

# Competence Development for Vocational High School Teachers: An Indonesia Case

## **Mochamad Cholik**

Mechanical Engineering Department  
State University of Surabaya  
Campus Ketintang Surabaya-Indonesis  
Email: mochamadcholikm12@gmail.com

## **Soeryanto**

Mechanical Engineering Department  
State University of Surabaya  
Campus Ketintang Surabaya-Indonesis  
Email: soeryantoika@gmail.com

## **Dwijani Ratnadewi**

English Department, Faculty of Education  
Muhammadiyah University of Surabaya  
Campus Sutorejo Surabaya-Indonesia  
Email yani\_rd@yahoo.com

## **I Wayan Susila**

Centre for Research and Community Development  
State University of Surabaya  
Campus Ketintang Surabaya  
Email: wayansusila@yahoo.com

## **Muchlas Samani\***

Post Graduate Program  
State University of Surabaya  
Campus Ketintang Surabaya  
Email: msamani@unesa.ac.id

\* corresponding autor

---

**Abstract:** Through Law no.14/2005, the Indonesian government wants to improve teachers quality, by enforcing certification program, providing them CPD and professional allowance. Nevertheless, competence test showed their score of vocational teachers was very low. The more senior, the lower their test scores are

The research question were why teacher certification, CPD, and professional allowances have not improved their competence yet. Why the more senior the lower the competence. This study used a qualitative approach in multiple sites of four vocational high schools in East Java Province.

The study found vocational teachers were still in their euphoria of having good income and they did not think their professionalism yet. The competence updating did not run well, since: not challenging teacher's job and the less effective off CPD. The training model was not fit with adult learning style. The pattern of the teacher career did not stimulate them to pursue their expertise.

**Key words:** competence development, vocational high school teachers

**Bibliographical Notes:**

Dr. Mochamad Cholik is an associate professor at Mechanical Engineering Department, University of Surabaya. His research interest focus on Vocational Education and Training, and Teaching and Learning for Mechanical Engineering Subjects.

Dr. Soeryanto is an associate professor at Mechanical Engineering Department, University of Surabaya. His research interest focus on Vocation Education and Training, and School Management

Dr. Dwijani Ratnadewi is an assistant professor at English Department, Muhammadiyah University of Surabaya. Her research interest focus on English for Vocational Education, and English Teachers Training.

Dr. Ir. I Wayan Susila is a professor of Renewable Energy at Renewable Energy Research Center at State University of Surabaya. His research interest focus on Renewable Energy, and Vocational Teachers Training.

Dr. Muchlas Samani is a professor of Vocational Education at Post Graduate Program State University of Surabaya. His research focus on Vocational Education and Training, Teaching and Learning at Vocational Education, and Vocational Teachers Education.

---

**Introduction**

In Indonesia, vocational high schools play an important role in supplying middle-level skill workers. In 2016 there are 13.578 vocational high schools, with 4.684.334 students and 298.896 teachers. Instead of the large numbers, the quality of the graduates has not yet been good. Based on this fact, The President of the Republic of Indonesia issued a Presidential Instruction No. 9/2016 to revitalize the vocational high schools so that their graduates have appropriate competence to the needs of the world of work.

One of the factors mentioned in the Presidential Instruction is that the vocational high schools must have enough number of teachers with good competence. The mention of teachers' factor in the Presidential Instruction is precise, since teachers have important role in education. 50% students' achievement is determined by the performance of teachers (Moursheed, Chijioke and Barber, 2010; Pujiastuti, Raharjo and Widodo, 2012).

Through Law No. 14/2005, Indonesia is trying to improve the performance of teachers by increasing their qualifications of teachers with minimal bachelor degree plus one year professional training program and giving professional allowance as much as one month salary. For existing teachers, the Ministry of Education and Culture has been implementing certification and professional training program since 2007 and giving them professional allowance since 2008.

Some researches show that after the teachers joined professional training program and have accepted professional allowance there has not been any increase of their performance. Teachers' performance is influenced by two main factors, namely the competence and commitment. In 2012 teacher competence test was conducted nationally. An average score nationally for teachers of vocational high school teachers was 49.10. Therefore the Ministry of Education and Culture underwent intensive training conducted in Vocational Education and Development Centre. In 2015, the competency test was done again and vocational school teachers earned a score of 58.30. That was an increase, but still far from ideal.

When the scores are elaborated based on the age of the teachers, it was found that the older the teachers, the lower the score. Vocational teachers with age <30 years get an average score of 60.72; ages 31-35 get a score of 60.28; ages 36-40 get the score of 59.45; ages 41-45 get a score of 56.83; ages 46-50 get a score of 51.32; ages 51-55 get a score of 46.88 and aged over 55 to get a score of 46.32.

This study aimed to find the reason why the teacher certification program, the provision of professional allowances and the training for vocational high school teachers have not yet managed to improve their competence. Why are the more senior the teachers, the lower the competence?

## Theoretical Framework

### *Vocational Teachers' Competences*

In general, teachers must master the material taught, be able to guide students to master the competence in accordance with the curriculum, able to develop themselves as professional teachers, and play active roles in the community in accordance with their expertise (Rakajoni in Samani, Cholik and Buditjahjana, 2016). Flander in Day (2017: 170-171) attributes teacher competence to its responsibilities responsibility for learners: (1) the teacher as guide of learning and development processes, (2) the teacher as educator, (3) the teacher as subject expert, (4) the teacher as organizer, (5) the teacher as innovator and researcher; its responsibility for the school and educational community: (6) the teacher as partner of parents/carers, (7) the teacher as a member of teaching team, (8) the teacher as part of external parties, (9) the teacher as member of educational community; responsibility for society: (1) the teacher as culture participant.

Teachers in Indonesia must have four competences, they are (1) pedagogic competence that the main content is the competence of educate and develop students' potential, (2) professional competence with the main core is the mastery of teaching materials and their support, (3) personality competence that includes the ability to act in accordance with the applicable norm and values, and (4) social competence which includes the ability to interact with the community (Kemdikbud, 2007). While in Australia, The National Professional Standards for Teachers states that teachers should have: (1) professional knowledge, professional practice, which covers: a) plan for and implement effective teaching and learning, b) create and maintain supportive and safe learning environment, and c) assess, provide feedback and report on student learning, and (2) professional engagement which covers: a) engage in professional learning, and b) engage professionally with colleagues and the community (Bostes, 2013).

Vocational teachers have specific characteristics, as Moris (2013) states that teachers of Technical and Vocational Education and Training (TVET) should have: (1) an understanding of occupational profiles and content of the occupational field, (2) an understanding and analysis, shaping and organization of work processes, providing methodological competencies which are needed and the changes that occur in the occupation, (3) an understanding of the object of professional work, (4) an understanding the processes and nature of the work and work environment, not just the subject area, (5) an understanding and analysis, shaping and organization of occupation-related learning processes, (6) TVET instructor must use their knowledge of the culture, economy and context to develop learning environments which are appropriate for the occupational field, (7) TVET instructor must include the definition of educational goals, the selection of appropriate content and methods of teaching, and (8) possess the ability to apply appropriate procedures for examination and assessment. Along with that, Kurnia (2013: 20-21) mentions that the competence of TVET teachers in Germany have distinctive competences, they are (1) planning, implementation and evaluation of vocational learning processes, (2) developing education and training programs, (3) planning, developing and shaping of learning environments, and (4) participation in school development.

As technology evolves rapidly toward automation and modulation, manual work is significantly reduced. This change affects the teaching-learning process at TVET, there is a shift from manual skill to the capability of analysis and synthesis (Samani, 2014). Morris (2013) says that there is a paradigm shift in vocational learning, from teaching centered into facilitation centered, teacher centered into learner centered, reproductive into productive, behaviorism into constructivism, and time based into outcome based. Orientation to manual skills with low order thinking shifts into high order thinking skills (Neubert, 2017). Teachers must be able to integrate critical thinking, problem solving and creativity into the learning process (Samani, Suparji and Rahmadian, 2016). Therefore the ability to develop oneself sustainably is very important for teachers.

## Continous Professional Development

Continuous professional development (CPD) is one of the keys in improving the quality of teachers. Various studies show a positive relationship between CPD done by teachers with their students learning outcomes (Kempton, 2013, Kemdikbud, 2015; Seezink and Poel in Day, 2017: 174). In addition, some studies also show some other outcomes of CPD programs, such as the increased knowledge and skills of teachers, their self-efficacy in the teaching of the subject and classroom environment (Rose and Reynolds, 2007; Whitehouse, 2011). Therefore CPD becomes one of the teachers' professionalism improvement programs in various countries (Creemers, Kyriakides and Antonio, 2013).

For vocational education teachers, professionalism improvement should be accompanied by the ability to keep up with technological developments, as technology greatly influences school curriculum and methods of learning (Etelapelto and Saarinen, 2006; Samani, 2016). Schmidt and Cohen, (2014) mentions that in the digital age half the world's population is connected to the internet, and then schools / universities use it for teaching and learning activities.

Teachers will interest into CPD when the program is specific and fit to their need and concern, the ultimate goal is sustainable and clear, it has a clear impact on their careers, and it involves outside experts (Whitehouse, 2011). For TVET teachers who need to train students' skills daily, they require CPD which is closely related to the improving their knowledge, insight and field skills associated with the vocational field taught (Moris, 2013)

CPD can be done through various activities, whether it is formal such as continuing education, non-formal through various forms of training, and informal through research and self-development (MSF, 2010, Kemdikbud, 2015). For vocational education teachers, apprenticeship in industry is one of the most effective ways, especially to keep up with technological developments, as technological developments in industry are always faster than at school (Collins and Halverson, 2009; Samani, 2014).

In Indonesia, the number of large industries which applying new technology is very limited compared to the number of vocational high school teachers, so the opportunity for teachers for internships at relevant industries is very small. Moreover, the industries attention to vocational high schools have not been good, because they do not feel the real benefit when helping vocational high schools (Samani, Cholik and Budiñjahjana, 2016). Government encouragement and certain incentives for the industrial world to help vocational high schools is also not yet effective (Kemdikbud, 2016)

CPD requires high self-awareness, because it does not a formal requirement in employment rules (Kemdikbud, 2015). To do CPD teachers must provide special time in while they are busy teaching and they often have to pay personal expenses. Therefore, the "profit-loss" calculations are often used by teachers to decide whether to attend CPD program or not. The "profit-loss" calculations are often associated with the future of their careers (Richter et. all., 2014), which causes a significant difference between teachers who are diligent to follow the CPD program and who are not (Samani, Cholik and Tjahjana, 2016)

## Methods

This study used a qualitative approach in multiple sites of four vocational high schools with various conditions in East Java Province. The four schools were chosen because they have many teachers who have joined certification program and received professional allowance, with varying ages. Data from these schools can describe teachers with different areas of expertise, variations in age and teaching experience.

Data collected through documents, in-depth interviews and cross-validated by focus group discussions, between April up to August 2016. Credibility, dependability, and confirmability are implemented simultaneously to ensure that the data collected actually provide a picture of teachers in these schools.

Data analysis was done by qualitative data analysis techniques of Miles & Huberman. Data display, data reduction and conclusion were done simultaneously and over and over again, so that resulting a comprehensive conclusion.

## Findings

The study found: (1) vocational teachers were still in their euphoria of having good income, after a long period underpaid. Their lives pattern became more consumptive and most of them did not think about the development of professionalism yet. (2) The updating the competence of the vocational teachers did not run well, due to two factors: the not challenging teacher's job and the less effective teachers' professional training. (3) The more senior vocational school teachers, the lower their level of IT literacy, while teachers' professional development program, which is implemented by the Ministry of Education and Culture, used IT more. (4) The pattern of training that have been carried out so far has not been in accordance with the principles of adult learning which should be more attentive to the needs of participants both from the material and method of learning. (5) The pattern of the career of vocational teachers did not stimulate them to pursue their expertise, because their careers leads to structural positions which contains management load over vocational skills.

Those five interrelated factors that caused teachers' motivation to develop their competence did not grow significantly, after receiving professional allowance. Very few of teachers joined seminars, training or even bought books to increase their competence. They joined seminars only when the government appointed them to do so, or when they needed the credit point for their carrier promotion. They used their extra income for improving their living standard instead of doing CPD.

Training material available in the Ministry of Education web was not much used, either because the teachers were not interested or because they were not able to access. School principal and structural position in District Education Office were understood as career path for teachers. That why most teachers who have a good achievement prefer to join training or even continuing education on school management instead of their subject matters. They learned school management as a preparation for their career.

## References

- BOSTES (Board of Studies Teaching & Educational Standards) NSW. 2013. Australian Professional Standards for Teachers. Sydney: BOSTES
- Collins, Allan and Richard Halverson. 2009. Rethinking Education in the Age of Technology: The Digital Revolution and Schooling in America. New York: Teacher College Columbia University.
- Creemers, Bert, Leonidas Kyriakides and Panayiotis Antonio. 2013. Teachers Professional Development for Improving Quality of Teaching. New York: Springer Dordrecht Heidelberg.
- Day, Chistoper. 2017. "Competence-based Education and Teacher Professional Development" in Martin Mulder (Ed). Competence-based Vocational and Professional Education. Switzerland: Springer.
- Etelapelto, Anneli and Jaana Saarinen. 2006. "Developing Subjective Identities Through Collective Participation" in Billet, Stephen, Tara Fenwick and Margaret Somerville (eds). Work, Subjectivity and Learning. Dondrect-the Netheland: Springer.
- Kempton, James. 2013. To Teach, To Learn: More Effective Continous Professional Development for Teacher. Islington: Centre Forum.
- Kemdikbud (Kementerian Pendidikan dan Kebudayaan/Ministry of Education and Culture). 2007. Peraturan Menteri No.16 Tahun 2007 tentang Standar Kompetensi Guru/Minister of Education and Culture regulation no. 16/2007 on Teachers' Competence Standard. Jakarta: Kemdikbud.

- Kemdikbud (Kementerian Pendidikan dan Kebudayaan/Ministry of Education and Culture). 2015. Peningkatan Keprofesian Berkelanjutan bagi Guru/Continuous Professional Development Program for Teachers. Jakarta: Kemdikbud.
- Kemdikbud (/Kementerian Pendidikan dan Kebudayaan/Ministry of Education and Culture). 2016. Revitalisasi Pendidikan Kejuruan/Revitalization of Vocational Education. Jakarta: Kemdikbud.
- Kurnia, Dadang. 2013. Post-Study Pre-Service Practical Training Program for TVET Teacher Students. Shanghai: Regional Cooperation Platform for Vocational Teacher Education in Asia (RCP).
- Ministry of Social and Family Development (MSF). 2011. Continuous Professional Development: A CPD for Early Childhood Educators. Singapore: MSF.
- Morris, Halden A. 2013. "Advancing Education through a Culture of Inquiry, Innovation and Indigenization". Paper presented at Biennial Conference - St Augustine Campus: April 23 – 25, 2013.
- Moursheed, M., C. Chijioke. and M. Barber. .2010. How the world's most improved school systems keep getting better. New York: McKinsey & Company
- Neubert, Jonas et. All. 2017. "Complex Problem-Solving in a Changing World: Bridging Domain-Specific and Transfersal Competence Demands in Vocational Education" in Martin Mulder (Ed). Competence-based Vocational and Professional Education: Bridging the World of Work and Education. Switzerland: Springer.
- Pujastuti, Eko, Joko Raharjo dan Tri Widodo. 2012. "Kompetensi Profesional, Pedagogik Guru IPA, Persepsi Siswa tentang Pembelajaran dan Kontribusinya terhadap Hasil Belajar di SMP/MTs Kota Banjar Baru" dalam Innovative Journal of Curriculum & Educational Technology Vol. 1 No. 1. Tahun 2012 (<http://journal.unnes.ac.id/sju/index.php/ujet>).
- Rose, Jo and David Reynolds. 2007. Teachers' Continuing Professional Development: A New Approach. Paper presented on 20th ICSEI Annual World-International Congress for Effectiveness and Improvement.
- Samani, Muchlas. 2014. Rethinking Education for the 12st Century: An Indonesia Case. A paper presented on ASAIHL International Conference in NTU Singapore, December 3-4, 2014.
- Samani, Muchlas. 2016. Semua Dihandle Google, Tugas Sekolah Apa?/All Handled by Google, What is School Role?. Surabaya: Unesa University Press.
- Samani, Muchlas, Mochamad Cholik dan IGP Buditjahjana. 2016. Pengembangan Model Pendidikan Guru Sekolah Kejuruan di Era Digital/The Development of Vocational School Teachers in the Digital Era: A Research Report. Surabaya: LPPM Unesa.
- Samani, Muchlas, Suparji and Reza Rahmadian. 2016. Instructional Model to Improve Problem Solving, Creativity and Team Working Skills for TVET Student Teachers. Paper presented in UPI International Conference on Technical and Vocational Education and Training. Bandung: November 15-16, 2016.
- Schmidt, Eric and Jared Cohen. 2014. The New Digital Age: Reshaping the Future of People, Nations and Business. London: John Murray Publishers.
- Whitehouse, Claire. 2011. Effective Continuous Professional Development for Teachers. Manchester: Centre for Educational Research and Policy.