

Analysis of Pedagogical Content Knowledge of Social Science Education Student

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Abstract: This study aims to analyze the PCK social science teachers who are currently studying in the Education Studies Program Social Science UPI graduate school. Using survey methods samples taken randomly with the size of 48 social science education students. The research is the numerical scale of 7 points. Data analysis using model analysis of Structural Equation modeling Least Square (PLS-SEM). The findings of the research indicate that PCK level owned by social science education students of post-graduate UPI is in moderate category, meaning that the demand for professional education for the respondents of this research has not been achieved; and Pedagogical knowledge (PK) level has a relatively strong influence on PCK compared to the influence of Content Knowledge (CK), which means PCK as the result of CK and PK slices, its existence is determined by the existence of PK.

1 INTRODUCTION

Materials Social science is organized based on the experience, interests, and needs of learners, and adapted to the environment. The goal is that the experience and knowledge of learners growing psychologically or kinaesthetically more skilled, able to apply the values and norms prevailing in the community (Maryani, 2011). To achieve this goal requires a competent teacher, who has a broad scientific knowledge and ability to transfer them to learners.

In the book, *Re-Design Professional Teacher Education* (UPI, 2010) described there are three aspects that describe the competence of professional teachers, namely the mastery of knowledge about participants Educate, mastery of educational learning, and mastery of field studies, both scientific and pedagogic. Meanwhile, Shulman (1987) suggests one of the most important areas of knowledge for teachers, namely Pedagogical Content Knowledge (PCK), which explains the specific mix of content and pedagogy that uniquely becomes the territory of the teacher's authority, a special form of their own professional understanding. PCK is an idea that grows from the belief that in carrying out its teaching tasks, a teacher must master the knowledge (content knowledge) and pedagogical knowledge (pedagogical knowledge). Through these two things are expected. Teachers can present various teaching

materials with a fun and effective learning packaging. This research tries to analyse the PCK of Social Science teachers who are currently studying postgraduate in the social science education UPI.

This research is trying to analyse PCK teachers of Social Science who are currently taking postgraduate education at UPI social science education program. Problems to be answered through this research can be formulated into three research questions: Is the high level of pedagogical content knowledge (PCK) in the students of Social Science Study Program of UPI as an IPS teacher influenced by the high level of content knowledge (CK) and pedagogical knowledge (PK) it possesses?

2 LITERATURE REVIEW

Teachers as professions are essentially the same as other professions such as accountants, doctors, lawyers, and pharmacists who are professions, numbered registers, and have a code of professional conduct so that teachers actually become professions that boast equivalent to other professions (Indra Djati Sidi, 2004). Majid (2005) describes the competencies of each teacher will show the quality of teachers in teaching.

Competency will be realized in the form of mastery of knowledge and professional in performing its function as a teacher. The competencies required by a person can be obtained

either through formal education or experience and to be a professional a teacher must have five things. First, the teacher is committed to the students and the learning process. This means that the teacher's highest commitment is to the student's interest. Secondly, the teacher mastered in-depth the material/subject he taught and how to teach it to the students. Third, teachers are responsible for monitoring student learning outcomes through various evaluation techniques, ranging from observations of student behaviour to learning outcomes. Fourth, the teacher is able to think systematically about what he does and learn from his experience. It means there must always be time for teachers to reflect and correct what they have done. Fifth, teachers should be part of the learning community in their professional environment. (Robotham, 1996; Catler & Ruopp, 1993).

Several studies have shown results that teacher quality is considered to be the most powerful predictor of student success (Shukla, 2009; Suryanarayana & Luciana MZ, 2010). Related to that, Bulger's (2002) research finds four determinants of effective teaching as follows: the use of instructional orientation-based outcomes or learning objectives; Clarity of instruction or learning strategy; Involvement or student participation; And naturism learning (teachers and students). The above explanation makes it clear that the effectiveness of learning cannot be separated from issues of quality and professionalism of teachers. (Cubukcu, 2010, Shukla, 2009, Parkway & Stanford, 2008).

To achieve the effectiveness of learning required a teacher who has a standard of professional competence and pedagogic competence (Kyriacou, 2011). Professional competence and pedagogic competence. In theory developed by Shulman (1987) equated as the ability mastery of content and pedagogical. If both are combined then create a slice called Pedagogical Content Knowledge (PCK). These two competencies are the minimum competencies teachers must have for the effectiveness of learning.

This research tries to analyse PCK of social science teachers who are currently taking postgraduate education at UPI Social Science education program. Departing from the above framework, the hypothesis to be tested through this research can be formulated as follows: "The high level of PCK owned by the students of Social Science Education Program UPI as a social science teacher is influenced by the high content and knowledge (CK) And pedagogical knowledge (PK) it has.

3 METHODS

The method used in this study is the survey method. The sample of the study was taken randomly with the size of 48 students of Social Science Studies Program of the graduate school of Universitas Pendidikan Indonesia. Results of numerical research 7 points. Because the sample size is relatively small, so for the experimental hypothesis experiment we use Partial Least Square Structural Equation Modelling (PLS-SEM) model analysis as suggested (Hair, et al., 2014).

4 RESULTS AND DISCUSSION

How far is the level of PCK that is owned by students of Social Science Studies Program of UPI Graduate School as a social science teacher? The answer is summarized in Table 1.

Table 1: Average Measurement Model Indicator Pedagogical Content Knowledge (PCK)

Indicator			%
PCK1	Develop an evaluation tool Learning	4,69	67,0
PCK2	Creating a learning plan refers to the syllabus	4,77	68,1
PCK3	Developing teaching materials becomes teaching handout material for students	4,73	67,6
PCK4	Using the learning method according to the material characteristics	4,81	68,7
PCK5	Utilizing evaluation information to improve learning quality 4.	4,83	69,0
PCK6	Reflection and self-evaluation of the learning that has been implemented	4,63	66,1
PCK7	Utilizing reflection results for improved learning	4,54	64,8
PCK8	Develop a learning plan according to the applicable curriculum	4,73	67,6
PCK9	Revising each learning plan is required	4,71	67,3
PCK10	Familiarize students and ask questions Answer the question	5,00	71,4
PCK11	Involve students in digging teaching materials for enrichment	4,85	69,3
Average		4,69	67%

Referring to Table 1 above, it is found that the average score of PCK indicator is 4.69 or 67 percent of the ideal score. This indicates that the level of PCK that is owned by students of Social Science

Study Program of UPI graduate school as a social science teacher is in the moderate category.

The result of data analysis of CK and PK effect on PCK is summarized in Table 2.

Table 2: Effect of CK and PK on PCK

Influence	Path coefficient	t	p
CK -> PCK	0.2317	2.1941	0.0287
PK -> PCK	0.7426	8.4686	0.0000
R Square	0.8661	25.5362	0.0000

Based on the results of the above data analysis, it is found that the PCK is significantly influenced by CK and PK ($R^2 = 0.8661$, $p < 0.001$). That is, equal to 0.8661 or equal to 86.61% high-low PCK influenced by CK and PK. CK had significant effect on PCK ($p < 0.05$), and PK had a significant influence on PCK ($p < 0.001$). The effect of CK and PK to PCK is 0.1056 and amounted to 0.7426.

5 RESULTS AND DISCUSSION

5.1 Principal Founder of PCK Student Social Science Education Study Program

Professional educators meet several criteria, other has a professional competence shown with mastery of field of study and pedagogic competence or mastery Values of education, From the results of data analysis that has been described in the previous section, generally known that both the mastery of knowledge in the field of study (professional competence or content knowledge), mastery of pedagogic aspects (pedagogic competence & pedagogical knowledge), as well as the second This pedagogical content knowledge (PCK) exists in moderate category, meaning that both the scientific mastery of the field of social science studies as well as aspects of social science learning post-graduate students social science education As educators and prospective educators of social science have not met minimum standards as a professional social science educator.

Of the four teacher competencies according to the Teacher and Lecturer's versions, the professional competence of Shulman: CK), pedagogical competence (Shulman: PK), personal competence and social competence, the first two competencies (CK and PK) are two absolute competencies describing the figure Professional educators who are expected to create effective learning.

Effective teaching process does involve the ability to present a topic or demonstrate a skill in

such a way that students can understand and master In addition, the effective teaching process involves the ability to define "positions Students in terms of learning levels and levels of development, in the sense of requiring teacher attitudes such as accommodating the diverse backgrounds of students, religion, family conditions, as well as the physical, cognitive, or behavioural disabilities students may have "(Ormrod, 2008: 3).

In terms of mastery of learning aspects (PK), it is known that the achievement of the maximum score of eight indicators is measured only 67%, and there is only one indicator that reaches the ideal score above 70% indicator is "understand the difference of academic ability of students. This condition is not so bad, but it does not represent as a professional educator's picture. There are many new things in the development of current learning, which for educators or teachers of old-fashioned education products must have difficulties in the application, therefore the requirement of an educator must be innovative and creative seems to be a necessity in the era of information technology is rapidly today, Teacher who stutters technology, must be quickly removed and soon replaced by innovative and creative teachers who are ready to face a new educational paradigm.

The professional competence (CK) and pedagogic competence (PK) when combined lead to PCK, Shulman (1987) suggests one of the most important areas of knowledge for teachers, namely Pedagogical Content Knowledge (PCK), which explains the specific mix of content and pedagogy Uniqueness becomes the territory of teacher's authority, special form of their own professional understanding. The result of PCK-related research is known that the achievement of new score reaches 67% from an ideal score or in the medium category.

Related to the development of Learning Plan, the use of Information Technology as well as those that are assembled with evaluation, The results of this study also indicate a difference in the mastery of aspects of CK, PK and PCK between teachers viewed from the gender, Overall for all three measurements, female teachers have a better score than male teachers, This condition gives the picture that it seems the profession Teachers are more suitable for women, although this assumption is unacceptable to all. Judging from the acquisition of professional educator certificates, certified teachers have higher scores than those not certified. In general, it can be said that the teacher certification program has a positive impact in shaping professional teachers. In addition, from the background of educators who distinguish between UPI and non-UPI graduates, indicates that UPI graduates have better scores than non-UPI graduates.

UPI can be said more successful in delivering graduates to have a commitment to become professional educators.

Effect of CK and PK on PCK Professional competence and teacher pedagogic competence. In theory developed by Shulman (1987) equated as the ability mastery of content/material (content) and pedagogical (pedagogical). If both are combined then create a slice called Pedagogical Content Knowledge (PCK). In line with the above explanation, the results of data analysis show that the high level of PCK owned by students of Science Study Program of social science of UPI graduate of 86.61% is influenced jointly by the high level of CK and PK owned by the students. The high influence of these joints indicates that the results of the study strengthen Shulman's theory that PCK as an incision of CK and PK. Further partially seen the indication shows that PK has a relatively stronger effect on PCK compared to the influence of CK.

5.2 Condition of PCK Student Social Science Education Study Program

Professional educators meet several criteria, other has a professional competence shown with mastery of field of study and pedagogic competence or mastery Values of education, From the results of data analysis that has been described in the previous section, generally known that both the mastery of knowledge in the field of study (professional competence or content knowledge), mastery of pedagogic aspects (pedagogic competence & pedagogical knowledge), as well as the second This pedagogical content knowledge (PCK) exists in moderate category, meaning that both the scientific mastery of the field of social science studies as well as aspects of social science learning post-graduate students social science education As educators and prospective educators of social science have not met minimum standards as a professional social science educator.

Therefore the effectiveness of learning is always associated with the issue of teacher quality both in the mastery of teaching materials, pedagogical skills, attitudes, and in social relationships. Effective teaching process does involve the ability to present a topic or demonstrate a skill in such a way that students can understand and master, In addition, the effective teaching process involves the ability to define positions. Students in terms of learning levels and levels of development, in the sense of requiring teacher attitudes such as accommodating the diverse backgrounds of students, religion, family conditions, as well as the physical, cognitive, or behavioural disabilities students may have "(Ormrod, 2008: 3).

From eight indicators that measure the mastery of the teaching material (CK), the indicator "looking for new ideas in social science learning plan" and indicators learning new learning models and methods "are two indicators who achieve higher scores than other indicators. On the other hand there is a weak side of the respondents of this study, namely that the indicator "conducts classroom action research" Is an indicator with the lowest score, whereas classroom action research is a practical effort that can be done by educators in improving the quality of learning, But this is understandable, since not all of these respondents are educators or permanent teachers and teaching experience is relatively new.

The professional competence (CK) and pedagogic competence (PK) when combined lead to PCK, Shulman (1987) suggests one of the most important areas of knowledge for teachers, namely Pedagogical Content Knowledge (PCK), which explains the specific mix of content and pedagogy Uniqueness becomes the territory of teacher's authority, special form of their own professional understanding.

This finding is in line with the findings of research that measures CK and PK respondents as educators and prospective social science educators It seems that packaging of social science learning into attractive packaging for classroom presentation is a rather difficult job for social science educators, such as problems or customs Related to the development of RPP, the use of IT as well as those that are assembled with evaluation, The results of this study also indicate a difference in the mastery of aspects of CK, PK and PCK between teachers viewed from the gender, Overall for all three measurements, female teachers have a better score than male teachers, This condition gives the picture that it seems the profession Teachers are more suitable for women, although this assumption is unacceptable to all. Judging from the acquisition of professional educator certificates, certified teachers have higher scores than those not certified. In general, it can be said that the teacher certification program has a positive impact in shaping professional teachers. In addition, from the background of educators who distinguish between UPI and non-UPI graduates, indicates that UPI graduates have better scores than non-UPI graduates.

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6 CONCLUSIONS

Judging from the magnitude of the coefficient of factor weight, PCK's main character among students of Social Science Education Post Graduate UPI Study Program as the dominant Social Science teacher is characterized by eleven indicators.

The level of PCK that is owned by the students of Social Science Study Program of UPI as a Social Science teacher has just reached the medium category. This condition reflects that from the PCK approach, the designation of professional educators for the respondents of this study has not been achieved.

The high level of PCK owned by UPI Social Science program students is significantly influenced by the low level of CK and PK. Partially, PK has a relatively stronger influence on PCK compared to CK. It indicates that PCK as a result of CK and PK slices, its existence is determined by the existence of PK.

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