The contribution of psychological maturity and knowledge management in the developing sustainable professional development of productive programme teachers at public senior vocational schools in Bali Province

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Abstract

This study was aimed at investigating the effect of psychological maturity and ability to manage knowledge on sustainable professional development of productive program teachers of public senior vocational schools throughout Bali province by using expose facto research method involving 162 productive prgogram teachers in the fields of technology and engineering. The data were collected through qestionnaire and observation. Data analysis was carried out by using two-predictor regression at 0.05. The results showed that most of the productive program teachers tended to have a fairly high level of psycological maturity and a low level knowledge management ability in the effort of sustainable proffessional development. Furthermore, the result of level of regression analysis showed that (1) there was a correlation betwen psychological maturity (χ_1) on continuous professional development (y) with correlation coefficient of 0.423 and the contribution from of χ_1 to y of 17.9%, at sig. 0.000 < α = 0.05 (2) there was a correlation between psychological maturity (χ_1) and knowledge management ability (χ_2) and continuous professional development (y) with correlation coefficient of 0.452, and the effect of χ_1 and χ_2 on y was 20.4%, at sig. 0.026 <α = 0.05 this the effect of $\chi2$ on y was 3% with the regression equation y = 15.687 + 0.798$\chi1$ + 0.295$\chi2$. It is recommended to the productive program teachers to improve further their sustainable professional development by increasing their knowledge management based on their psychological maturity.

Keywords: psychological maturity; knowledge management; sustainable development

Introduction

The policy of reversing the ratio of Senior High schools/senior vocational school from 70:30 in 2008 to 30:70 by the Minister of National Education in Strategic Plan (*Renstra*) of the Ministry of Education and Culture 2010-2014 has an effect on the increase in the number of SMK's (senior vocational schools) in Indonesia every year. Nationality, the increase in number of school from 1,726 (2013/2014) to 12,659 (2015/2016) both public and private. In Bali Province, the number of SMK, both public and private in 2013/2014 was 160 and increase to 168 in 2015/2016. With the policy is expected an improvment in competitiveeness especially in human resources development rather than in natural resources. The human resources of a nation cannot make people and nation prosperous unless the human resources are able to change the asset in a useful potential.

Data from BPS Bali shows that TPT (the open unemployment level) according to educational level in August 2015 in Bali Province was 99 percent. The lowest TPT (elementary graduate and below) was 0.83%. The TPT at SMK (senior vocational level) was 3.63% while at senior high school (SMA) was 2.87%. Thus, it can be seen that the competence of the SMK students up to the present time has not meet the industrial word expectation.

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The government has appreciated teachers as professionas with the issuance of Act No. 14 of 2005 on Teachers and Lecturers. However, in its implementation, teaching profession has not yet met the expectation. This is confirmed by result of Teachers Competence Test (UKG) in 2015, wich places teachers of SMK in Bali in the 5th rank with average of 60.12, below East Java, DKI Jakarta, Central Java and DI Yogyakarta. In addition, the UKG average of SMK teachers in Bali Province is still below that of SMA teachers (62,74). This indicator means that the teacher's main duty and function in professional development does not meet the expectation. This need attention from various parties to make teachers become professional.

Certification and professional insentive cannot guarantee professionalism. There are orther dimensions that need to be met to be professional. According to the needs and demands of CPD (Continuing Professionality Development/CPD) (as regulated in the Regulation of the State Minister of Nation's Apparatus and Bureaucratic Reformation/No. 16 0f 2009 on Teacher's Function).

In relation to the intstructional process wich stresses the importance of motivation and reinforcement, this paper focuses more on internal factors, in this paper they are specified into psychological maturity. According to Maslow, a person's maturity is indicated by his or her ability in actualizing him/herself, i.e., in using all of his/her apptitude, capacities, potentiality, etc (Goble, 1987).

As the implementer of education at an educational level, SMK has to be able to face the on-going changes, both in technology, knowledge, and manpower structure, so that it can implement a good quality education according to the demand of its era. According to Craft (1996) teachers now have to face a rapid change, a high standard, and demand in higher quality, thus they have to update their skill through education (in-service education). Blanford (2003) define teacher professional development as the strenghthening of knowledge and understanding, ability and skill to improve instructional quality. Practically, professional development is a trem that stresses the importance of various experiences that can help a person in improving his/her potential fully. Furthermore, Grollmann (2009) point out the vocational teacher professional profile as: (1) teaching at a formal setting and teaching vocational program; and (2) having an experience in an industry to edutate and train for improvement of expertise and work skill.These views indicate that vocational teachers are required to develop themselves to be able to adpt to changes that occur in performing their tasks.

Teachers professional development is prresented in sustainable professional development (SPD). SPD is conducted according to the teacher's needs to reach professional competence standard and or improve their competence above their competence standard wich at the same time give implications to their credit points for promotion in teaching profession. According to Michael Eraut (Payong, 2011) continuous profession development is a form of moral accountability, because as a professional teacher has: 1) moral commitment to serve the interests of students through continuous reflection on his professional practice so it can know which is best that can be given to students, 2) duty Professionals to periodically review the effectiveness of the learning practice so as to improve the quality of learning, management and pedagogy, 3) the professional obligation to continually develop practical knowledge through personal reflection as well as through interaction with peers. Therefore, it can be concluded that teachers are professional educators who are required to have competences to support their professionalism in a sustainable way as an effort to improve the professionalism, the end result that is expected is success on the part of the student.

Psychological maturity is an adult learning theory (andragogy), then there is a maturity factor that works here. Adults are judged more by their psychological maturity, not from their physical maturity. Therefore, we can directly lift the psychological maturity factor here. When speaking of maturity, what comes to our mind is a person with a calm or mature attitude and mentality in the face of a problem.

Psychological maturity of a teacher can be seen from the perspective of developmental psychology, either based on self-actualization or socio-analytical based, or from the perspective of organizational psychology through situational leadership theory. In the literature, there is also the concept of professional maturity which is defined as having sufficient knowledge and training to perform certain tasks and psychological maturity demonstrated through self-belief and dedication. This concept can be applied to the teacher because the teacher is a profession. However, if observed, the concept of professional maturity is similar to the concept of work maturity and psychological maturity in situational leadership theory. Maturity of work is to have knowledge and skills while psychological maturity relates to relative independence, the ability to accept responsibility, and achievement motivation which is demonstrated with self-confidence and dedication. In research conducted Manukyan, Golovey (2015) states that psychological maturity is one of the development of adult personality. In addition, according to Harsey & Blanchard in Blank et.al (1988) psychological maturity has been defined in three dimensions: relative independence, ability to be responsible and achievement motivation. In literature there is a concept of professional

maturity wich means the possesion of enough knowledge and training to perform a certain job an the concept of psychological maturity which is shown through self confidence and dedication (Miskelly & Duncan, 2014). Psychology maturity is related to relative independence, ability to accept responsibility, and achivement motivation as shown by self confidance and dedication

Champs & Morales (2013) define psychological maturity as the ability to do one's obligations, as an ability to make responsible decisions that takes the characteristics and needs acco, and the accept the consequences of one's action. This definition rafers especially to individual adaptation as proposed by Ellen Greenberger and in the psychosocial maturity model (Greeberger, 1984, as cited in Morales et.al, 2013), which is divided into three components: (Work Orientation) work orientation, (Self-Reliance) independence and identity (Identity). Work orientation is defined as the willingness of individuals to fulfill their own obligations (eg, teenagers start their homework and do not stop until they are done). Self-Reliance is defined as one's willingness of their knowledge.

Knowledge management is preformed in Knowledge Management System (KMS) wich generally uses People Process and Technology. Knowledge management is a discipline that treats intellectual assets of managed assets (Jerry Honeycutt, 2000). Because according to the concept of knowledge management (knowledge management) is basically evolving from the fact that in the present and the future, the main assets of an organization to be able to compete are intellectual assets or knowledge rather than capital assets.The description of the scope of knowledge management activities for organizational learning can be briefly explained in the following activities (1). Building knowledge storage space (knowledge repository), (2). Improved access to knowledge, (3). Improve knowledge environment, and (4). Manage knowledge as an organization's wealth (assets). Salis and Jones (2002) in Cheng also distinguish knowledge into two types, namely: tacit knowledge and explicit knowledge. Tacit knowledge is knowledge that is personal and not easily conveyed to others, while explicit knowledge is a knowledge that is easily articulated and transmitted. Tacit knowledge is also called personal knowledge (personal knowledge) because it is closely related to the awareness and personal experience of a person in accordance with the culture and its value. Tacit knowledge is generally knowledge of a particular context and can only be expressed and communicated to others through metaphors and analogy.

Knowledge Management is implemented in a knowledge management system, or Knowledge Management System (KMS). Most organizations that implement KMS, use a three-pronged approach to managing their knowledge, namely - Human (People), Process

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(Process), and Technology (Technology). The emphasis on each element can be different in every part of the organization. Nonaka and Takeuchi (1995) describe the four processes of knowledge conversion: sosalizationi, externalisation, combination and internalisazion. Each process involves changing one form of knowledge (tacit or explicit) to another form of knowledge (tacit or explicit). This model focuses on the crucial issue on how knowledge can be created through organizational division and becomes useful for identifying and assessing certain important activities in knowledge management. Another model, proposed by Oluic-Vukovic (2001) outlines five steps in the knowledge processing chain: collection, compilation, screening, delivery and dissemination. This model covers the full range of activities involved in the organization's knowledge flow. Almost resembles the information lifecycle process which suggests once again the interrelated aspects of Information Management and Knowledge Management. Knowledge that must be managed by teachers in professional competence consists of specific knowledge (knowledge) and procedural knowledge (procedural knowledge). Specific knowledge consists of theoretical knowledge, practice, and experience. Procedural knowledge is concerned with the knowledge of how things work or how they relate to each other. The above description can be stated that knowledge management that is theoretical and practical needed by vocational education teacher in order to improve professional competence through professional development.

Materials and Method

This study was a correlational research with *expost facto* research approach. This study was conducted public senior vocational school (*SMK Negeri*) in Technology Expertise and Engineering major in Bali Province with a sample of 162 productive program teachers. The data were collected with questionnaire and were analyzed with descriptive analysis at the 0.05 level of significance. Indicators to organize pedagogical knowledge, actualize knowledge and skills, actualize contextual knowledge, and actualize self-experience in implementing learning in the classroom, while continuous professional development is an effort made by teachers to follow the learning process useful for the improvement of competence and professionalism himself and the improvement of school quality as a workplace measured through self-improvement indicators, scientific publications and innovative works.

Results and Discussion

Descriptively it can be explained that SMK teachers had categories of pyscological maturity as follows: 61.73% were catagoriezed into good category, 37.04% into fairly good, 1.23% into very good category, and they had knowledge management abilities wich fell into the following categories: 8.02% were catagoriezed into very good category, 26.54% into good category, and 32.10% into fairly good; and their professional developments were follows: 19.75% were catagoriezed into very good and 34.54% into good category.

The result of regression analysis showed that (1) there was a correlation between psychological maturity (χ_1) and sustainable professional development ($У$) with r = 0.438 and the contribution of χ_1 to y was by 19.2%, at sig. $0.000 < \alpha = 0.05$; (2) there was a correlation between psycological maturity (χ_1) and knowledge management (χ_2) and SPD (Y) with r = 0.142, and the effect between χ_1 and χ_2 on y was 20.4% at sig. $0.026 < \alpha = 0.05$ so that the effect of χ_2 on y was 3% with rwgrwssion equation $У = 15.077 + 0.438x1 + 0.142 + 0.896$. Productive program teacher maturity contributed to teacher professional development by 19.2%. Teacher knowledge management ability contributed to teacher professional development by 3% and productive program teacher psycological maturity and teacher knowledge management ability sumultaneously contributed to teacher sustainable professional development by 20.4%. Teacher psycological maturity was measured through the indicators of awareness belief, velue and ethic while teacher knowledge management ability was measured trough the indicators of organizing pedagogical knowledge, actualizing knowledge and skill, actualizing contextual knowledge, and actualizing one's experience in teaching in the classroom, while sustainable professional development is an effort made by the teacher to follow a useful instructional process to improve his/her competence and professionalism and the school quality as his/her workplace as measured through the indicators of self-development, i.e, scientific publication and innovative works

Conclusion

Most teachers of SMK tend to have knowledge management capability including good category in the framework of sustainable profession development activities. The trend of indicator data is known that the organizing indicators of pedagogical knowledge are more dominant than the other three indicators in this variable, namely: actualizing theory and practice knowledge, actualizing knowledge of experience, and actualizing contextual knowledge. Furthermore, the development professionalism of some teachers of Vocational School come to good category. The trend of indicator data showed that the impact utilization

and monitoring indicators are more dominant than the other two indicators in this variable: identification and demand analysis, as well as the design and implementation of professional development. Nevertheless, the results of the analysis show that the teacher's knowledge management capability still contributes relatively little in the development of professionalism so that it needs to be improved in order to achieve more optimal benefits.

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