: Reviewed from the analytical skills. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *9*(1), 121-131. https://doi.org/10.24042/jipfalbiruni.v9i1.4561.

Muna, A. N., Sunardi, S., & Widyastono, H. (2021). Teachers' Efforts to Improve Professional Competency in Learning Children with Special Needs in Inclusion Basic Schools in

Surakarta. *IJDS: Indonesian Journal of Disability Studies*, *8*(1), 61-72. https://doi.org/10.21776/ub.ijds.2021.008.01.04.

Murkatik, K., Harapan, E., & Wardiah, D. (2020). The Influence of Professional and Professional Competence on Teacher's Performance. Journal of Social Work and Science Education, 1(1), 58-69. https://doi.org/10.52690/jswse.v1i1.10.

Owens, A. D., & Hite, R. L. (2020). Enhancing student communication competencies in STEM using virtual global collaboration project based learning. *Research in Science & Technological Education*, 1-27. https://doi.org/10.1080/02635143.2020.1778663.

Pérez, B., & Rubio, Á. L. (2020, February). A project-based learning approach for enhancing learning skills and motivation in software engineering. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (pp. 309-315). https://doi.org/10.1145/3328778.3366891.

Ritonga, M., Tambak, S., Lahmi, A., Handayani, I., & Riyadi, S. (2021). Strategies for developing tarkib arabic exercises instruments for strengthening the understanding of yellow book. *International Journal of Entrepreneurship*, *25*, 1-9. https://www.proquest.com/openview/16be9cf59b3d6665821366079f826837/1?cbl=29727&pq-origsite=gscholar.

Rusilowati, U., & Wahyudi, W. (2020, March). The Significance of Educator Certification in Developing Pedagogy, Personality, Social and Professional Competencies. In *2nd Social and Humaniora Research Symposium (SoRes 2019)* (pp. 446-451). https://doi.org/10.2991/assehr.k.200225.095.

Safaruddin, S., Ibrahim, N., Juhaeni, J., Harmilawati, H., & Qadrianti, L. (2020). The Effect of Project-Based Learning Assisted by Electronic Media on Learning Motivation and Science Process Skills. *Journal of Innovation in Educational and Cultural Research*, *1*(1), 22-29. https://doi.org/10.46843/jiecr.v1i1.5.

Santamaría-Cárdaba, N. (2020). Families, experiments, and nature: Learning science through project-based learning. *School Science and Mathematics*, *120*(8), 467-476. **https://doi.org/10.1111/ssm.12438**.

Santyasa, I. W., Rapi, N. K., & Sara, I. (2020). Project Based Learning and Academic Procrastination of Students in Learning Physics. *International Journal of instruction*, *13*(1), 489-508. https://doi.org/10.29333/iji.2020.13132a.

Simonton, K. L., Layne, T. E., & Irwin, C. C. (2021). Project-based learning and its potential in physical education: an instructional model inquiry. *Curriculum Studies in Health and Physical Education*, *12*(1), 36-52. https://doi.org/10.1080/25742981.2020.1862683.

Snoek, M. (2021). Educating quality teachers: how teacher quality is understood in the Netherlands and its implications for teacher education. *European Journal of Teacher Education*, 1-19. https://doi.org/10.1080/02619768.2021.1931111.

Sukenti, D., & Tambak, S. (2020). Developing Indonesian Language Learning Assessments: Strengthening the Personal Competence and Islamic Psychosocial of Teachers. *International Journal of Evaluation and research In education*, *9*(4), 1079-1087.

Sukenti, D., Tambak, S., & Siregar, E. (2021). Learning Assessment for Madrasah Teacher: Strengthening Islamic Psychosocial and Emotional Intelligence. *AL-ISHLAH: Jurnal Pendidikan*, *13*(1), 725-740. https://doi.org/10.35445/alishlah.v13i1.552.

Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, *67*, 291-301. https://doi.org/10.1016/j.tate.2017.06.020.

Syakur, A., Musyarofah, L., Sulistiyaningsih, S., & Wike, W. (2020). The Effect of Project-Based Learning (PjBL) Continuing Learning Innovation on Learning Outcomes of

English in Higher Education. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, *3*(1), 625-630. https://doi.org/10.33258/birle.v3i1.860.

Tambak, S., & Sukenti, D. (2024). Case-Based Learning Method in Learning: Is it Effective to Improve Teaching Skills of Madrasa Teachers in Indonesia?. *Journal of Learning for Development*, *11*(1), 151-164. https://doi.org/10.56059/jl4d.v11i1.763

Tambak, S., & Sukenti, D. (2024). Student Involvement Within Islamic Teacher Education: For a Future Profession. *QIJIS (Qudus International Journal of Islamic Studies)*, *11*(2), 317-352. http://dx.doi.org/10.21043/qijis.v11i2.8141

Tambak, S., Marwiyah, S., Sukenti, D., Husti, I., & Zamsiswaya, Z. (2023). Problem-based learning methods: Is it effective for developing madrasa teacher social competence in teaching?. *Journal of Education and Learning (EduLearn)*, *17*(3), 342-353. https://doi.org/10.11591/edulearn.v17i3.20796

Tambak, S., Ahmad, M. Y., Amril, A., Sukenti, D., Hamzah, H., & Marwiyah, S. (2022). Madrasa teacher professionalism: Effects of gender and teaching experience in learning. *International Journal of Evaluation and Research in Education*, *11*(3), 1490-1499. http://doi.org/10.11591/ijere.v11i3.22539

Tambak, S., Firdaus, F., Harahap, M., Sukenti, D., & Zaylani, M. (2023). Islamic Professional Madrasa Teachers and Makarim Syari'ah in Teaching: A Phenomenological Approach. *AL-ISHLAH: Jurnal Pendidikan*, *15*(4), 4343-4354. https://doi.org/10.35445/alishlah.v15i4.3475

Tambak, S., & Sukenti, D. (2020). Strengthening Islamic Behavior and Islamic Psychosocial in Developing Professional Madrasah Teachers. *Jurnal Cakrawala Pendidikan*, *39*(1), 65-78. https://doi.org/10.21831/cp.v39i1.26001.

Tambak, S., Ahmad, M. Y., & Sukenti, D. (2020). Strengthening Emotional Intelligence in Developing the Madrasah Teachers' Professionalism (Penguatan Kecerdasan Emosional dalam Mengembangkan Profesionalisme Guru Madrasah). *Akademika*, *90*(2), 27-38. https://doi.org/10.17576/akad-2020-9002-03.

Tambak, S., Hayati, M., & Bahjat, M. M. (2023). Academic Writing Skills in Islamic Higher Education: Engaging Inquiry-based Learning Methods. *Jurnal Pendidikan Agama Islam Al-Thariqah, 8*(1), 18-34. https://doi.org/10.25299/al-thariqah.2023.vol8(1).12882

Untari, R., Kamdi, W., Dardiri, A., Hadi, S., & Nurhadi, D. (2020). The Development and Application of Interactive Multimedia in Project-Based Learning to Enhance Students' Achievement for 2D Animation Making. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(16), 17-30. https://www.learntechlib.org/p/217965/.

Wilson, K. (2021). Exploring the Challenges and Enablers of Implementing a STEM Project-Based Learning Programme in a Diverse Junior Secondary Context. *International Journal of Science and Mathematics Education*, *19*(5), 881-897. https://doi.org/10.1007/s10763-020-10103-8.

Wu, T. T., & Wu, Y. T. (2020). Applying project-based learning and SCAMPER teaching strategies in engineering education to explore the influence of creativity on cognition, personal motivation, and personality traits. *Thinking Skills and Creativity*, *35*, 100631. https://doi.org/10.1016/j.tsc.2020.100631

4. Bukti penilaian reviewer terhadap artikel
07 Juni 2024

INTERNATIONAL JOURNAL OF RELIGION
ISSN: 2633-352X
e-ISSN: 2633-3538

REVIEWER COMMENTS

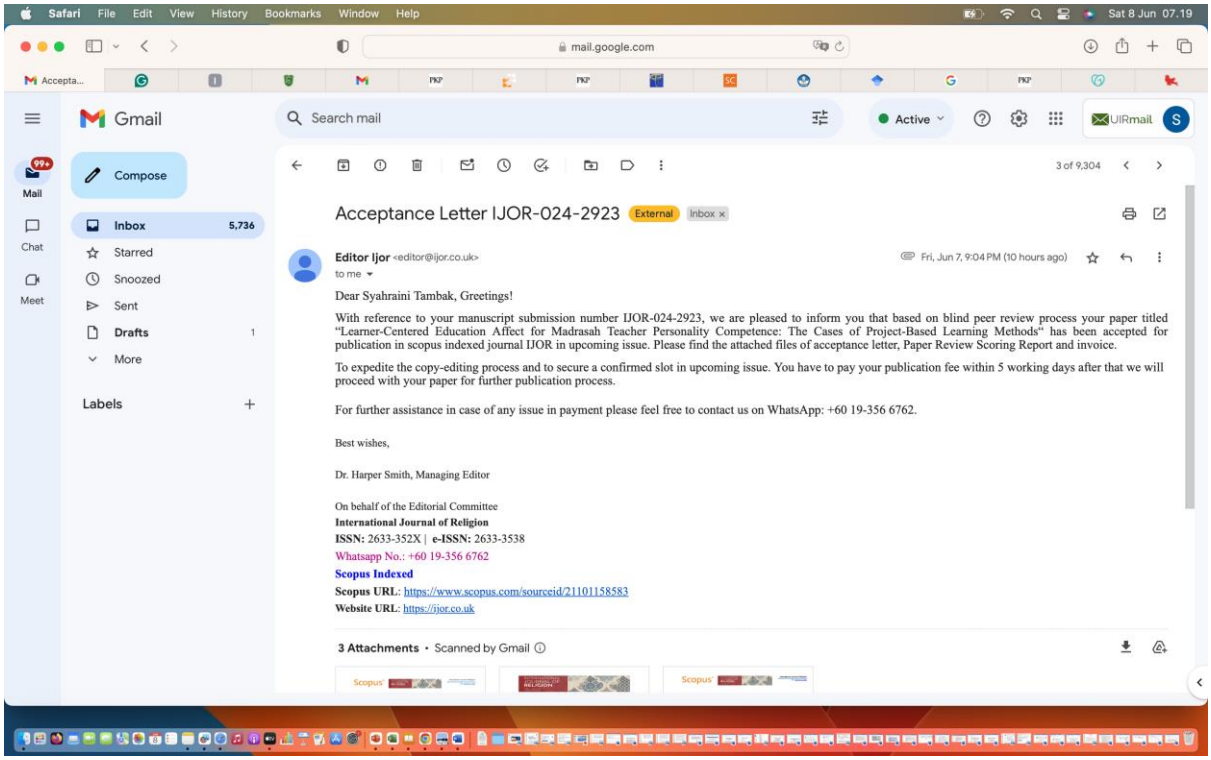
Title: Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods
Author (S): Muhajir Muhajir, Syahraini Tambak, Desi Sukenti

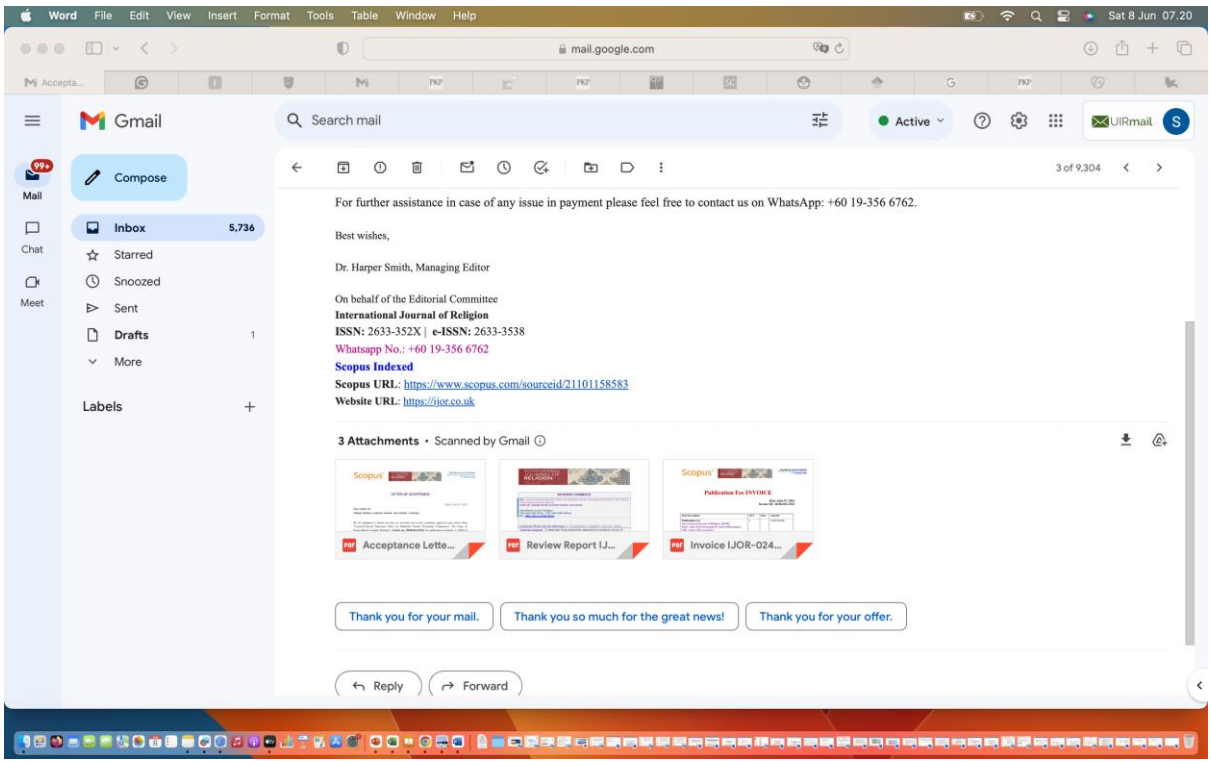
International Journal of Religion
ISSN: 2633-352X (Print) | ISSN: 2633-3538 (Online)
URL: https://ijor.co.uk/ijor/about

Comments Please rate the following: (1 = Excellent) (2 = Good) (3 = Fair) (4 = Poor)

General comment	I appreciate being granted the opportunity to conduct a review of the manuscript. This manuscript was a pleasure to read, and I wish to express my appreciation for your efforts. In the subsequent sections, I present my evaluations of this manuscript.
Introduction	1
Literature Review	3
Methodology	3
Results	1
Conclusion	1
References	2

5. Bukti konfirmasi artikel accepted 07 Juni 2024


Safari File Edit View History Bookmarks Window Help
Sat 8 Jun 07.19
mail.google.com
Gmail
Search mail
Active
UIRmail
Compose
Inbox 5,736
Starred
Snoozed
Sent
Drafts 1
More
Labels
Mail
Chat
Meet
3 of 9,304
Acceptance Letter IJOR-024-2923 External Inbox ×
Editor Ijor <editor@ijor.co.uk>
to me
Fri, Jun 7, 9:04 PM (10 hours ago)
Dear Syahraini Tambak, Greetings!
With reference to your manuscript submission number IJOR-024-2923, we are pleased to inform you that based on blind peer review process your paper titled "Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods" has been accepted for publication in scopus indexed journal IJOR in upcoming issue. Please find the attached files of acceptance letter, Paper Review Scoring Report and invoice.
To expedite the copy-editing process and to secure a confirmed slot in upcoming issue. You have to pay your publication fee within 5 working days after that we will proceed with your paper for further publication process.
For further assistance in case of any issue in payment please feel free to contact us on WhatsApp: +60 19-356 6762.
Best wishes,
Dr. Harper Smith, Managing Editor
On behalf of the Editorial Committee
International Journal of Religion
ISSN: 2633-352X | e-ISSN: 2633-3538
Whatsapp No.: +60 19-356 6762
Scopus Indexed
Scopus URL: https://www.scopus.com/sourceid/21101158583
Website URL: https://ijor.co.uk
3 Attachments • Scanned by Gmail


Word File Edit View Insert Format Tools Table Window Help
Sat 8 Jun 07.20
mail.google.com
Gmail
Search mail
Active
UIRmail
Compose
Inbox 5,736
Starred
Snoozed
Sent
Drafts 1
More
Labels
Mail
Chat
Meet
3 of 9,304
For further assistance in case of any issue in payment please feel free to contact us on WhatsApp: +60 19-356 6762.
Best wishes,
Dr. Harper Smith, Managing Editor
On behalf of the Editorial Committee
International Journal of Religion
ISSN: 2633-352X | e-ISSN: 2633-3538
Whatsapp No.: +60 19-356 6762
Scopus Indexed
Scopus URL: https://www.scopus.com/sourceid/21101158583
Website URL: https://ijor.co.uk
3 Attachments • Scanned by Gmail
Acceptance Lette...
Review Report IJ...
Invoice IJOR-024...
Thank you for your mail.
Thank you so much for the great news!
Thank you for your offer.
Reply
Forward

6.Letter Of Acceptance
07 Juni 2024

International Journal of Religion
ISSN: 2633-352X (Print)|ISSN: 2633-3538 (Online)
URL: https://ijor.co.uk/ijor

LETTER OF ACCEPTANCE

Dated: June 07, 2024

Dear Author (S):
Muhajir Muhajir, Syahraini Tambak, Desi Sukenti, Greetings!

We are delighted to inform you that our scientific and review committee approved your article titled "Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods" (**Article no: IJOR-024-2923)** for publication in Volume 5 (2024) of the International Journal of Religion (IJOR).

International Journal of Religion **IJOR** is abstracted and indexed in Scopus, ERIH Plus, Norwegian Register for Scientific Journals, RePEc, Google Scholar, Sherpa RoMEO

Please ensure that the publication fee is paid within a period of 5 business days. We are assured that our collaboration will contribute to the advancement of global knowledge creation and sharing. Please feel free to reach out to us should you have any additional inquiries.

Best Regards,

Dr. Harper Smith
Managing Editor
International Journal of Religion (IJOR)
Email: editor@ijor.co.uk
Contact: +60 19-356 6762 (Whats app.)
URL: https://ijor.co.uk/ijor
Scopus URL: https://www.scopus.com/sourceid/21101158583

7. Perintah untuk melakukan publication fee ke Jurnal
07 Juni 2024

International Journal of Religion
ISSN: 2633-352X (Print)|ISSN: 2633-3538 (Online)
URL: https://ijor.co.uk/ijor

Publication Fee INVOICE

Date: June 07, 2024
Invoice ID: IJOR-024-2923

Item Description	QTY	Rate	Amount
Publication Fee : **International Journal of Religion (IJOR)** **ISSN: 2633-352X (Print)|ISSN: 2633-3538 (Online)** **URL: https://ijor.co.uk/ijor**	1		USD 650.00
		Total	USD 650.00

- **The Publication Fee For The Paper Titled:** Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods
- **Author(s) Name:** Syahraini Tambak
- **Affiliation:** Department of Islamic Religion Education, Universitas Islam Riau, Indonesia.

For Fee Submission Please Click on the Link below:

https://www.2checkout.com/checkout/purchase?sid=102575029&total=690.00&cart_order_id=Publication%20Fee&c_prod=10001&id_type=2&lang=en&mode=new&fixed=Y

Bank Account Details

- Beneficiary Bank: Malayan Banking Berhad (Maybank)
- Account Name: WISE ACADEMIA RESEARCH SOLUTIONS
- Account Number: 558024395874
- Company Address: M2-17-01 Tower 2, Level 17, 8trium Bandar Sri Damansara, 52200 Kuala Lumpur, Malaysia
- Contact Number: +601124015667
- Bank Branch: Maybank - Jalan Sultan Idris Shah Branch
- Branch Address: 206, Jalan Sultan Idris Shah, 30000 Ipoh, Perak, Malaysia
- Swift Code: MBBEMYKLXXX

Important Note:

- **Please mention the paper ID on scanned bank receipt and email the scanned copy at:** editor@ijor.co.uk. Or Whats app: +60 19-356 6762

8.Bukti finalisasi artikel
07 Juni 2024

Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods

Muhajir Muhajir[1], Syahraini Tambak[2*], & Desi Sukenti[3]
[1]Department of Islamic Religion Education, Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Serang, Indonesia
[2]Department of Islamic Religion Education, Universitas Islam Riau, Indonesia.
[3]Department of Indonesian Language and Literature Education, Universitas Islam Riau, Indonesia.
[*]e-mail: syahraini_tambak@fis.uir.ac.id

Abstract: This study aims to explore whether increasing the use of project-based learning (PBL) by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers in learning. Using data collected from a project-based learning (PBL) intervention program, this study used a quasi-experimental method to assess how PBL is associated with teachers' personality competence, and analyzed using a t-test. Generally, the personality competence of madrasah teachers is only considered as a determinant of the practice of teaching Islamic religious education, but we found that the personality competence of madrasah teachers can be positively influenced by the increased use of PBL in learning. Among the madrasah teacher personality competence subscales, PBL is positively related to student engagement and teaching in learning. Analysis using student data shows that students' positive responses to Islamic religious education learning practices can mediate the relationship between PBL and the personality competence of madrasa teachers. This research has implications for the development of the PBL model in improving the personality competence of madrasa teachers in learning Islamic religious education.

Keywords: *Project-based learning, personality competence, learning and instruction, madrasah teacher professionalism.*

INTRODUCTION

The personality competence of madrasa teachers is the ability to teach in themselves as well as the ability to become personality teachers (König, et al. 2021; Irmawati, Asri, & Aziz, 2021; Murkatik, Harapan, & Wardiah, 2020; Rusilowati, & Wahyudi, 2020), has been found to be associated with various teacher characteristics and behaviors (Rusilowati, & Wahyudi, 2020; Karuniawati, Rahayu, & Ladamay, 2021). In particular, various theories describe that the personality competence of madrasah teachers determines the abilities and teaching methods related to instructional practice (Guillén-Gámez, et al. 2021; König, et al. 2021; Snoek, 2021; Suprayogi, Valcke, & Godwin, 2017; Tambak & Sukenti, 2024). In addition, the personality competence of teachers contributes to self-personality development (McGarr, & McDonagh, 2021; Guillén-Gámez, et al. 2021; Snoek, 2021; Tambak & Sukenti, 2024) and also improves the quality of an educational institution.

However, most studies examining the relationship between teachers' personality competence and learning practices have relied on cross-sectional data (Rusilowati, & Wahyudi, 2020; König, et al. 2021; McGarr, & McDonagh, 2021; Tambak, et al. 2020; Tambak et al., 2022). This means that the data used for the analysis can allow for comparisons across respondents, but cannot explain changes over time, severely limiting the empirical ability to

identify causality. Furthermore, the theoretical discussion of teacher personality competence implies that there is a reciprocal or cyclical relationship with classroom experience (Tambak & Sukenti, 2020; Lukiianchuk, et al. 2021; Komar, et al. 2021; Muna, Sunardi, & Widyastono, 2021). Thus, teacher personality competence itself may be an outcome that is influenced by changes in instructional practice. Other research reveals that personality competence implies the process of self-development with personalityism in learning at madrasas (Efendi, 2021; Hamzah, Tambak, & Tanjung, 2020; Tambak, Ahmad, & Sukenti, 2020; Muna, Sunardi, & Widyastono, 2021).

These various studies illustrate that personality competence is more psychologically researched in the learning process, but has not revealed the strengthening of project-based learning in madrasa teacher learning. This research is a new thing where the personality competence of madrasa teachers is given a solution with a project-based learning method that is different from previous research. Thus, to explore empirically the relationship between the personality competence of madrasah teachers and instructional learning practices, this study uses data from a project-based learning (PBL) program intervention that took place in Pekanbaru City, Riau, Indonesia. In 2019, the Ministry of Religion of Riau Province provided four public madrasah aliyah in Pekanbaru City with PBL program interventions to encourage teachers in madrasas by changing the learning method from teacher-centered lectures to student-centered PBL. In the PBL program, the treatment group teachers were given training on how to apply PBL and asked to use it in the classroom for one semester, while the seven control group teachers did not receive any encouragement to change their learning practices. With data pooled on teachers and students from the program, we used a quasi-experimental research method to assess how increased use of PBL over one semester was associated with changes in teacher personality competence in madrasas in learning.

This research is very urgent to be carried out in order to empirically explore the relationship between the personality competence of madrasa teachers and instructional practices using data from project-based learning (PBL) program interventions in teaching Islamic religious education for madrasa teachers. PBL in various theories provides development in the learning process (Syakur, et al. 2020; Guo, et al. 2020; Miller, Severance, and Krajcik, 2021; Sukenti & Tambak, 2022; Santyasa, Rapi & Sara, 2020; Sukenti & Tambak, 2020). The application of PBL can develop a quality and competitive learning atmosphere and environment, as well as the development of a tradition of higher-order thinking for students (Wu, & Wu, 2020; Safaruddin, et al. 2020; Pérez, & Rubio, 2020; Kim, 2020; Abuhmaid, 2020; Tambak et al., 2023). Thus, the focus of this study is to explore the following: the use of project-based learning affect the personality competence of madrasa teachers in Islamic religious education.

METHOD

Participant

A total of fourteen Madrasah Aliyah in Pekanbaru City, Riau, Indonesia participated in this study, seven of which consisted of a treatment group and seven a control group. The main targets of the program are teachers from these madrasas who teach one of the four core subjects of Islamic religious education: Akidah Akhlak, Al-Qur'an Hadith, Fiqh, and Islamic Cultural History, to students from Madrasah Aliyah (grade XI). A total of 139 teachers who meet these criteria participate in the PBL program. The response rates of the treatment group teachers for the pretreatment survey were 78% (56 teachers out of 72) and 67% (48 teachers out of 72) for the post-treatment survey. The control group teacher response rates were 55% (37 teachers out of 67) for the pre-treatment survey and 49% (33 teachers out of 67) for the post-treatment survey.

The analysis for this study was conducted based on disproportionate data, meaning that some teachers and students only participated in either the pre-treatment or post-treatment surveys. Among the 117 unique teachers in the sample, 57 (48.7%) teachers took part in both the pre-treatment and post-treatment surveys, while 36 (30.8%) teachers took part only in the pre-treatment survey and 24 (20 .5%) took part only in the post-treatment survey. In the final analysis of the sample for teacher survey data, the number of observations in the pre-treatment period was 93 (53.4%) and the number of observations in the post-treatment period was 81 (46.6%). For student survey data, among a unique sample of 1268 students, 1107 (87.3%) took part in the pre- and post-treatment survey, while 109 (8.6%) only took part in the pre-treatment survey and 52 (4.1) %) took part only in the post-treatment survey.

A summary of the basic background characteristics of teachers and students is presented that among the 56 teachers in the treatment group, 82% were female, 38% had attained a master's degree or higher education level, the average total teaching experience was 150.13 months (SD 99 ,39), or about 12.5 years, the average school year at the current school is 24.15 months (SD 41.81), or about 2 years, and 79% are on permanent contracts. The basic means t-test between the treatment group and the control group found no statistically significant difference between the two groups. Among the treatment group students in the pre-treatment phase, 44% were female and had a mean language score of 2.66 (score range: 0 to 5; SD 1.48). T-tests of the baseline revealed that there were no significant differences between the treatment and control group students in terms of gender composition and Islamic religious education scores, but the treatment group had a higher proportion of students with parents who had a bachelor's degree. To directly account for these differences, we included them as control variables across all regression models.

Sample selection

The selection of madrasahs in the treatment and control groups was not random, which could potentially bias estimates and limit the extent to which causal interpretations can be made. Taking into account the representativeness of the sample, one treatment school is selected from seven different school districts within the city, and a suitable control school is selected within the same district. Control madrasas were selected to be the same sex (one sex, at the madrasah and grade level) as treatment schools, and were located within 2 km. Thus, we have two madrasah (one experimental school and one control school) per district in our sample, as close as possible to each other in terms of gender structure and geographic location. Madrasa teachers or students themselves did not voluntarily or self-select into the treatment or control groups, which eliminates concerns for potential selection bias.

Although the study sample was not randomly selected, the differences in background characteristics across madrasa teachers and students in the treatment and control groups were minimal. Also, we show that the probability of being in the treatment group versus the control group does not differ between teachers based on most of the observable characteristics. The same can be said for students. Each variable characteristic was controlled for all regressions. In terms of policy, the madrasas in our study are in the same city of Pekanbaru, and Pekanbaru operates a very centralized education system, where madrasas are identical in terms of minimum training and certification requirements to become a teacher, curriculum and textbooks, teacher salaries, and finances. operational. The relatively high degree of homogeneity across treatment and control schools lends credence to the validity of the quasi-experimental research design.

Design

To assess the relationship between PBL and the personality competence of madrasah teachers, this study used a quasi-experimental method using survey data collected from teachers and students in two periods; before and after the use of PBL in the classroom for one semester. We mainly use two empirical methods: the difference-in-difference design and the instrumental variables through a two-stage least squares estimate. These two methods are often used in policy evaluation studies that aim to analyze the causal impact of policies on the outcome variables of interest (Angrist & Pischke, 2008). For the analysis using teacher data, the dependent variable of interest is a measure of teacher self-efficacy and its subscale. For the analysis using student data, the dependent variables of interest were students' perceptions of their teacher's efforts to encourage interest, level of class preparation, students' self-assessments about their class participation, and self-assessments about how often they shared ideas in class. class. Since teacher and student data can only be linked at the school level, and there were only 14 madrasah in the study, directly assessing the relationship between student and madrasa teacher variables is not feasible. Therefore, we first analyzed teacher data to assess how PBL was associated with teachers' personality competence and its subscales. Next, we analyzed student data to evaluate how students responded to PBL. This made it possible to indirectly assess whether the relationship between PBL and personality competence might be related to PBL-induced changes in students.

Measurement

Over the years, various methods of measuring teacher personality competence have been developed (Zee & Koomen, 2016). This study uses the short form of the Madrasah Teacher Personality Competency Test developed by Tambak (2017). TKPGM consists of a factor structure that is stable and broad enough to cover a wide range of relevant teacher abilities for teaching. It is one of the most widely used madrasa teacher personality competency instruments, including in the national madrasa teacher survey. The questionnaire for the TKPGM used in this study consisted of 54 items which were divided into three subscales of madrasah teacher personality competence, with madrasah teacher personality competence as a whole being the average of ten subscales. Each of the 54 items measures the extent to which madrasah teachers feel they have the ability to manage learning and is rated on a 4-point Likert scale, ranging from “not at all” to “A” a lot.” The subscale of madrasa teacher pedaodic competence is (a) personality competence Madrasah teachers in learning (b) Madrasah teachers' personality competencies in learning management (c) and Madrasah teachers' personality competencies in engagement Cronbach's Alpha was used to assess the internal consistency of the instrument, which showed (a 0.93) for the entire instrument.

To measure PBL frequency, we used a dummy variable derived from teacher self-reported use of “multiple projects in progress” reported on a four-point Likert scale: 1) Never or almost never; 2) Sometimes; 3) Often; 4) In all or almost all lessons. If the teacher reported using PBL either “never or almost never” or “sometimes,” the variable was coded as 0, and if the teacher reported using PBL “often” or “In all or almost all lessons,” the variable was coded as 1. The measure of PBL frequency in the student survey was constructed in the same way as the madrasa teacher survey.

For student outcomes, we measured their perceptions of their teacher's level of effort to stimulate student interest, level of class preparation, students' own level of participation in class, and their own frequency of brainstorming with other students in the class. All measures are reported on a four-point Likert scale: 1) Strongly disagree; 2) Disagree; 3) Agree; 4) Strongly agree. In addition, to assess the academic ability of students, we provide an Islamic

religious education exam consisting of five questions, with possible scores ranging from 0 to 5.

Procedure

The PBL program consists of pre-semester training sessions and actual implementation during the madrasa semester. Between June and July 2019, teachers from the seven treatment madrasahs were trained for a total of about 30 hours (across four days) on how to conduct PBL in their classrooms. The sessions are led by six doctors who specialize in researching and implementing PBL. A pair of lecturers is responsible for training meetings for each of the two madrasas. The training content consists of learning the basic concepts of PBL, developing inquiry questions for PBL, understanding the roles of teachers and students, and designing and planning courses. For each pair of lecturers in charge of training for two madrasah, one focuses on the first two elements of the training while the remaining lecturers focus on the last two.

Data analysis

For madrasa teacher survey data, across all variables and periods, the rate of missing scores ranged from 0.6% to 2.3%. For student survey data, the two variables had two missing values each, for a 0.08% loss rate. Average imputation is used to handle missing cases. Each missing value is replaced by the mean value of the relevant variable, taken from the appropriate school and respondent period. Although not presented in the study, there was no significant difference in the results compared with the analysis performed after deletion of the list of respondents with missing values for any of the variables included in the regression model.

We first estimated the treatment effect of the PBL program using a difference-in-difference design. The difference-in-difference method captures the effect of treatment by comparing the change in the mean over time of the outcome variable for the treatment group with the change in the mean over time for the control group. The required assumption is that in the absence of treatment, changes over time in the outcome variables for the treatment and control groups will be identical. This assumption is known as the parallel trend assumption, because it requires time trends in the outcome variables to be parallel between the two groups prior to treatment. He should note that the assumptions require trends to be identical, not the rate of outcome variables. If this assumption holds, the difference in changes over time between the treatment and control groups is interpreted as a causal effect of treatment (Khaldi, 2017). Empirical verification of the assumption of parallel trends requires data to be collected at multiple time points before treatment takes place. However, because we only have data for a single period before and after treatment, we cannot directly assess the assumption of parallel trends. Nonetheless, due to the relatively high degree of homogeneity across the treatment and control groups, it is unlikely that any differences in trends in the outcome variables were attributable to factors other than the PBL program intervention. The empirical model (Gaciu, 2020) that we used to derive the difference-in-difference estimate is stated:

$$Yijt=\beta0+\beta1TreatjxPostt+\beta2Treatj+\beta3Postt+Xig+\varepsilon ijt$$

where is the subscript i; J; and t represents the individual (either teacher or student), school, and period, respectively. yijt is the dependent variable of interest, such as personality competence for madrasah teachers or student responses for students, individual i in school j at time t: All dependent variables are standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of group scores control. This was done to facilitate interpretation, especially in terms of how the results changed relative to the control group. If it is equal to 1, then the respondent belongs to a nursing school, and if 0, then the respondent is part of the madrasa control. Postt is equal to 1 if time t is the post-treatment period (i.e., after the fall 2016 semester) and 0 if time t is the pre-treatment period (i.e., before the

intervention). Treatj Postt (Djafar, et al. 2021) is an interaction between indicator variables for treatment and time period. Xi is a vector control variable consisting of individual characteristics such as: respondents. For madrasah teachers, they included gender, education level, total teaching experience (in months), current teaching experience at madrasas (in months), and type of employment contract. For students, they included the student's gender, parental education level, eldest child status, and test math scores. ijt is an error term, clustered at the school level.

In addition to using PBL in the classroom, treatment group teachers were given PBL consultations during the semester, which may be independently related to teacher self-efficacy. Although we found that the use of PBL by treatment group teachers increased significantly after treatment, any treatment effects we found through the difference-in-difference design may still be partly attributable to consultation. To solve this problem, we use a two-stage least squares instrumental variable estimation. This approach allows us to empirically estimate the changes in PBL use caused by PBL programs, and analyze how these exogenous changes are associated with the personality competence of madrasah teachers.

RESULTS AND DISCUSSIONS

Teacher analysis

Table 1 reports the effect of the PBL program on the personality competence of madrasah teachers and their subscales, estimated through the design differences expressed in (Equation (1)). The first column shows that the PBL program is associated with an increase in the personality competence of madrasah teachers by 0.942 standard deviations ($p < 0.01$). Column 2 reports that the PBL program has a significant relationship with the personality competence of madrasah teachers in instruction with a standard deviation of 1.011 ($p < 0.01$), and Column 4 reports that personality competence in engagement is significantly related to the PBL program of 0.899 standard deviations ($p <0.01$). The results in column 3 show that the PBL program has no significant effect on the personality competence of madrasah teachers in classroom management. This indicates that personality competence in teaching and student engagement drive the positive impact that PBL programs have on the personality competence of madrasah teachers as a whole. Among the madrasah teacher personality competence subscales, PBL had the strongest impact on teachers' personality competence in engagement, which might be expected, given that the central change reflected in treatment was changes in instructional practice.

Table 2 reports the results of the instrumental approach variables on the impact of using PBL on the personality competence of madrasah teachers and their subscales. The results of the first stage regression (Equation (2)) are found in column 1 of Panel (b). The intervention program increased the likelihood of implementing PBL in the classroom either “often” or “in all or almost all subjects” by 44.6 percentage points ($p < 0.05$). This provides further evidence that the PBL intervention program causes significant changes in the way teaching takes place in the classroom. Panel (a) of Table 2 reports the estimates of the second stage of the instrumental-variable approach regression (Equation (3)). The predicted PBL frequency values obtained from the first-stage regression estimation were collected and entered into the regression to estimate Equation (3). In column 1 of panel (a), an exogenous increase in the use of PBL was associated with an increase in the personality competence of madrasah teachers by 2,270 standard deviations ($p < 0.1$). Self-efficacy in instruction and engagement was also found to be positively influenced by PBL, increasing by 2.115 standard deviations ($p < 0.1$) and 2.016 standard deviations ($p < 0.05$), respectively. As was the case in the difference-within-difference estimate, PBL was found to have no significant effect on personality competence in classroom management.

Student analysis

The positive associations found between madrasah teachers' personality competencies and PBL could be mediated by the effect that PBL has on students. At Madrasah aliyah Pekanbaru, students are placed in one classroom, and teachers in charge of different subjects come in different classes at different hours to teach their respective subjects, so grade level analyzes linking student and teacher outcomes cannot be carried out. Students and teachers can connect at the madrasah level, but because our data contains only twelve madrasas, the school-level analysis would lack sufficient statistical power. Because of this, we can only estimate the relationship between PBL student reports and student responses, and indirectly conclude that any effect found in the student data may be related to the positive association found between PBL and teachers' personality competence in the madrasah teacher data.

Table 3 reports the estimated difference-in-difference obtained through equation (1) using student survey data. Estimates were obtained for the entire sample as well as for the madrasah subsample consisting of the three treatment group madrasah in which PBL increased the most and their respective control madrasahs matched. Responses from the teacher survey and student survey showed that teachers from Madrasah Aliyah Negeri 1, Madrasah Aliyah Negeri 2, and Madrasah Aliyah Negeri 4 had the largest increase in the use of PBL after the PBL program. Column 2 of panel (a) shows that the PBL intervention program led to an increase in the perception of efforts to attract teachers' interest by 0.155 standard deviation ($p < 0.1$). There was no statistically significant relationship between the PBL program and other student variables. In panel (b), where the analysis was limited to the three care schools in which: PBL increased the most and their matched control madrasah, we found that the PBL program increased the madrasa teacher's perception of interest by persuasion effort by 0.360 standard deviation ($p < 0, 05$). This shows very good development.

Tabel 1

Project-based learning and personality competence: Difference-in-Differences estimates.

	(1)	(2)	(3)	(4)
Dependent variable:	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Post Treat	0.942***	1.011***	0.509	0.899***
	(0.299)	(0.272)	(0.327)	(0.242)
Post	0.012	0.318	0.028	0.013
	(0.202)	(0.184)	(0.235)	(0.166)
Treat	0.740**	0.811**	0.588**	0.571***
	(0.245)	(0.263)	(0.250)	(0.179)
Student math score	0.046	0.103	0.089	0.067
	(0.165)	(0.136)	(0.160)	(0.157)
Female	0.091	0.202	0.088	0.020
	(0.473)	(0.452)	(0.497)	(0.315)
MA and above	0.082	0.022	0.077	0.083
	(0.304)	(0.264)	(0.311)	(0.237)
Total teaching experience	0.004**	0.003**	0.003*	0.003*
	(0.002)	(0.001)	(0.002)	(0.001)
Experience at current school	0.001	0.002	0.000	0.002
	(0.002)	(0.003)	(0.002)	(0.002)
Permanent	0.724*	0.559	0.662	0.674**
	(0.378)	(0.328)	(0.446)	(0.272)
Observations	174	174	174	174

R-squared	0.222	0.319	0.131	0.212

Note: Postal code: 1 if the post-treatment period, 0 if the pre-treatment period; Treatment: coded 1 if in the treatment group, 0 if in the control group; Math scores: School-level students' average math test scores (score 0e5); Female: coded 1 if female, 0 if male; MA and above: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent: coded 1 if the employee is permanent, 0 if the contract is temporary. The dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher self-efficacy was obtained through the average of three self-efficacy subscales (instruction, student engagement, classroom management). The survey questions to assess the madrasa teachers' personality competence subscale were answered on four points: The Likert scale (1: "Not at all" ~ 4: "A lot"), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Estimates obtained through the instrumental variable approach are reported in table 4. Separate estimates are reported for those obtained with the entire sample (Panel (a)) and the subset of the three madrasah with the greatest improvement in PBL and their matched control schools (Panel (b)). In Panel (a), it was found that PBL increased the perception of madrasa teacher interest induction efforts by 0.792 standard deviation ($p < 0.1$) and the extent to which students shared ideas with each other in class with a standard deviation of 0.995 ($p < 0.1$). There is no significant relationship with the perception of teacher class preparation or student class participation. When the analysis is limited to three madrasahs that experienced the greatest increase in PBL and their matched control madrasahs, increased use of PBL was associated with an increase in the perception of classroom preparation teachers by 0.674 standard deviations ($p < 0.1$), an increase in perceptions of the madrasa teacher's interest in persuasion efforts of 1.010 standard deviations ($p < 0.1$ 0.01), and an increase in students' sharing of ideas in class with a standard deviation of 0.724 ($p < 0.1$).

Table 2
Project-based learning and madrasah teacher personality competence: Two-stage least squares estimates.

(a) Second stage

Dependent variable:	(1)	(2)	(3)	(4)
	Personality competence of madrasa teachers	Personality competence in instruction	Personality competence in management	Personality competence in engagement
Predicted PBL	2.270*	2.115*	1.143	2.016**
	(1.190)	(1.159)	(0.945)	(0.949)
Post	0.122	0.421	0.250	0.378
	(0.646)	(0.636)	(0.509)	(0.522)
Treat	841**	0.768**	.603**	0.597**
	(0.334)	(0.325)	(0.288)	(0.259)
Observations	174	174	174	174

(b) First stage

Dependent variable: Project-based learning	(1)
Post Treat	0.446**
	(0.158)
Post	0.194
	(0.131)
Treat	0.013
	(0.066)
Observations	174
F-statistic	14.89

Note: Project-based learning: The dummy variable is coded 1 if project-based learning is used either “Often” or “In all or almost all lessons,” 0 if “Never or almost never” or “Sometimes”; PBL prediction in Panel (a) is the PBL prediction value obtained from regression in Panel (b); Post: coded 1 if the post-treatment period, 0 if the pre-treatment period. Treatment: coded 1 if in the treatment group, 0 if in the control group. All regressions controlled for the following: Gender: coded 1 for female, 0 for male; Teacher education level: coded 1 if the highest education level is S2 or higher, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: code 1 if permanent employee, 0 if temporary contract. The second stage dependent variable was standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Madrasah teacher personality competence was obtained through an average of three subscales of madrasah teacher

personality competence (instruction, student involvement, classroom management). Survey questions to assess the personality competence subscale of madrasah teachers were answered on a four-point Likert scale (1: “Not at all” ~ 4: “A lot”), with four questions asked for each subscale. Standard errors cluster at the school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Table 3:

Project-based learning and student outcomes: Difference-in-differences estimates.

(a) Sample: All schools

Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Treat Post	0.090	0.155*	0.159	0.093
	(0.086)	(0.084)	(0.114)	(0.079)
Observations	2266	2266	1944	2266
R-squared	0.013	0.011	0.011	0.072
Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Post Treat	0.240	0.360**	0.214	0.027
	(0.130)	(0.090)	(0.157)	(0.114)
Observations	1146	1146	988	1146
R-squared	0.012	0.018	0.011	0.059

Note: All dependent variables were standardized to have a mean of 0 and a standard deviation of 1, based on the mean and standard deviation of the control group. Teacher inducement: students' general perception of the teacher's efforts to encourage participation (1: “Strongly disagree” ~ 4: “Strongly agree”); Teacher preparation: students' general perception of teacher preparation for class (1: “Strongly disagree” ~ 4: “Strongly agree”); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: "Not at all" ~ 4: "A lot"); Class participation: self-assessment of enthusiastic class participation (1: “Strongly disagree” ~ 4: “Strongly agree”). All control regressions were as follows: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Type of work: coded 1 if permanent worker, 0 if temporary contract. Top 3 PBL Madrasah refers to the treatment madrasah and its rival madrasas where the increase in the use of PBL is among the largest (top 3) among the treatment schools. Standard error clustered at school level. ***p < 0.01, **p < 0.05, *p < 0.1.

Tabel 4:

Project-based learning and student outcomes: Two-stage least squares estimates.

(a) Second stage - All schools

Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
Predicted PBL	0.457	0.792*	0.995*	0.472
	(0.438)	(0.439)	(0.603)	(0.429)
Observations	2266	2266	1944	2266
Dependent variable:	(1) Teacher preparation	(2) Teacher inducement	(3) Share idea	(4) Class participation
	(0.348)	(0.355)	(0.433)	(0.303)
Observations	1146	1146	988	1146
Dependent variable: Project-based learning	(1) All schools	(2) PBL top 3		

Treat Post		0.196*** (0.038)	0.357*** (0.052)
Observations		2266	1146
F-statistic		346.90	295.38

Note: Regression in Panel (b) is limited to the top 3 treatment madrasas in terms of increased use of PBL as well as corresponding control madrasas. PBL predictions in Panel (a) are obtained from the first stage regression in Panel (c), Column 1; PBL predictions in Panel (b) were obtained from the first stage regression in Panel (c), Column 2. Teacher induction: student motivation general perceptions of teacher efforts to encourage participation (1: "Strongly disagree" ~ 4: "Strongly agree") ; Teacher preparation: students' general perceptions of class preparation teachers (1: "Strongly disagree" ~ 4: "Strongly agree"); Sharing ideas with classmates: the extent to which ideas are shared with classmates during class (1: "Not at all" ~ 4: "A lot"); Class participation: self-assessment of enthusiastic class participation (1: "Strongly disagree" ~ 4: "Strongly agree"). All regressions controlled for the following: Gender: coded 1 if female, 0 if male; Teacher education level: coded 1 if the highest education level is S2 or more, 0 otherwise; Total teaching experience and current school experience in months; Permanent employee: coded 1 if permanent employee, 0 if temporary contract. Standard error clustered at the madrasa level. ***p < 0.01, **p < 0.05, *p < 0.1.

In this study, we explore whether increasing the use of PBL by madrasah aliyah teachers in Indonesia improves the personality competence of madrasah teachers. Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class.

The positive associations found between PBL and the personality competence of madrasah teachers indicate that learning practices are not only the result of madrasah teachers' personality competence, as is generally perceived, but can also lead to changes in madrasah teachers' personality competences. Based largely on analysis using cross-sectional data, researchers tend to treat the personality competence of madrasa teachers only as a determinant of the learning method approach (Suprayogi, Valcke, & Godwin, 2017; Zee & Koomen, 2016; Tambak, & Sukenti, 2020; Tambak, et al. al.2020; Ritonga, et al. 2021). This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers. Analysis of the data collected over two time periods with the quasi-experimental PBL method provided greater support for interpreting causality than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor influencing the pedagogy of madrasah teachers, contributing to the literature seeking to understand teacher personality competency development (Lobczowski, et al. 2021; Tambak, & Sukenti, 2019; Tambak, et al. 2021; Ritonga, et al. 2021).

From the three main sources of developing personality competence of madrasah teachers rooted in social cognitive theory, it is possible that experience plays a major role in improving the personality competence of madrasah teachers. Experience mastery occurs when teachers view their performance as madrasa teachers to be successful. It is possible that PBL leads to a more positive educational experience among students, leading to an increase in the personality competence of madrasah teachers (Owens, and Hite. 2020; Untari, et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020; Untari. , et al. 2020; Hussein, 2021; Tambak, Ahmad, & Sucenti. 2020;). Due to data limitations, we did not directly assess the relationship between students and the personality competence of madrasah teachers. However, the positive associations found between PBL and student outcomes support the possibility of mastery

experiences (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019; Tambak, Amril, & Sucenti, 2021; Hamzah, Sucenti, Tambak, & Tanjung, 2020). Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers' positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence.

This study is not without limitations which should be addressed in future research. First, the potential limitation of this study is the use of a subject-netr measure of madrasah teacher personality competence. Some scholars argue the need to develop the personality competence of madrasa teachers in a closer relationship with the specific teacher context such as the subject being taught (Ljung-Djärf, Agneta, & Peterson., 2014; Chaijum, & Hiranyachattada, 2020; Akharraz, 2021; Sukenti, Tambak, & Siregar, 2021). Although the additional predictive value and generalizability of such constructs have not been determined, the use of various measures of madrasa teacher personality competence in future research may lead to more robust estimates. Second, this study only used teacher self-reported measures of teacher personality competence. However, simply assessing teachers' own assessments can lead to positive or negative self-assessment bias, which can distort and underestimate the relationship between teachers' personality competencies and others. Drawing on multiple data sources to measure personality competence, such as using teacher and student ratings, can allow for more reliable and stable measurements (Panadero, Jonsson, & Botella, 2017; Marsh, et al. 2019). Third, there are limitations with regard to the generalizability of the main findings. The sample size of this study was relatively small, and the study was only conducted in schools in Pekanbaru Metropolitan City. Also, the madrasa teacher survey has a relatively low response rate. Thus, there may be limitations in generalizing the findings to national or international levels. Future studies should aim to expand the sample of madrasah teachers, both in scope and number, to obtain more generalizable findings. Finally, this study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the instructional approach can be expanded (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time points.

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers in Islamic religious education learning. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to teachers' perceptions of class preparation, attempts to induce teacher interest, and the frequency with which students share ideas in class.

This study provides empirical evidence for alternative understanding; it could also be for learning practices to influence the personality competence of madrasa teachers in learning Islamic religious education. Analysis of the data collected over two time periods by quasi-experimental methods provided greater support for causal interpretation than previous studies based on cross-sectional data. This study introduces teaching practice as a mediating factor that affects the personality competence of madrasah teachers, a contribution to the literature that seeks to understand the development of madrasah teachers' personality competencies in Islamic

religious education learning. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester. To gain a more complete understanding of how PBL affects the personality competence of madrasah teachers, the duration of using the instructional approach can be extended (eg more than one semester). Also, long-term effects should be assessed through outcomes measured at later time points. So, madrasa teacher self-efficacy is a crucial thing to be developed in language learning through a capable PBL process in the madrasa teacher profession.

CONCLUSION

Estimates obtained using a difference-in-difference design and an instrumental variable approach found that the PBL program had a positive effect on the personality competence of madrasah teachers. Also, analysis of student data using a difference-in-difference design found that the PBL program positively affected students' perceptions of the level of effort a teacher exerted to provoke interest. Estimation using an instrumental variable approach on the subset of schools with the strongest increase in PBL use found that PBL was positively related to madrasah teachers' perceptions of class preparation, efforts to induce madrasa teacher interest, and the frequency with which students shared ideas in class. Among the three madrasahs that experienced the greatest increase in PBL, were shown to have a positive and statistically significant change in the way they carried out their teacher's efforts to provoke interest and preparatory classes, and also increased their frequency of sharing ideas with other students in the class. Students have more positive perceptions of teachers in the classroom, if conveyed to teachers, can contribute to teachers who understand their own teaching to be effective. Also, sharing ideas in class is likely related to involvement in course material. Madrasa teachers' positive perceptions and more involvement in the classroom through sharing ideas tend to lead to mastery experiences that increase teacher personality competence. The implication of this research is to develop the theory of "project-based learning on the personality competence of madrasa teachers" in learning Islamic religious education. The findings of this study can be universally developed by the Ministry of Religion of the Republic of Indonesia in all madrasas in learning at madrasas. This study only assessed the impact of PBL immediately after it was implemented for one semester.

ACKNOWLEDGMENT

We thank to the Institute of Research and Community Service at the Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Serang, Indonesia for funding this research. Hopefully the resulting scientific work can be a trigger to bring up better works in the future.

REFERENCES

Abuhmaid, A. M. (2020). The Efficiency of Online Learning Environment for Implementing Project-Based Learning: Students' Perceptions. *International Journal of Higher Education, 9*(5), 76-83. https://doi.org/10.5430/ijhe.v9n5p76.

AKHARRAZ, M. (2021). The Impact of Project-Based Learning on Students' Cultural Awareness. *International Journal of Language and Literary Studies, 3*(2), 54-80. https://doi.org/10.36892/ijlls.v3i2.601

Aksela, M., & Haatainen, O. (2019). Project-Based Learning (PBL) in Practise: Active Teachers' Views of Its' Advantages And Challenges. In *Integrated Education for the Real*

World 5th International STEM in Education Conference Post-Conference Proceedings. Queensland University of Technology.

Alotaibi, M. G. (2020). The Effect of Project-Based Learning Model on Persuasive Writing Skills of Saudi EFL Secondary School Students. *English Language Teaching*, *13*(7), 19-26. https://doi.org/10.5539/elt.v13n7p19.

Angrist, J. D., & Pischke, J. S. (2008). Parallel worlds: fixed effects, differences-in-differences, and panel data. In *Mostly harmless econometrics* (pp. 221-248). Princeton University Press. https://doi.org/10.1515/9781400829828-010.

Berselli, G., Bilancia, P., & Luzi, L. (2020). Project-based learning of advanced CAD/CAE tools in engineering education. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, *14*(3), 1071-1083. https://doi.org/10.1007/s12008-020-00687-4.

Chaijum, N., & Hiranyachattada, T. (2020). Integrated Learning and Project-Based Learning for Project of Electrical Measurement and Instrumentations in Electrical Engineering Course. *European Journal of Science and Mathematics Education*, *8*(1), 6-11. https://files.eric.ed.gov/fulltext/EJ1242181.pdf.

Djafar, H., Yunus, R., Pomalato, S. W. D., & Rasid, R. (2021). Qualitative and Quantitative Paradigm Constellation In Educational Research Methodology. International Journal of Educational Research & Social Sciences, *2(2), 339-345. https://doi.org/10.51601/ijersc.v2i2.70*.

Efendi, S. (2021). Lecturer's Professional Competence in Developing Student Learning at the National University. *Jurnal Mantik*, *5*(2), 701-706. https://doi.org/10.35335/mantik.Vol5.2021.1385.pp701-706.

Gaciu, N. (2020). *Understanding Quantitative Data in Educational Research*. Sage.

Guillén-Gámez, F. D., Mayorga-Fernández, M., Bravo-Agapito, J., & Escribano-Ortiz, D. (2021). Analysis of teachers' professionalal digital competence: Identification of factors predicting their acquisition. *Technology, Knowledge and Learning*, *26*(3), 481-498. https://doi.org/10.1007/s10758-019-09432-7.

Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, *102*, 101586. https://doi.org/10.1016/j.ijer.2020.101586.

Guo, P., Saab, N., Wu, L., & Admiraal, W. (2021). The Community of Inquiry perspective on students' social presence, cognitive presence, and academic performance in online project-based learning. *Journal of Computer Assisted Learning*, *37*(5), 1479-1493. https://doi.org/10.1111/jcal.12586.

Hamzah, D. S., Tambak, S., & Tanjung, W. U. (2020). Overcoming self-confidence of Islamic religious education students: The influence of personal learning model. *Journal of Education and Learning (EduLearn)*, *14*(4), 582-589. https://doi.org/10.11591/edulearn.v14i4.16759.

Hussein, B. (2021). Addressing Collaboration Challenges in Project-Based Learning: The Student's Perspective. *Education Sciences*, *11*(8), 434. https://doi.org/10.3390/educsci11080434.

Irmawati, D. K., Asri, T. M., & Aziz, A. L. (2021). How EFL Teachers Deal with Professionalal Competence Development for the Teaching of Writing: A Study on Higher Educational Level in Indonesian Context. *Journal of Education and e-Learning Research*, *8*(1), 42-51. https://doi.org/10.20448/journal.509.2021.81.42.51.

Jalinus, N., Syahril, S., Nabawi, R. A., & Arbi, Y. (2020). How Project-Based Learning and Direct Teaching Models Affect Teamwork and Welding Skills Among

Students. *International Journal of Innovation, Creativity and Change.*, *11*(11), 85-111. https://files.eric.ed.gov/fulltext/ED610846.pdf.

Karuniawati, E., Rahayu, S., & Ladamay, I. (2021, April). Education, Working Group Activities and Professional Competencies Their Effect on Teacher Professionalism. In *2nd Annual Conference on Social Science and Humanities (ANCOSH 2020)* (pp. 75-78). Atlantis Press. https://doi.org/10.2991/assehr.k.210413.018.

Khaldi, K. (2017). Quantitative, qualitative or mixed research: which research paradigm to use?. *Journal of Educational and Social Research*, *7*(2), 15-15. https://doi.org/10.5901/jesr.2017.v7n2p15.

Kim, K. J. (2020). Project-based learning approach to increase medical student empathy. *Medical education online*, *25*(1), 1742965. https://doi.org/10.1080/10872981.2020.1742965.

Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving schools*, *19*(3), 267-277. https://doi.org/10.1177/1365480216659733.

Komar, O. A., Chuchalina, Y. M., Kramarenko, A. N., Torchynska, T. A., & Shevchuk, I. V. (2021). Agile Approach in Training Future Primary School Teachers for Resolving Complex Professional Situation. *International Electronic Journal of Elementary Education*, *13*(4), 469-477. https://doi.org/10.26822/iejee.2021.205.

König, J., Blömeke, S., Jentsch, A., Schlesinger, L., née Nehls, C. F., Musekamp, F., & Kaiser, G. (2021). The links between professionalal competence, instructional quality, and mathematics achievement in the lower secondary classroom. *Educational Studies in Mathematics*, *107*(1), 189-212. https://doi.org/10.1007/s10649-020-10021-0.

Ljung-Djärf, A., Magnusson, A., & Peterson, S. (2014). From doing to learning: Changed focus during a pre-school learning study project on organic decomposition. *International Journal of Science Education*, *36*(4), 659-676. https://doi.org/10.1080/09500693.2013.822604.

Lobczowski, N. G., Lyons, K., Greene, J. A., & McLaughlin, J. E. (2021). Socially shared metacognition in a project-based learning environment: A comparative case study. *Learning, Culture and Social Interaction*, *30*, 100543. https://doi.org/10.1016/j.lcsi.2021.100543.

Lukiianchuk, A., Kharahirlo, V., Sakhno, O., Tataurova-Osyka, G., & Stadnik, N. (2021). Conditions for the development of psychological and professionalal competence of teachers of vocational (professional and technical) education. *Linguistics and Culture Review*, *5*(S3), 678-696.

McGarr, O., & McDonagh, A. (2021). Exploring the digital competence of pre-service teachers on entry onto an initial teacher education programme in Ireland. *Irish Educational Studies*, *40*(1), 115-128. https://doi.org/10.1080/03323315.2020.1800501.

Miller, E. C., Severance, S., & Krajcik, J. (2021). Motivating teaching, sustaining change in practice: Design principles for teacher learning in project-based learning contexts. *Journal of Science Teacher Education*, *32*(7), 757-779. https://doi.org/10.1080/1046560X.2020.1864099.

Mukti, Y. P., Masykuri, M., Sunarno, W., Rosyida, U. N., Jamain, Z., & Dananjoyo, M. D. (2020). Exploring the Impact of project-based learning and discovery learning to the students' learning outcomes: Reviewed from the analytical skills. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, *9*(1), 121-131. https://doi.org/10.24042/jipfalbiruni.v9i1.4561.

Muna, A. N., Sunardi, S., & Widyastono, H. (2021). Teachers' Efforts to Improve Professional Competency in Learning Children with Special Needs in Inclusion Basic Schools in

Surakarta. *IJDS: Indonesian Journal of Disability Studies*, *8*(1), 61-72. https://doi.org/10.21776/ub.ijds.2021.008.01.04.

Murkatik, K., Harapan, E., & Wardiah, D. (2020). The Influence of Professional and Professional Competence on Teacher's Performance. Journal of Social Work and Science Education, 1(1), 58-69. https://doi.org/10.52690/jswse.v1i1.10.

Owens, A. D., & Hite, R. L. (2020). Enhancing student communication competencies in STEM using virtual global collaboration project based learning. *Research in Science & Technological Education*, 1-27. https://doi.org/10.1080/02635143.2020.1778663.

Pérez, B., & Rubio, Á. L. (2020, February). A project-based learning approach for enhancing learning skills and motivation in software engineering. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (pp. 309-315). https://doi.org/10.1145/3328778.3366891.

Ritonga, M., Tambak, S., Lahmi, A., Handayani, I., & Riyadi, S. (2021). Strategies for developing tarkib arabic exercises instruments for strengthening the understanding of yellow book. *International Journal of Entrepreneurship*, *25*, 1-9. https://www.proquest.com/openview/16be9cf59b3d6665821366079f826837/1?cbl=29727&pq-origsite=gscholar.

Rusilowati, U., & Wahyudi, W. (2020, March). The Significance of Educator Certification in Developing Pedagogy, Personality, Social and Professional Competencies. In *2nd Social and Humaniora Research Symposium (SoRes 2019)* (pp. 446-451). https://doi.org/10.2991/assehr.k.200225.095.

Safaruddin, S., Ibrahim, N., Juhaeni, J., Harmilawati, H., & Qadrianti, L. (2020). The Effect of Project-Based Learning Assisted by Electronic Media on Learning Motivation and Science Process Skills. *Journal of Innovation in Educational and Cultural Research*, *1*(1), 22-29. https://doi.org/10.46843/jiecr.v1i1.5.

Santamaría-Cárdaba, N. (2020). Families, experiments, and nature: Learning science through project-based learning. *School Science and Mathematics*, *120*(8), 467-476. **https://doi.org/10.1111/ssm.12438**.

Santyasa, I. W., Rapi, N. K., & Sara, I. (2020). Project Based Learning and Academic Procrastination of Students in Learning Physics. *International Journal of instruction*, *13*(1), 489-508. https://doi.org/10.29333/iji.2020.13132a.

Simonton, K. L., Layne, T. E., & Irwin, C. C. (2021). Project-based learning and its potential in physical education: an instructional model inquiry. *Curriculum Studies in Health and Physical Education*, *12*(1), 36-52. https://doi.org/10.1080/25742981.2020.1862683.

Snoek, M. (2021). Educating quality teachers: how teacher quality is understood in the Netherlands and its implications for teacher education. *European Journal of Teacher Education*, 1-19. https://doi.org/10.1080/02619768.2021.1931111.

Sukenti, D., & Tambak, S. (2020). Developing Indonesian Language Learning Assessments: Strengthening the Personal Competence and Islamic Psychosocial of Teachers. *International Journal of Evaluation and research In education*, *9*(4), 1079-1087.

Sukenti, D., Tambak, S., & Siregar, E. (2021). Learning Assessment for Madrasah Teacher: Strengthening Islamic Psychosocial and Emotional Intelligence. *AL-ISHLAH: Jurnal Pendidikan*, *13*(1), 725-740. https://doi.org/10.35445/alishlah.v13i1.552.

Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, *67*, 291-301. https://doi.org/10.1016/j.tate.2017.06.020.

Syakur, A., Musyarofah, L., Sulistiyaningsih, S., & Wike, W. (2020). The Effect of Project-Based Learning (PjBL) Continuing Learning Innovation on Learning Outcomes of

English in Higher Education. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, *3*(1), 625-630. https://doi.org/10.33258/birle.v3i1.860.

Tambak, S., & Sukenti, D. (2024). Case-Based Learning Method in Learning: Is it Effective to Improve Teaching Skills of Madrasa Teachers in Indonesia?. *Journal of Learning for Development*, *11*(1), 151-164. https://doi.org/10.56059/jl4d.v11i1.763

Tambak, S., & Sukenti, D. (2024). Student Involvement Within Islamic Teacher Education: For a Future Profession. *QIJIS (Qudus International Journal of Islamic Studies)*, *11*(2), 317-352. http://dx.doi.org/10.21043/qijis.v11i2.8141

Tambak, S., Marwiyah, S., Sukenti, D., Husti, I., & Zamsiswaya, Z. (2023). Problem-based learning methods: Is it effective for developing madrasa teacher social competence in teaching?. *Journal of Education and Learning (EduLearn)*, *17*(3), 342-353. https://doi.org/10.11591/edulearn.v17i3.20796

Tambak, S., Ahmad, M. Y., Amril, A., Sukenti, D., Hamzah, H., & Marwiyah, S. (2022). Madrasa teacher professionalism: Effects of gender and teaching experience in learning. *International Journal of Evaluation and Research in Education*, *11*(3), 1490-1499. http://doi.org/10.11591/ijere.v11i3.22539

Tambak, S., Hamzah, H., Ahmad, M. Y., Siregar, E. L., Sukenti, D., Sabdin, M., & Rohimah, R. B. (2022). Discussion method accuracy in Islamic higher education: the influence of gender and teaching duration. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, *41*(2), 507-520. https://doi.org/10.21831/cp.v41i2.40644

Tambak, S., Firdaus, F., Harahap, M., Sukenti, D., & Zaylani, M. (2023). Islamic Professional Madrasa Teachers and Makarim Syari'ah in Teaching: A Phenomenological Approach. *AL-ISHLAH: Jurnal Pendidikan*, *15*(4), 4343-4354. https://doi.org/10.35445/alishlah.v15i4.3475

Tambak, S., & Sukenti, D. (2020). Strengthening Islamic Behavior and Islamic Psychosocial in Developing Professional Madrasah Teachers. *Jurnal Cakrawala Pendidikan*, *39*(1), 65-78. https://doi.org/10.21831/cp.v39i1.26001.

Tambak, S., Ahmad, M. Y., & Sukenti, D. (2020). Strengthening Emotional Intelligence in Developing the Madrasah Teachers' Professionalism (Penguatan Kecerdasan Emosional dalam Mengembangkan Profesionalisme Guru Madrasah). *Akademika*, *90*(2), 27-38. https://doi.org/10.17576/akad-2020-9002-03.

Tambak, S., Hayati, M., & Bahjat, M. M. (2023). Academic Writing Skills in Islamic Higher Education: Engaging Inquiry-based Learning Methods. *Jurnal Pendidikan Agama Islam Al-Thariqah, 8*(1), 18-34. https://doi.org/10.25299/al-thariqah.2023.vol8(1).12882

Untari, R., Kamdi, W., Dardiri, A., Hadi, S., & Nurhadi, D. (2020). The Development and Application of Interactive Multimedia in Project-Based Learning to Enhance Students' Achievement for 2D Animation Making. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(16), 17-30. https://www.learntechlib.org/p/217965/.

Wilson, K. (2021). Exploring the Challenges and Enablers of Implementing a STEM Project-Based Learning Programme in a Diverse Junior Secondary Context. *International Journal of Science and Mathematics Education*, *19*(5), 881-897. https://doi.org/10.1007/s10763-020-10103-8.

Wu, T. T., & Wu, Y. T. (2020). Applying project-based learning and SCAMPER teaching strategies in engineering education to explore the influence of creativity on cognition, personal motivation, and personality traits. *Thinking Skills and Creativity*, *35*, 100631. https://doi.org/10.1016/j.tsc.2020.100631

9. Bukti melakukan pembayaran publication fee ke Jurnal
11 Juni 2024

...nsfer/Kliring/Inkaso
...Clearing/Collection Application

BSI BANK SYARIAH INDONESIA

...anirrahmaanirrahiim

Kepada *to* **PT Bank Syariah Indonesia**

No.: 120380

Harap dilakukan transaksi berikut *Please do this transaction:* Cabang *Branch* KCP UIR. Tanggal *Date* 11/6-2024.

Jenis Transaksi *Transaction*: ☐ Setoran *Deposit* ☐ Pemindahbukuan *Overbooking* ☐ RTGS *RTGS* ☐ Kliring-Inkaso *Clearing-Collection* ☐ SWIFT *SWIFT* ☐ Wesel *Demand Draft* ☐ Lainnya *Others*

harap ditulis dengan huruf cetak *fill in with block letters*

VALIDASI
Validation

AC84 D 7011383399 SYAHRAINI TAMBAK IDR 10,663,250.00
AC84 K USD1341300010722 Outgoing TT USD 650.00
204 K PL52710 Fee Atas Transaksi SWIFT IDR 410,125.00
KCP PEKANBARU UIR BSI33200100267
11 JUN 2024 11 JUN 2024 13:37 FT2416315MB7 120380

PENERIMA *Beneficiary*: ☐ Penduduk *Resident* ☐ Bukan Penduduk *Non-Resident*

Nama *Name*: WISE Academic Research Solution
Nomor Rekening *Account Number*: 558024395874
Bank *Bank*: Maybank
Alamat & Nomor Telepon *Address & Telephone Number*: Kuala Lumpur, Malaysia +601124015667

MATA UANG *Currency*: ☐ Rupiah *Local Currency* ☑ Valuta Asing *Foreign Currency*

BERITA UNTUK PENERIMA *Message for Beneficiary*
SWIFT CODE : MBBEMYKLXXX

PENGIRIM *Applicant*: ☑ Penduduk *Resident* ☐ Bukan Penduduk *Non-Resident* ☐ Nasabah *Customer* ☐ Bukan Nasabah *Walk in Customer*

Nama *Name*: Syahraini Tambak
Nomor Identitas *Identity Number*: 1222041808750007
Alamat & Nomor Telepon *Address & Telephone Number*: Pekanbaru, Riau, Indonesia +6281268406710

SUMBER DANA TRANSAKSI *Source of Fund*: ☐ Tunai *Cash* ☐ Cek/Bilyet giro *Cheque* ☐ Debet Rekening: *Debet Account:* 7011383399

Bank Tertarik *Drawee Bank*	Nomor cek/BG *Cheque Number*	Valuta *Currency*	Nominal *Amount*

Jumlah *Amount*: 650 USD.
Terbilang *in words*: ENAM RATUS LIMA PULUH DOLLAR

BIAYA TRANSAKSI *Handling Charge*: ☐ Tunai *Cash* ☐ Debet Rekening: *Debet Account:*

Biaya Bank Koresponden *Correspondent Charge*: ☐ Pengirim *Applicant* ☐ Penerima *Beneficiary* ☐ Lainnya *Others*

TUJUAN TRANSAKSI *Underlying Transaction*
Publication Fee: ID: IJOR-024-2923

diisi oleh Bank *filled out by bank*

Jumlah Transfer *Amount of Transfer*	650 USD.
Komisi *Commission*	
Biaya Pengiriman (SWIFT/RTGS/SKN)	5 USD.
Biaya Koresponden *Correspondent Charge*	20 USD.
Sub Total	
Kurs *Rate*	Rp 16.405.
Total	Rp 11.073.375.

BANK SYARIAH INDONESIA
KC. Pekanbaru UIR
11 JUN 2024
Teller

Pemohon telah membaca serta memahami, dan dengan ini menyetujui sepenuhnya syarat-syarat dan ketentuan yang tercantum dibalik formulir transaksi ini *Applicant have read and undestand, and with this applicant unconditionally accept all terms and condition on the reserve of this transaction form.*

Pengesahan Bank *Bank's Authorization*	Tanda Tangan Pemohon *Applicant's Signature*
	[signature]

Perhatian: Apabila penerima adalah bukan Nasabah/ ***Walk in Customer*** maka wajib mengisi alamat dan nomor telepon penerima.

AG 001
Lembar 1 : untuk *Teller*

Safari File Edit View History Bookmarks Window Help
Tue 11 Jun 14.04
mail.google.com
Updates Not Installed
Some updates could not be installed automatically.

Mail
Chat
Meet
Compose
Inbox 5,745
Starred
Snoozed
Sent
Drafts 2
More
Labels

2 of 11

Syahraini Tambak
to Editor

2:03 PM (0 minutes ago)

Dear Managing Editor:
Dr. Harper Smith

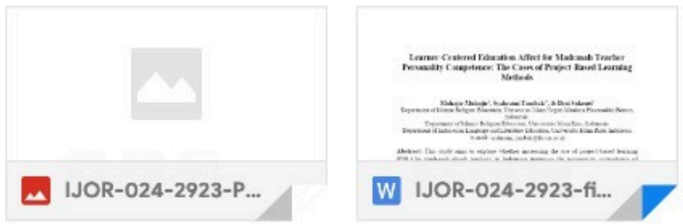
We extend our greetings and prayers that the Editor of the International Journal of Religion is healthy and successful in carrying out his daily activities.

Furthermore, we would like to inform you that we have paid the publication fee for our manuscript with ID number: IJOR-024-2923, according to the invoice we received from the Editor. We attach herewith proof of publication fee payment; and also the final paper that we have edited.

We would like to thank the Editor for all his kindness and assistance. We pray that this journal will become more and more brilliant day by day.

Best regards,
Syahraini Tambak.

2 Attachments • Scanned by Gmail



Reply Forward

Safari File Edit View History Bookmarks Window Help Tue 11 Jun 17.08

mail.google.com

Gmail

Search in mail

Active

UIRmail S

Compose

Mail 99+

Chat

Meet

Inbox 5,747

Starred

Snoozed

Sent

Drafts 2

More

Labels

2 of 9,322

IJOR-024-2923-fi...

Editor Ijor 4:40 PM (27 minutes ago)

to me

Dear Syahraini, Greetings!

Thank you for your email.
We have received your payment. Your paper has been forwarded for the formatting process and it will be published soon.

Best wishes,

Dr. Harper Smith, Managing Editor

On behalf of the Editorial Committee
International Journal of Religion
ISSN: 2633-352X | **e-ISSN:** 2633-3538
Whatsapp No.: +60 19-356 6762
Scopus Indexed
Scopus URL: https://www.scopus.com/sourceid/21101158583
Website URL: https://ijor.co.uk

Syahraini Tambak 5:06 PM (1 minute ago)

to Editor

Dear:
Dr. Harper Smith, Managing Editor

10.Bukti artikel published online

14 Juni 2024

(250) WhatsApp
Learner-Centered Education Aff
ijor.co.uk
Not secure
ijor.co.uk/ijor/article/view/5471

INTERNATIONAL JOURNAL OF RELIGION

Learner-Centered Education Affect for Madrasah Teacher Personality Competence: The Cases of Project-Based Learning Methods

International Journal of Religion
Q3
Political Science and International Relations
best quartile
SJR 2023
0.18
powered by scimagojr.com

Muhajir Muhajir
Department of Islamic Religion Education, Universitas Islam Negeri Sultan Maulana Hasanuddin Banten, Serang, Indonesia

Syahraini Tambak
Department of Islamic Religion Education, Universitas Islam Riau, Indonesia

Desi Sukenti
Department of Indonesian Language and Literature Education, Universitas

PDF

PUBLISHED
2024-06-14

MAKE A SUBMISSION