International Conference on Education and Educational Psychology (ICEEPSY 2012)

Teacher Quality Improvement Program: Empowering teachers to increasing a quality of Indonesian's education

Neila Ramdhani[a]*, Djamaludin Ancok[b], Yuliardi Swasono[b], Peno Suryanto[b]

*a*Gadjah Mada University, Bulaksumur, Yogyakarta 55281, Indonesia
*b*Titian Foundation, Ampel Gading No. 432, Yogyakarta 55283, Indonesia

Abstract

Teacher Quality Improvement (TQI) program has been designed to improve teacher competencies to make classroom climate fun and conducive for students to learn. The training program consists of three modules of competencies, namely personality, social, and pedagogy. The duration is two weeks, one week for personality and social competencies, and one week for pedagogy competency. All training modules basically aim at developing teachers' soft skills to enable them to teach students effectively through creating fun and innovative climate.

The purpose of this study is to assess the impacts of TQI program on the perception of headmasters, teachers and students toward the way teachers running the classroom before and after joining the program. It is hypothesized that the program has influenced positively teachers' perception about the change in the way they have to teach their students. Teachers perceive their competencies in teaching improved significantly after joining the program. Similarly, students also perceive the way their teachers teach them much better after their teachers receive competency training through the program. Meanwhile, the perception of the headmasters toward teachers' competencies is not significantly different before and after participating in the program.

Sixty-three school headmasters, sixty-three teachers having participated in TQI program, and 189 students are the respondents of this study. A questionnaire is used to collect data concerning the perception of the teachers and headmasters, while data from the students are collected using guided interview done by research assistants. For the purpose of analysis, the data collected from three students are summed up into one score. Therefore, there are 63 school headmasters, 63 teachers and 63 groups of students.

The data is analyzed using two-way mixed model analysis of variance with pre-post for similar groups, and three different groups. The results show that there are significant interaction effects. Teachers evaluate their own behaviors much more in positive way after joining the TQI program compared to before joining the program ($p<0.001$). Similarly, the students evaluate the behaviors of their teachers much higher after their teacher join the Program compared to the evaluation before joining the training ($p<0.001$). In contrast to the perception of teachers and students, headmasters show no significant difference between pre and post training perception ($p=0.99$). The hypotheses are supported by data.

Keywords: Competence, Teacher, Training, Quality improvement

---

* Corresponding author. Tel.: +62 274 881477; fax: +62 274 881477.
E-mail address: neila_psi@ugm.ac.id

1. Background

The impacts of teacher competencies play important role in student academic achievement. In 2007 Ministry of National Education of Indonesia initiated Teacher Certification program, which has been designed to improve as well as standardize the quality of teacher in Indonesia. This program was established to respond to the facts that teachers' quality in Indonesia is far below the standard. A study conducted to assess the national teacher competence in 1999 found that out of 1,455.507 elementary school teachers only 51% of them fulfilled the national standard requirements. The Government of Indonesia chooses education as one of the highest priorities in its developmental strategy. By having a good quality of education, it is expected the future generation of Indonesian will be able to cope with the challenges of development to ensure the welfare, progress and prosperity of the nation. Teacher quality improvement program is an important strategy to improve the quality of education. Based on the previous study it is found that a one standard deviation increase in teacher quality is associated with a 0.1 to 0.2 standard deviation increase in student academic achievement (Rivkin, Hanuskek, and Kain, 2005).

One initiative that has been developed to improve teacher competencies is TQI Program, a program conducted to train teachers with teaching competencies. The program consists of training and mentoring the participants to implement new approaches, which are more powerful to make their students more interesting in learning. The program focuses on training them with personality, social, and pedagogy competencies. These three soft skills are compulsory areas of teacher competencies as stated in the decree of Ministry of Education Republic of Indonesia no.16/2007 concerning Teacher Competency Standard. Personality skills are needed by teachers in teaching and managing classroom.

Good quality teachers are expected to show a high commitment to their profession as teachers. They are required to have ability to take the initiative and be innovative in inventing media of learning. They must professionally have ability to communicate clearly and pleasantly. They should be able to facilitate learning process. It involves planning effectively, establishing rules that are reasonable and not excessive in number, and arranging the classroom so that instructions go smoothly.

In order to provide the excellent soft skills mentioned above, in the Module of Personality Competencies (MPC) the authors include the following topics: emotional intelligence, motivational skills, creativity development, stress management, and professional commitment. These soft skills positively influence the way teachers interact with students. Teachers equipped with these soft skills will be able to manage classroom effectively, and in turn this influences students' motivation to attend school and to learn subject matters.

A meta-analysis of over 300 studies shows that similar programs significantly improve students' social and emotional competencies as well as academic performance (Durlak. et.all, 2011). Previous study indicates that teachers who have good emotional intelligence tend to treat their students nicely, and are able to make students happy in learning subject matters (Sutton & Wheatley, 2003). Teachers who have capability to motivate students will have better chance to have students with intrinsic motivation for learning (Eggleton, 1992). Similarly teachers who are creative will be able to make students in class excited because of varieties of learning approach they make use (Baer, 1997).

With regard to the module of social skills, it covers the concept of understanding diversity of students' backgrounds such as differences in social economic status, learning habits, cognitive styles, multiple intelligence, and gender. The authors believe that teachers with good social skills understand the need of students from different backgrounds, so that their teachings style can be adjusted in accordance with their students' cognitive levels, intelligence level, personality traits and demographic background. This line of argument is supported by several studies (see Mortimore, 1999).

The third component of module is Pedagogy Competence (PC). Pedagogy is teaching method that puts into consideration of student's psychological development. Teachers who understand the level of psychological development of their students will be able to find the best teaching technique and utilize the best teaching media to attract with them (Mortimore, 1999). Similar to personality and social skills competency, teachers who have excellent pedagogy competence will be able to make learning interesting and fun.

All findings are in line with the arguments of response-affect model theory (Baron & Byrne, 1999), teachers with a pleasant personality and having creative approach in teaching will be able to make teachings become attractive and motivate students to learn. Students who like their teacher will like each subject matters taught by the teacher.

By purpose, TQI program is a training program aimed at improving teachers' performance. According to the definition proposed by Reid & Barrington (1999), training is a planned process aims to modify attitude, knowledge, skill, and behavior through learning experience to achieve effective performance in activity or range of activities. Through involvement in TQI training program teachers are expected to improve their competencies in three areas of competencies, namely personality, social skills, and pedagogy. In order to ensure the training program lead to optimum results, in addition to the modules, the instructors and supporting facilities need to be standardized as well. Good modules without good instructors will not bring optimum results. Similarly good modules and good instructors will not lead to optimum results, without supported by good training facilities, such as comfortable room, LCD, sound system and training kits.

The purpose of this study is to assess the impacts of TQI program on the perception of headmasters, teachers and students toward the way teachers running the classroom before and after joining the TQI program. It is hypothesized that TQI program will influence positively the teachers' perception about the change in the way they teach their students. Teachers perceive their competencies in teaching improved significantly after joining the training program. Similarly, students also perceived the way their teachers teach them much better after their teachers join TQI Program. Meanwhile the perception of headmasters toward teacher competencies is not different, before and after the program. The rationales behind these hypotheses are as follows. Teachers are persons who directly involved in teaching process so that they have direct experience in perceiving the change in their behavior. Similarly students also have direct experience of being taught by the teachers who have joined the program. Therefore they can see the differences of the way their teacher teach after and before joining the program. By contrast, headmasters do not have enough exposure to the teaching and learning process in class because they spend most of their time doing administrative matters. The rationale behind the hypothesis is argument proposed by Fazio & Zanna (1978) that subjects who directly experience with attitudinal object tend to have stronger attitude and show high consistency of attitude and behavior relation. The attitude formation through direct experience will be much stronger than the attitude formation based on indirect experience (Fazio, Chen, McDonell & Sherman, 1982).

2. Methods

TQI training program utilizes modules that are developed by the authors and assisted by experts in the area of soft skill required by certification standard. The modules cover theoretical concepts and practices covering three domains of learning, cognitive, affective and psychomotor dimension as formulated by Bloom (Anderson & Krathwol, 2000). Cognitive aspects involve thinking process, remembering, evaluating and problem solving. Affective aspects deal with the trainee's feelings and attitudes. Psychomotor aspects are those involving the trainees in some kind of muscular activity.

To ensure that the training program can accomplish training objectives, training instructors for personality and social skill modules were recruited from the Department of Psychology, Gadjah Mada University. Holding Master and Ph.D. degree in psychology, the trainers have solid experience in conducting educational training. Meanwhile, trainers for pedagogy modules are professors recruited from the institute of teacher trainings and experienced teachers.

The modules consists of *PowerPoint* presentation material, workbook, video clips and games, which are to be used as learning media to stimulate learning by discovery through experiential learning approach (Brown & Harvey, 2006). The modules have been tried-out with 29 teachers of Bayat elementary and junior high school. The tryout was intended to measure to what degree participating teachers understand the contents of the modules.

TQI Training duration is two weeks, from 8.00 am to 10.00 pm from Monday to Thursday, and from 8.00 - 11.00 on Friday. The first week covers two modules; personality and social skills, while the second week is for pedagogy module. Based on suggestions from participating teachers, the contents of the modules and the methods of delivery have been improved.

The improved modules have been tried out for the second time. The purpose of the second tryout was to assess teacher's perception toward the training program in three areas, namely (1) perception on the benefits of training module in improving their competencies; (2) perception on the quality of instructors, and (3) perception on the adequacy of supporting facilities such as training room, sound system, and LCD. There were 238 teachers participating in the tryout. There were three scales used in the tryout. They were analyzed to ensure its reliability. Scale 1 aimed to assess the perception on the benefits of training module in improving teacher competencies. There

were seven items in the Scale 1, Cronbach alpha = 0.630. Scale 2 was developed to measure the perception on the quality of instructors. There were six items in the Scale 2, Cronbach alpha = 0.601; and Scale 3 measured the perception on the adequacy of supporting facilities such as training-room, sound system, and LCD. There were seven items in Scale 3, Cronbach alpha = 0.772.

The results of the second tryout are presented in Table 1. The data indicate that the quality of all aspects of training (program design, program instructor, and supporting facilities) as shown in the column of empirical means is evaluated higher than the average score (theoretical mean). The findings confirm that the modules, instructors and supporting facilities are adequate for improving teacher competencies.

Table 1. Evaluation on the training quality (N = 238)

Source	Min	Max	Empirical Mean	Theoretical Mean	SD	t	Sig.
Design	22	35	32.2437	21	2.62724	189.336	.001
Instructor	21	30	28.5840	18	1.98286	222.393	.001
Facility	21	35	32.0420	21	3.03258	192.203	.001

In order to assess the impacts of TQI training program on teacher competency improvement, the authors conducted pre-post study. There were 63 teachers, 63 groups of students, and 63 headmasters participating as subjects of this study. The data for this study were collected before training and after training. The time lapse between pre-test and post-test was three months to ensure there was no carrying over effect of pre-test. In addition, three months duration after joining training might allow teachers to have enough time to practice the knowledge and competencies they earned during the training.

Measurement scale for assessing the impact of the program on teacher, student and headmaster respondents consisted of three items with the range of score 0 - 100. Item 1: teacher's motivation; Item 2: teacher's mastery of subject matter; Item 3: teacher's skill in running the class. The scales have been validated for three groups (Cronbach alpha for teacher subjects= 0.923; Cronbach alpha for student subjects= 0.717; Cronbach alpha for school head master subjects = 0.883). With Cronbach alpha of higher than 0.700 the scales used in the study fulfil the requirement of reliability.

3. Results

The data was analyzed using two-way mixed model analysis of variance with pre-post for similar groups, and three different groups. Table 2 shows that there are significant main effects of respondents (teacher, headmaster, and student), significant main effects of pre-post, and significant interaction effects between pre-post training and respondent.

Table 2. Two-way ANOVA of the impact of TQI training program

Source	Sum of Square	df	Mean Square	F	Sig
Respondent	30344.261	2	15172.131	87.665	.001
Time	15630.409	1	15630.409	90.313	.001
Respondent X Time	14774.405	2	7387.203	42.684	.001

Table 3 shows that teachers evaluate their own behavior much more in positive way after their join the TQI program (M = 77.524) compared to before (M = 48.270) they join the program (p < 0.001). Similarly the students evaluate teacher behaviors much higher after their teacher join TQI program (M = 86.067), compared to the evaluation before joining the training (M = 75.661) with p < 0.001. In contrast to teacher and student perception,

headmasters show no significant differences between pre and post training perception, although there are slight decline in perception at post test (p = 0.99). The data convincingly support the hypotheses of study.

Table 3. Mean of pre and post-test on perception of competencies improvement

Respondent	Time	Mean	t	Sign
School head Master	Pre	83.333	-0.79	.432
	Post	82.256		
Student	Pre	75.661	4.89	.001
	Post	86.067		
Teacher	Pre	48.270	13.76	.001
	Post	77.524		

Another interesting finding shows the interaction effects between respondents and times (pre-post). Teachers experience the highest increase in their perception of competencies (M pre-test = 48.270, and M post-test = 77.524) followed by students (M pre-test = 75.661, and M Post-test = 86.067). This finding indicates that teachers perceive their competencies improved markedly after joining TQI training program.

4. Discussion

The results of the study show that there are significant effects of TQI training program on the improvement of teachers' competencies as perceived by students and participating teachers. The convincing findings demonstrate that TQI training program has been adequately designed to be used for improving teacher's quality. This study only investigates modules of TQI training impacts on student perception. It does not specifically tell which module produces the highest impact on student perception. Since there are three modules on the TQI Program, there is a need to study the impact of each module on the improvement of teachers' competencies. In addition, further studies are needed to find out more details of what behaviour aspects, which influence students' positive impression toward teachers. Teacher behaviours such as ability to motivate students, having high self-confidence, fairness in treating students, caring toward students, emotional stability, using a personal touch, possessing a sense of humour, possessing creativity, being forgiving, respecting students, showing compassion, and developing a sense of belonging for students. Studies on specific behavioural aspects that influence student perception will provide better understanding of teacher behaviours impacts on students. The findings would be useful for improving the training modules. If observable characteristics that predict teacher quality can be determined, they can be used to identify the most effective way to improve teachers' competencies through trainings.

This study only assesses students' perception toward their teacher. This study does not assess whether a teacher's participation in TQI program influences students' academic achievement. The end goal of teacher quality improvement is to improve student academic achievement. Researchers need to do this type of study in order to assess the effectiveness of TQI program in increasing student academic achievement. This kind of study needs more exhaustive variables included in the study design. Since, there are many variables, which influence student academic achievement (i.e. student's personality, family background, and school environment) in addition to teacher characteristics.

References:

Anderson, L.W & Krathwol, D.L. (2000). *Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Allyn & Bacon.

Baer, J. (1997). Gender differences in the effects of anticipated evaluation on creativity. *Creativity Research Journal*, *10*, 25-31.

Baron, R.A. &Byrne, D.E. (1999). *Social Psychology* (9th edition). New York: Allyn & Bacon.

Brackett, M.A., & Katulak, N.A. (2006). Emotional Intelligence in the Classroom: Skill-Based Training for Teachers and Students. In J. Ciarrochi & J.D. Mayer (Eds.). *Improving emotional intelligence: A practitioner's guide* (pp. 1-27). New York: Psychology Press/Taylor & Francis.

Brown, D.R. & Harvey, D. (2006). *An experiential approach to Organization Development*, 7th edition. New York: Prentice-Hall.

Durlak, J.A., Weissberg, R.P., Dymnicki, A.B., Taylor, R.D., & Schellinger, K.B. (2011). The impact of enhancing students' social & emotional learning: A Meta analysis of school-based universal interventions. *Child Development*, 82(1), 474-501.

Eggleton, P.J. (1992). Motivation: A Key to Effective Teaching. *TME Online: The Mathematics Educator*, 3(2). Mathematics Education Student Association at University of Georgia, Athens, GA. http://math.coe.uga.edu/TME/Issues/v03n2/Eggleton.pdf.

Fazio, R. H. & Zanna, M.P. (1978). On the predictive validity of attitudes: The roles of direct experience and confidence. *Journal of Personality*, 46(2), 228–243.

Fazio, R.H., Chen, J.H., McDonell, E.C. & Sherman, J.S. (1982). Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association. *Journal of Experimental Social Psychology*, 18(4), 339–357.

Ministry of National Education Republic of Indonesia. *Permendiknas 16-2007 tentang Standar Kualifikasi Akademik dan Kompetensi Guru*.

Mortimore, P (1999). *Understanding Pedagogy: And its Impact on Learning*. London: Sage Publication.

Reid, M. A., Barrington, H., (1999), *Training Interventions, 6th edition*, London: IPD.

Rivkin, S. G., Hanushek, E.A, and Kain, J.F. 2005. Teachers, Schools and Academic Achievement. *Econometrica*, 73(2): 417 - 458.

Sutton, R.E., & Wheatley, K.F. (2003). Teachers' emotions and teaching: A review of the literature and directions for future research. *Educational Psychology Review,* 15, 327–358.