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Teachers' Capacity to Make Learning Innovation Based on 21st Century Skills in Elementary Schools

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Abstract-This paper is aimed to discuss teacher's concerns and abilities to conduct learning innovations based on the skills 21st century in elementary schools. This study employed quantitative descriptive research. The focus of this study is the elementary schools with ten elementary schools each in five sub-districts in Banjarmasin, chosen randomly stratified based on the school accreditation. The respondents were determined purposively as many as teachers in the sample schools. The results showed that the highest score of concern reached level 0 (awareness) and level 1 (information). The lowest score of concern is at level 4 (consequence) and level 5 (collaboration). Meanwhile, the teacher innovation abilities are categorized quite well, the strength lies in the innovation of forms and techniques of assessment, and the weaknesses were in the innovative methods, material, and media. Recommendation for increase the capability and caring teachers Civic education learning innovation, should be carried Pattern Master in Performing Upgrades Learning Innovation Civic education consists Excavation, growth and the generation of the sensitivity of the innovation potential; Training and enrichment of insight; Coaching, product innovation; and Mentoring, production innovation; and Autonomy, phases provision of support and appreciation for learning innovation Civic education product

Keywords: concern, ability, teachers, learning, innovations

I. INTRODUCTION

The international evaluation shows that the achievement of Indonesian children is still far from complete because the rating achievements still fall into the low category. These achievements, one of which is strongly influenced by the ability and competence of teachers and education personnel who are in schools. While the challenges ahead, which is to produce graduates with the skills of the 21st century is characterized by its skill Cs by students, which include: (a) critical thinking (critical thinking); (b) creativity skills (creativity); (c) communication skills (communication); and (d) collaboration skills (collaboration). To produce quality graduates with the necessary teachers and education personnel who have particular competence, namely professional competence, pedagogical, social and personality [1].

Teacher competency test (UKG) 2015 has been testing the competence of teachers for the two areas, namely pedagogic and professional. The national average in 2015 UKG results for the second field of competence it is 53.02. Results for South Kalimantan showed values above the national average of 53.15. While the results of UKG visits per school level to the kindergarten level (58.8), elementary school (58.5) public high school (63.1) and vocational high school (59.8) in Banjarmasin not too different from the results UKG level Province, Is above the provincial UKG value. Unless UKG elementary school grades (54.6) are below the provincial UKG.

Asking for challenges UKG above conditions are required to increase the competence of teachers, particularly the pedagogic competence; increased ability to innovate teaching and learning in accordance with the 4 Cs. No exaggeration is also to say that the teacher is as "a 'cornerstone' or 'the most influential factor" in the educational innovations [2].

Recent studies on the changes of teachers and curriculum innovation have suggested a bottom-up approach and not the traditional innovation model of top-down.[2] In the innovation model of traditional top-down, teachers are usually blamed for the failure of an innovation, where change is seen as the transmission of ideas from curriculum developers or researchers to teachers. [3] In contrast, bottom-up or oriented approach-teachers show that the role of teachers in curriculum innovation not only implements innovative ideas from others. Changes in teaching practice depend on changes to teachers' knowledge and belief.[2] Furthermore, the knowledge and beliefs of teachers are considered a key element in the interaction of Professional Development and practice of teaching [4].

Demand conditions for learning in accordance with the 4 Cs, requires the existence of conditions that will arouse the desire of teachers at elementary school Banjarmasin, for learning innovation. These conditions need to be revealed so that it can be identified awareness and capability of innovation and innovation capability enhancement patterns that can be done by the Department of Education and Culture.

II. THEORETICAL REVIEW

The professionalism of teachers not only knowledge of technology and management but rather an attitude and behavior required [5], are able to manage themselves. [6] In the Law on Teachers and Lecturers no. 14, 2005, Article 1 states that "teachers are professional educators with the primary task of educating, teaching, guiding, directing, train, assess and evaluate students on early childhood education, formal education, primary education, and secondary education". Thus the professional teacher shows the attitude and appearance marked with expertise in their field,

mastering the material and methodology, have a sense of personal responsibility, social, intellectual, moral and spiritual; have an attitude colleague a sense of togetherness among the profession.

Professional teachers are expected to be effective teachers, have the quality capabilities and attitudes that can provide the best for learners and delight learners in the teaching and learning process. Gary and Margaret argues that teachers are effective and competent professionals have the following characteristics [7]: 1) have the ability to create a conducive learning atmosphere, 2) the ability to develop strategies and learning management, 3) have the ability to provide feedback (feedback) and reinforcement (reinforcement) and 4) have the ability to self-improvement.

The professionalism of teachers can be determined by several indicators. Indicator's professionalism of teachers can refer to the details of the juridical-based competencies, especially the Ministerial Regulation No.16/2007 on Academic Qualification standards and competence of teachers. Teacher competence consists of pedagogical, professional competence, personal competence, and social competence. Two competencies directly related to learning innovation is pedagogical competence and professional competence.

Pedagogical competence consists of understanding the characteristics of the students; mastery learning theory and principles of learning; develop curriculum; organizes educational learning; conducting development activities; utilizing information and communication technology; facilitate the development potential of learners; Communicate effectively, empathetic and polite with learners; conduct assessment and evaluation processes and learning outcomes; utilize the assessment and evaluation for the sake of learning, and take action to improve the quality reflective learning.

Professional competence consists of mastering the material, structure, concept, and mindset of scientific support of teaching subjects; master standard and basic competencies of teaching subjects; developing the subject matter of teaching creatively; sustainably develop professionalism by taking action reflective, and utilize information and communication technology to develop themselves.

That educational innovation is a new change that is qualitatively different from that already existed before and deliberately sought to improve, to achieve certain goals in education.[8] Teachers play an important role in efforts to implement the curriculum innovation, the role of the teacher can be extracted from a different perspective. Recent studies on the changes of teachers and curriculum innovation have suggested a bottom-up, not top-down model of traditional innovation [2].

In the traditional top-down model innovation, teachers are usually blamed for the failure of an innovation, where change is seen as the transmission of ideas from curriculum developers or researchers to teachers [3]. In contrast, the bottom-up or approach that is more oriented to teachers shows that the role of teachers in curriculum innovation not only implements innovative ideas from others. Changes in teaching practice depend on changes to teachers' knowledge and belief [2]. Furthermore, knowledge and beliefs of teachers are considered as key elements in the interaction of professional development and practice of teaching [4].

Learning innovations can be related to the learning component, innovated, ie teachers, students, teaching materials, competence and evaluation of learning outcomes.[9] Innovation teachers in general deal with how to convey the subject matter, or relating to the models, methods and instructional media. The development model of learning to walk with a rapid, marked by the emergence of innovations on teaching models, such as models of inquiry learning, contextual learning models, learning models thematic, Creative learning models productive and higher-level thinking learning model [9], including skills-based learning innovation Cs by students, which include: (a) critical thinking (critical thinking); (b) creativity skills (creativity); (c) communication skills (communication); and (d) collaboration skills (collaboration) [1].

III. RESEARCH METHODS

This type of research is descriptive quantitative research based on improving the competence of teachers, especially the ability of innovation in learning Civic education. School population research is all elementary school in Banjarmasin, with details of the school sample each of 10 elementary schools in five districts (Banjarmasin West, East, North, South, and Central) are set randomly stratified based on the accreditation of the school. While survey respondents determined by purposive, ie teachers of subjects in the sample schools Civic education, as respondents amounted to 50 subject teacher’s Civic education sixth grade. Data collection techniques and means of collecting data using questionnaires. Technical analysis of the data using percentages, Mi and SDI, for the determination of rating categories' ability to innovate.

Concern innovation does quantitative analysis using measurement analysis levels of concern (Measurement of Stages Concern) is based on the highest score, lowest and mean score rata. Concern for Innovation consists of 7 levels, that is; (1) Level 0 Awareness, (2) Level 1. Informational, (3) Level 2. Personal, (4) Level 3. Management, (5) Level 4. Consequences, (6) Level 5. Collaboration, and (7) Level 6. Refocusing. Analysis of the data using the conversion of raw scores to percentile scores Scale Lima, to identify scores the highest level (Peak Stake Score Interpretation). Each acquisition's highest percentile score as the relative strength (relative intensity) placed position on the Levels of Concern (Attention). Score higher, stronger attention to his level. Scores lower, less intense attention at that level [10].

IV. RESULTS AND DISCUSSION

1. Level of Concern Teachers Against Learning Innovation

Based on the highest score achieved, the new teacher reached level 0 (consciousness) and fraction reached level 1 (information). Level 0 (consciousness), indicating that teachers have just become aware of the innovation, little attention to innovation or even more concerned about things that are not related to innovation. While level 1 (information) indicates that teachers have a general awareness of innovation and interest in learning more details about the innovation shown, do not worry about himself concerning innovation, and interested in the aspects of true innovation in how unselfish themselves as common characteristics, effects, and conditions for use. But few teachers reach the level of awareness 3 (management), which indicated that teachers have the ability to manage logistics, time and the use of innovation.

Low achievement scores most of the teachers at level 4 (consequences), indicating that minimal teacher does not care about his relationship with the students to use innovation. While low achievement scores at level 5 (collaboration), showed an indifference to work with others with innovation, both in the form of a role that is done, the ideas of others, and hope to learn from others.

The average score achieved the teacher shows the characteristics of concern for subject teachers to innovation begins with the highest level of 0 (consciousness), level 1 (information), 3 (management), level 2 (private), level 6 (refocus), and the lowest level 5 (collaboration), finally level 4 (the consequences).

The findings of the level of awareness of the subject teachers strengthen statement Hall, George, and Rutherford that innovation is also influenced by the level of attention (care) teachers on innovation.[10] Level of concern lower achieved mostly subject teachers, namely level 0 (consciousness), show the teachers have just become aware of the innovation, little attention to innovation or even more concerned about things that are not related to innovation.

Likewise, low achievement scores at level 4 (consequences) and at level 5 (collaboration), indicates that teachers, in addition, does not care about his relationship with the students to use the innovation, as well as indifference to work with others in relation to innovation, good in the form of roles performed, the ideas of others, and hope to learn from others.

That innovation is influenced by the level of attention (care) teachers on innovation.[10] This opinion is based on the Attention-Based Adoption Model (The Concerns-Based Adoption Model/CBAM). This model was first published by Hall, Wallace, and Dossett, and proposes that the SoC (Stages of Concern) and LOC (Level of Concern) can be used as a diagnostic tool to measure the level of awareness or concern individual members of an organization in relation to the adoption of innovations. CBAM further proposed that the management of specific changes can then use these data to develop recipes diagnostic intervention is needed to facilitate the change [10].

2. Doing Innovation Capability-Based Learning Teacher

Teachers had to innovate but still a little bit, as well as reliability and strength on methods, materials, and media, except for the shape and valuation techniques. However, the innovation capability of teachers, in general, can be considered quite good. These findings suggest that the ability of teachers to innovate Civic education learning needs to be improved because little has been done so in terms of reliability and power the use of methods, materials development and use of media. The ability of learning innovation in both the methods, materials, and media is related to the pedagogical and professional competence as part of an important component of professional teachers.

The professionalism of teachers can be determined by several indicators. Indicators' professionalism of teachers can refer to the details of the competencies-based juridical, especially the Ministerial Regulation No.16/2007 on Academic Qualification standards and competence of teachers. Teacher competence consists of pedagogical, professional competence, personal competence, and social competence.

Pedagogical competence consists of understanding the characteristics of the students; mastery learning theory and principles of learning; develop curriculum; organizes educational learning; conducting development activities; harness technology information and communication; facilitate the development potential of learners; Communicate effectively, empathetic and polite with learners; conduct assessment and evaluation processes and learning outcomes; utilize the assessment and evaluation for the sake of learning, and take action to improve the quality reflective learning.

According to the results of research studies that to improve pedagogically, teachers needed scientific activities, such as training, reading books, seminars/workshops, and more. Other needs are relevant books, tools/aids, facility/IT infrastructure, activities of Action Research (PTK), observation, activity Deliberation Subject Teacher (MGMPs), scientific forums, knowledge of curriculum development, discussions with students, the comparative study and further education funded by the government. While the need for further education is less desirable because it requires a relatively long time and great expense [11].

Efforts are being made to improve teachers' pedagogical competence is to follow scientific activity (training, seminars, workshops). While the materials needed to improve pedagogical competence are the latest teaching models, (CTL, PAKEM and lesson study), preparation of devices and media, evaluation of learning outcomes, multiple intelligences, and class action research [11].

Professional competence consists of mastering the material, structure, concept, and mindset of scientific support

of teaching subjects; master standard and basic competencies of teaching subjects; developing the subject matter of teaching creatively; sustainably develop professionalism by taking action reflective, and utilize information and communication technology to develop themselves.

In order to improve the professional competence of teachers, in general, require training/upgrading in order to control the standard of competence and basic competences on the subjects they teach, the relevant books, seminars/ workshops, continuing education and scholarships for further education, facilities and infrastructure, such as a computer/internet, Teacher Discussion Group of Similar Subjects of activities, and research activities [11].

Several attempts were made to improve the professional competence, among others, training related to the subject matter, English language courses, computer courses, and a small portion for further education. Materials needed for the improvement of professional competence is the deepening of the subject matter, statistics and research methods, scientific writing, computer skills, and an understanding of the professionalism of teachers [11].

To improve professional competence and pedagogical competence in terms of learning innovation needs to be done by the bottom-up approach. Recent studies on the changes of teachers and curriculum innovation have suggested a bottom-up, not top-down model of traditional innovation.[2] In the traditional top-down model innovation, teachers are usually blamed for the failure of an innovation, where change is seen as the transmission of ideas from curriculum developers or researchers to teachers. [3] In contrast, bottom-up or approach that is more oriented to teachers shows that the role of teachers in curriculum innovation not only implements innovative ideas from others. Changes in teaching practice depend on changes to teachers' knowledge and belief [2].

Knowledge and beliefs of teachers are considered as key elements in the interaction of Professional Development and practice of teaching.[4] These elements, on the one hand, can be changed through professional development and teaching practice and, on the other hand as an important factor that affects the teacher's decision on the implementation of innovation.[12] The perspective bottom-up approach puts the teacher as subject change by utilizing the key factors of curriculum innovation.[13] The research result concluded that teachers' perceptions influence the innovation factor category curriculum, One manifestation of perception is attention or concern of teachers to learning innovation civic education [13].

A small quantity in terms of the ability of teachers learning innovation civic education and achieve the highest score of concern at the level of 0 (consciousness) and the low score at level 4 (consequences) and level 5 (collaboration) implies not realize the impact that is expected of educational innovation in general and specifically learning innovation. In this case, appealing to associate them with regard to all types of innovation, then there are three degrees of impact that can be identified following three levels [14]:

a. Adjustment or improve (upgrading) of a process: innovation can emerge indeed every day and is seen as a way to make our work easier, more effective, more attractive, or less pressing. The shape of this innovation, however, will be considered as an enhancement of the innovation, because it does not produce anything new method or tool. The terms of innovation, which are maintained in the dictionary definition, used only for something new and different, not just better, and it should also be useful. [34] The educators, incidentally, is usually applied the term "innovative" for almost any improvement in the practices in the classroom; still, to be consistent and not various improvements can be summed up in that way novelty and authenticity (originality), as well as significantly to the strong influence (impact) and the scale of the changes.
b. Alteration (modification) of the process: innovation that significantly changes the process, act, or the quality of the existence of the product (eg, accelerated learning (accelerated learning), private schools (charter school), schooling in the home (charter school), learning a mixture (blended learning).
c. Change (transformation) of a system; dramatic changes (for example, the education system is fully automated).

One of the interventions to improve the capability and caring teacher carried out in a pattern, called Teacher Enhancement Patterns in Innovating Learning. Teacher Enhancement Patterns in Innovating Learning consists of several stages and levels [15]; (1) *Excavation*, generating growth and innovation potential sensitivity to the subject teachers; (2) *Training* in the enrichment of the theories of innovation, forms of learning innovation, innovation-based innovation potential of local excellence, good practices innovation-based learning excellence, process innovation ideas into workshops RPP, instructional materials, and learning media, so that the products with innovation and media models that are ready to be implemented; (3) *Mentoring*, learning innovation products in the form of models and media (RPP, Instructional Materials and Media) is applied in a particular class as a pilot project. In the implementation supervising a larger role to improve and enhance the learning innovation products; (4) *Assistance*, the production of learning innovations implemented with mentor role began to diminish, the larger role of the teacher to improve and refine and develop product innovation, and develop sensitivity to the potential of local excellence in the school environment in particular, and generally in the neighborhood of Banjarmasin; (5) *Self-reliance*, the stages of the provision of support and appreciation for the resulting product innovation should be categorized as a teacher and teacher performance achievement, worthy lifted and published through competitions, contests, and festivals.

V. CONCLUSION

1. The teacher owns innovation, but still a little bit, as well as reliability and strength on methods, materials, and media.
2. Teachers reach new levels of 0 (consciousness), indicating that the teacher had just become aware of the innovation, little attention to innovation or even more concerned about things that are not related to innovation, and level 1 (information), have a general awareness of the innovation and interest in learning more details about the innovation shown.
3. Low achievement scores most teachers at level 4 (consequences), indicating, the minimal teacher does not care about his relationship with the students to use innovation. While low achievement scores at level 5 (collaboration), showed an indifference to work with others about innovation, both in the form of a role that is done, the ideas of others, and hope to learn from others.
4. increase the capability and caring teachers Civic education learning innovation, should be carried Pattern Master in Performing Upgrades Learning Innovation Civic education consists Excavation, growth and the generation of the sensitivity of the innovation potential; Training and enrichment of insight; Coaching, product innovation; and Mentoring, production innovation; and *Autonomy*, phases provision of support and appreciation for learning innovation Civic education product.

REFERENCES

[1] Center of Research Policy of Culture and Education, *Guidance for cooperation research between Center of Research Policy of Culture and Education and District of Network Research*, Jakarta: Ministry of Education and Culture, 2017.

[2] J.H.v. Driel, D. Beijaard, and N.Verloop, "Professional Development and Reform in Science Education: The Role of Teachers' Practical Knowledge," *Journal of Research in Science Teaching*, 2001, 38 (2), 137-158.

[3] S. Fincher & J. Tenenberg, "Warren's question". In *Proceedings of Third International Computing Education Research Workshop* (ICER), pp.51-60, New York: ACM, 2007; R.B.-B. Levy and M. Ben-Ari, "We work so hard and they don't use it: Acceptance of software tools by teachers," ACM SIGSE *Bulletin*, 39(3), 246-250, 2007.

[4] H. Borko, "Professional Development and Teacher Learning: Mapping the Terrain," *Educational Researcher*, 2004, 33 (8), 3-15; B. Kubitskey & B.J. Fishman, "Untangling the relationship (s) between professional development, practice, student learning, and teacher learning," Paper presented at *the Annual Meeting of the American Educational Research Association*, 2005.

[5] D.H. Maister, *True Professionalism*, New York; The Free Press, 1997.

[6] Rice and Bishoprick, in Ibrahim Bafadal, *Peningkatan Profesionalisme Guru*, Jakarta: PT.Rineka Cipta, 2004'

[7] Gary and Margaret in E.Mulyasa, *Standar Kompetensi dan Sertifikasi Guru*. Bandung: PT.Remaja Rosda Karya, 2009.

[8] Santoso S. Hamidjoyo, "*Inovasi Pendidikan: Meninjau Beberapa Kerangka Analisis untuk Penelitian dan Pelaksanaannya"*. Pidato Pengukuhan Guru Besar. Bandung: IKIP Bandung, 1974.

[9] Liliasari, "Teacher Professionalism Towards Learning Innovation", 2013. [Online]. Retrieved: www.file.edu.upi. Accessed March 18, 2019.

[10] Gene E. Hall, Archie A. George, William L. Rutherford, *Measuring Stages of Concern About The Innovation*, The Research and Development Center for Teacher Education. Austin, Texas: The University of Texas,1979.

[11] Yendri Wirda, et al, *Set Executive Summary of Policy Research and Innovation Education*, Jakarta: Center for Policy Research and Education Innovation, Research and Education Ministry, 2009.

[12] B. Kubitskey, and B.J. Fishman, "Untangling the relationship (s) between professional development, practice, student learning, and teacher learning," Paper presented at *the Annual Meeting of the American Educational Research Association*, 2005; R. Putnam, R., and H. Borko, 'Learning to teach'. In D. Berliner & R. Calfee (Eds.), *Handbook of Educational Psychology* (pp. 673-708), New York: Macmillian, 1996.

[13] Liliana Mâţâ, "Key Factors of Curriculum Innovation in Language Teacher Education," *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*. Vol: 6, No.6, 2012, pp 1222-1230.

[14] P. Serdyukov, "Innovation in Education: What works, What doesn't, and What to do about it ?", *Journal of Research Innovative Teaching and Learning*. Vol 10 Issue 1, pp 4-33.https: //doi.org/10.1108/JRIT-1--2016-007.

[15] Sarbaini, Fatimah, Suroto, Reza Fahlevi, "Study of Teacher skills to Innovate Local Wisdom Based Learning to Increase Student Motivation in Balangan District", *Research Report* from Research cooperation between education and culture policy Research Center with Research network of Balangan District, Balangan: Unpublished, 2017.