

Ace Suryadi,
Unifah Rasjidi,
Dasim Budimansyah
Indonesia

Does Teaching Licensure Boost Student Learning? Indonesia's Answer

DOI: 10.15804/tner.2017.49.3.21

Abstract

The presented study examined Indonesia's licensure program commenced in 2006 and its effect on teacher competence and student learning. This cross-sectional survey selected schools randomly from a West Java sampling frame, in which all six-grade students were chosen from a randomly selected schools. Based on the data from student, teacher and had teacher questionnaires this production function analysis used an average student academic test score as a criterion, while the selected student, teacher and school variables as predictors defined in models. This found that teaching licensure insignificantly affected student achievement; the teaching license has become a symbol of credentials rather than the real competences of teachers. Students' academic achievement, too, was determined by their socio-economic background more strongly than that by competences of certified teachers. This urges the Ministry to review the nationwide certification program and redevelop it so that it creates sustained improvement in teacher quality and student learning.

Keywords: *teacher certification, teaching licensure, student achievement effect*

Since the primary school expansion, almost completed in the late 1980s, Indonesia has continued to face the short quality of teachers, as indicated by the extremely low average score, at 44.5%, on National Teacher Competency Test (Rasjidi, 2014; Jalal et al., 2009). This is such an initial signature to show the incapability of teachers in boosting student learning. To address this, the government

established a national policy on teaching licensure. To become a teacher one should meet the minimum level of academic qualification and fulfill the required standards of competence. Teachers were encouraged to be innovative in teaching to generate higher levels of student achievement (Suryadi & Budimansyah, 2009). Teaching licensure required teachers to develop their full capacity, behave themselves, and work effectively toward sustainable improvement of educational quality. By 2016, Indonesia had certified more than 1.7 million teachers, or 75% of the whole teaching force (Suryadi & Budimansyah, 2016). The presented study raised a critical inquiry, whether the massive certification in a relatively short period had been able to increase the school quality. This examined whether the huge decade-long investment had successfully improved teacher performance and advanced quality education as shown in the better quality of student learning. This intended to come up with some empirically tested conclusion that the program had been truly successful in the sense it enabled teachers to teach more effectively.

Objective and Methodology

This is a cross-sectional survey of sixth-grade elementary school students in West Java province, Indonesia. The school samples were selected with the use of systematic random sampling procedures from the list of schools in each of the selected districts. Four municipalities and five regencies were randomly selected from the 27 districts in the province. Data were collected through administering highly structured questionnaires to 901 sixth-grade students, 54 teachers and 30 principals. This was a school achievement study, attempting to examine the impact of certification on the student's scores on school-leaving examination. The predictors consisted of teacher certification, student and teacher characteristics, teacher seniority and credentials, school characteristics and head teachers' certification. The effect of teaching licensure is determined by the magnitude of variance of the predicted student achievement explained by teacher certification relative to the effect of covariates.

Conceptual Framework

There is no inherent obstacle with teacher certification given the expectation it would improve teachers' capacity to learn, teach and achieve better. However, the purpose of the Indonesian government to certify a large number of teachers

within a relatively short period may have been mistaken. In contrast, certifying teachers in Japan was a bit slower because the program should be followed through strengthening of the continuing professional development (CPD) system to keep the certified meet the standards. Up to 2013, only a relatively small percentage of primary (3.7%), lower secondary (6.5%) and upper secondary (22.5%) teachers had been certified (Umezawa, 2013). It is thus basically wrong if the success of certification was measured only in terms of the number of certified teachers; instead, it should be determined by actual measures of teacher performance, which results in better quality of student learning (Suryadi & Budimansyah, 2016).

Since the 1970s, the Indonesian government has invested in the expansion of all citizens' access to high quality basic education. There is no inherent conflict between school expansion and school quality improvement; yet, the government should find out what factors contribute most to school quality improvement. It has been found in various studies that teacher quality is a single most important school factor to provide higher quality education (Fullan, 1993; Suryadi, 2003, 2016). Thus, the government decided to raise the quality of education through providing high quality educators as the top priority through restructuring teacher training toward professionalism (Chang et al., 2014; Suryadi & Budimansyah, 2016; Jalal et al., 2009). Since the birth in 2005 of the Teacher Act on, the government has been convinced, that the teaching licensure is one of the first steps taken to improve the overall quality of education.

The quality of education cannot exceed the quality of teachers, which means that improving teacher quality is the top priority among other programs for which appropriate resources are effectively used (Kim, 2007; Fullan, 1993). Others have commonly suggested that the intended school quality will never come into being unless teachers are qualified, competent, and well managed in the professional setting (Chang et al., 2012; Jalal, 2006; Suryadi, 2014). The 2013 curriculum reforms would be successful when each of the teachers in schools was able to innovate freely, work productively in cooperative ways based on their continuously updated competences. However, teacher competency needs strengthening through a professional management system that develops the school's self-improvement capacity (Suryadi, 2016).

In Indonesia, teachers are considered qualified at least at the bachelor's degree or Diploma 4 level, while the competency requirements were set forth through the statutory qualification and competency standards. Professional teachers should be able to manage student learning effectively to meet the national education standards. To become a teacher, one should gain four major competences: professional, pedagogical, social, and personal standards. Jalal et al. (2009) points out that upon

meeting the required standards, each teacher is expected to become an innovative person and be able to bring fresh ideas into their teaching work.

A certification system requires teachers to develop and use their own professional capacities and perform professional teaching to fully engage students in learning; this is an imperative road toward meeting the top national priorities, sustaining education quality (MoNE, 2007). Since the teaching licensure started in 2006, a World Bank sponsored project has attempted to engage all teachers through cluster-based in-service training serial activities, commonly known as continuing professional development or CPD, as also considered by Friedman et al. (2000, p.78) as the maintenance repairs, systematic and expanding their knowledge and skills, and developing the personal qualities necessary for professional and technical duties throughout an individual's career. In the study of 2550 workers, Morgan et al. (2008, p.234) found that "...a lack of resource-based commitment by the organization to CPD for clinical staff undertaking supervisory-level roles and evidence of credentials with its emphasis on seeking certificated qualifications." Therefore, CPD asserted in the empowerment model of Khan (2012) is a never-ending processes with a variety of perspectives including: desire, belief, confidence, credibility, accountability, and communication.

The expected result of CPD is to create higher quality, given the increasingly significant role of teachers within the constraint of limited facilities and infrastructure in many developing countries. A study shows that teacher professional capacity contributes to student achievement at 34%, school management at 22%, learning time at 18%, and physical facilities at 26% (OECD, 2012). In 13 industrialized countries, the contribution of teachers amounts to 36%, management 23%, learning time 22%, and physical facility 19% (Widoyoko, 2008). Teachers' participation in CPD will allow teachers to improve their teaching performance, maintain and improve professional standards, and contribute to the development of world-class education system (Clarke & Robson, 2007).

CPD should become an integral part of a teacher certification system, designed around the notion that teacher performance will be determined through three measures: improving teacher qualifications, improving the competency required by the national standards, and achieving adequate welfare (Jalal et al., 2009). Mhozya (2007) argues that educators will not be satisfied with the work performed unless they are respected and adequately paid. Those factors will enable teachers to show their best performance; the experience of Ghana shows that teachers' poor welfare, whereby educators receive low salaries and unfulfilled necessities of life, makes highly qualified teachers leave the school to seek employment elsewhere (Osei, 2006).

The professional teaching licensure is one through which teachers' competences are systematically recognized and developed. It is expected that the more professionally certified teachers there are, the greater the improvement in school quality will be. So, success of the licensure system should be measured in terms of its effect on the changes in attitudes, actions and behaviors of teachers in teaching to improve student learning. It means a professional certificate is only given to teachers who meet the qualifications and competency standards and the extent to which they can boost student learning (Chang et al., 2012).

Results and Discussion

This study aimed to observe the effect of teaching licensure on student learning relative to covariates defined in the models. Analyzing data at an individual student level, this study attempted to share the results of Indonesian studies by which individual students were the unit of analysis. A simple regression model included highly impacted predictors of student, teacher, and school variables. In Table 1, the magnitude and direction of standardized regression coefficients (β) showed how strongly each of the predictors affected student achievement. Table 1 indicates how significant was each predictor in influencing the criterion based on the magnitude of Beta Weight at $p=0.001$ and $p=0.05$ probability levels.

There was a hypothesis that higher student achievement was positively associated with pre-school attendance ($\beta=.129$, $p=.001$) and parental occupation ($\beta=.084$, $p=.05$), to show that better performing students were those who came from families of better socio-economic status (SES), as indicated by the two home variables. In Indonesia, more than 80% of pre-school attendees were those who came from wealth-off families (Suryadi, 2014), as lower income families could not afford to send their children to pre-school. This was consistent with the findings of studies reviewed by Heyneman (2011), stating that SES has a more powerful effect on student achievement than school variables. It was thus ensured that the covariance effect of the student's SES was taken into account in this analysis.

It is interesting that teacher age had a strong negative correlation ($\beta=-.492$, $p=001$), while years of teaching experience associated positively ($\beta=.247$; $p=001$). This indicated that age was not automatically equal to the teachers' experience; years of teaching was a highly correlated variable to show that the experienced teaches were able to learn and became more competent. However, the older teachers were less competent and thereby lower performing ones regardless of their

Table 1. Predictors and standardized coefficient of student achievement

Predictors 1.	Effects on Student Achievement	
	Beta Weight	t-value
(Constant)		17.388**)
Kindergarten Attendance	.129	3.822**)
Parents' Occupation	.084	2.888*)
Average Scores in School Report Cards	-.028	-1.022
Age of Teacher	-.492	-9.781**)
Teacher's Competence	.118	3.831**)
Teacher's Certificate	-.441	-6.490**)
Teacher's Education Background	-.133	3.896**)
Number of Years of Teaching	.247	6.118**)
Hours of Teaching per week	.293	9.131**)
Primary TE Graduate	.022	.738
Year of Certificate	.183	2.892*)
Head Teacher's Education Background	.039	.930
Age of Head Teacher	-.295	-5.763**)
Number of Years as Head Teacher	.263	5.746**)
Head Teacher's Certificate	-.083	-2.437*)
Pupils' Access to the Internet in School	.434	9.495**)
The Status of School Accreditation	.131	3.287**)
Completion rate in 2009	-.217	-6.483**)
% of Pursuing Study to Junior Secondary	.008	.192
School size	.220	6.378**)

**) significant at $\rho=.001$; *) significant at $\rho=.05$

teaching license. This study found that while the certified teachers selected were mostly older and all of them bachelor's degree holders, they were pedagogically less competent than those uncertified ones. The selection mechanism in teaching licensure was determined more by seniority and credentials rather than that by teachers' real competences, since educational background ($\beta = -.133$, $p=.001$) and teaching certification ($\beta = -.441$, $p=.001$) were negatively correlated with student achievement. Thus, the better achieving students were taught by those uncertified, but actually more competent, teachers ($\beta = .118$, $p=.001$); they were mostly younger

and non-credentialed, yet they were able to learn much from their experiences despite being uncertified.

The school variables with their strongest effects were: the students' access to the internet ($\beta=.434$; $p=.001$), years of head teacher's service ($\beta=.263$; $p=.001$), school size ($\beta=.220$, $p=.001$), and accreditation status ($\beta=.131$; $p=.001$). This suggested that the better schools were larger in size and had the capacity to encourage teachers and students to learn over time; the schools were able to provide support of facilities and information access through the internet. However, the better schools were those in fact led by younger head teachers, although they were uncertified ($\beta=-.083$; $p=.001$). The statistical model of principal component analysis (PCA) identified some variables loaded in each of the seven conceptually defined factors. Afterwards, a regression model involved each of the factors to account for in predicting student achievement. Table 2 shows an encouraging magnitude of overall explainable variance (R-Square=.453, $p=001$), which was relatively higher than those found in previous studies. The largest variance was determined by the students' quality variables, socio-economic status (SES), and kindergarten attendance ($R^2\text{-Cha}=.201$; $p=.001$). This was in coherence with the findings of most previous studies in many countries that student family background is the important impact factor.

Table 2. Impacts of seven factors on the measured student achievement

Regression Models	R	R Square	Adjusted R Square	R-Square Change	S.E. of Estimate
Kindergarten attendance, Family SES, School Leaving examination score	0.451	0.204	0.201	0.201	0.379
Teacher's Certificate	0.470	0.221	0.218	0.017	0.375
Teacher's Competence	.498	0.248	0.244	0.026	0.369
Teacher's education, age, and teaching experience	.560	0.314	0.308	0.064	0.353
Head Teacher's Certificate	.584	0.342	0.335	0.027	0.346
Head Teacher's education and experience	.593	0.351	0.343	0.008	0.344
School size, number of teachers, percent of graduates pursuing education, and the Internet in school	.680	0.463	0.453	0.110	0.314

The second highest effect was the quality of school factor as indicated by measures of: school size, number of teachers, percent of graduates pursuing education, and the internet in school; this factor predicted relatively high effect

variance (R^2 -Change=0.11). This is not an unprecedented finding, as previous studies commonly found that large schools are relatively better in quality; they have a self-contained capacity to raise funds enabling them to improve the quality of learning; they are more attractive and only wealthier families can afford to send children to them. The identified high quality schools in this analysis were not truly *self-contained* i.e., boosting student learning solely by the quality of instruction. They were assumed to be not independent of the student's SES; the higher achieving students were affected by their family SES more powerfully than by the school quality measures.

The third highest effect variables were those factored in teacher seniority: higher educated, older, and longer teaching experience. In sum, these explained the considerable magnitude of variance (R^2 -Cha= 0.064, $p=001$). In the last 40 years, studies in different countries have found that better educated and more experienced teachers are among the strongest effect variables (Heyneman et al, 2011; Fuller, 1986; Mangindaan & Elley, 1977). Yet, older teachers are not necessarily highly experienced, since the teacher's age negatively relates to student learning. In fact, the combined most experienced and higher educated teachers turned out to be outperforming relative to those otherwise. This means that the higher credentialed teachers had better capability of learning through their own teaching experiences.

The most interesting finding was the significant but extremely small effect of teacher certification, explaining only 1.7% of the predicted variance (R^2 -Cha=0.017; $p=.05$). Therefore, the huge investment of teaching licensure since 2006 has not led to a significant increase in student learning. Thus, a negligible impact of the major investment on teaching licensure in Indonesia was observed to achieve the significant improvement in student learning that was expected of it.

Conclusions

Despite the large-scale teacher licensure in Indonesia, there is little evidence of a major improvement in student learning; this has offered no guarantee of creating highly performing teachers, as the more competent are those younger and relatively less credentialed, despite most of them being unlicensed to teach. Perhaps the nationwide imposed licensure program has been based more on teacher credential and seniority rather than merit. The schools with poor student performance are systematically more likely to have more certified but less competent teachers, the result of which being that the teaching licensure system

stands for a significant barrier for teachers to become competent professionals. This actually acts to screen out the already able individuals who might otherwise improve their own capacity over time.

This research urges the government to improve the teaching licensure to ensure its substantial effect on teacher quality and student learning. A license should only be given to those who really show efforts to improve their competence and teaching performance over time. It needs relevant professional pre- and in-service teacher training courses as integral parts of the teacher licensure program. Finally, this study recommends reviewing the licensure program and coming up with a well-calculated system that leads to the sustainable improvement of teacher performance and student learning.

References:

- Chang M.C., Shaeffer S., Al-Samarrai S., Ragatz A.B., Joppe de Ree & Stevenson R. (2014). *Teacher Reform in Indonesia: The Role of Politics and Evidence in Policy Making*. International Bank for Reconstruction and Development/The World Bank., 1818 H Street NW, Washington DC 20433, Internet: www.worldbank.org
- Clarke R.H. & Robson D. (2007). Enhancing Professional Practice and Standards through Continuing Professional Development. Eidenburg: The General Teaching Council for Scotland. Paper presented at the British Educational Research Association Annual Conference, University of Glamorgan, 14–17 September 2007. Available on: <http://www.leeds.ac.uk>
- Friedman A., Durkin C. & Phillips M. (2000). CPD: What are the true costs of continuing professional development? In *Continuing Professional Development Journal*, 27(3), pp. 78–87.
- Fullan M.G. (1993). The Professional Teacher; Why Teachers Must Become Change Agents., In *Educational Leadership*. 50 (6), March 1993.
- Fuller B. (1986) Raising School Quality in Developing Countries: What Investments Boost Learning. World Bank Discussion Papers 2. World Bank, Washington, D.C.
- Heyneman S.P., Stern J.M.B., & Smith T.M. (2011). *The Search for Effective EFA Policies: The Role of Private Schools for Low-Income Children*. Washington DC: The Mitchell Group, Inc.
- Jalal F. (2006). Teacher Certification toward Improving the Quality of Education. *Staff Working Paper* 09:42, 02 April 2006. Jakarta, Directorate General of Teacher, Ministry of education Indonesia
- Jalal F., Samani M., Chang M.C., Stevenson R., Ragatz A.B. & Negar S.D. (2009). *Teacher Certification in Indonesia: A Strategy for Teacher Quality Improvement*. Printed in 2009, the volume is a product of the Ministry of National Education and World Bank staff and consultants.

- Khan, A.W. (2012). Continuing professional development (CPD); What should we do?. *Bangladesh Journal of Medical Education*, 1(1), 37–44.
- Kim E. (2007). *Educational Policy and Reforms in Korea*. Seoul: Published by the Korean Educational Development Institute, South Korea.
- Mangindaan M.C. & Elley W.B. (1977) Evaluation of achievement in the Indonesian education system. In *Evaluation in Education, International Progress*. 2(4), pages 282–351.
- Mhozya C.M. (2007). The Extent to Which Incentive Influence Primary School Teachers and Job Satisfaction In Botswana. In *The Social Science Journal*. Vol. 2(4), pages 412–418.
- Ministry of National Education (MoNE) (2007). *National Strategic Plan in Development on Indonesian Education System Period 2006–2010*. Jakarta: Secretariat General of the MoNE.
- Morgan A., Cullinane J. & Pye M. (2008). Continuing Professional Development: rhetoric and practice in the NHS. In *Journal of Education and Work*, 21 (3), pp. 233–248
- OECD (2012). Program for International Student Assessment, Results 2012. Downloaded on the 10 of May 2014, web: <http://www.oecd.org/pisa>.
- Osei G.M. (2006). Teachers in Ghana: Issues of Training, Remuneration And Effectiveness. In *International Journal of Educational Development*. 26(2), pp. 38–51.
- Rasyidi U. (2014). *Inter-province Comparison of the Average Test Score on the Indonesian Teacher Competency Test*. Jakarta: Center for Development of Professional Teacher, The Ministry of Education and Culture Indonesia.
- Suryadi A. (2003). Establishment of Education Council and School Committee to Improve School Autonomy. Jakarta: The Ministry of National Education (Money), Republic of Indonesia.
- Suryadi A. (2014) *Indonesian Education toward 2015; Problem Outlook, Challenge and Policy Alternatives*. Bandung: PT. Remaja Rosdakarya Publisher.
- Suryadi A. (2016). Readdressing Teacher Challenges: The Case of Indonesia. In *International Journal of Economic Research @Serial Publication* 13 (6), pp. 2571–2585.
- Suryadi A. & Budimansyah D. (2009) *Paradigms of Education Development: Concept, Theory, and Application*. Bandung: Widya Aksara Pratama Publisher.
- Suryadi A. & Budimansyah D. (2016) Advance School Leadership, Progress Teaching Approach and Boost Learning. In *The New Educational Review*, 45 (3) November 2016. DOI: 10.15804/tner.2016.45.3.06 ISBN 0972–93870
- Umezawa O. (2013). Reconstructing Japanese Teacher Education System and Vision of Shizuoka University as National University Corporation. Keynote Speech at the UPI-Shizuoka University International Conference of Teacher Education. Bandung, 20 December 2013.
- Widoyoko S.E.P. (2008). Peranan Sertifikasi Guru Dalam Meningkatkan Mutu Pendidikan. [*The Roles of Teacher Certification in Improving the Quality of Education in Indonesia*] Staff Working paper, the Muhammadiyah University, Purworejo, 5th of July 2008.