

Teacher Orientation of Post Competence Mapping in 21st Century Teaching Systems

Andi Sukri Syamsuri^a, Ishaq^b, Muh. Arief Muhsin^c, ^aIslamic State University Alauddin of Makassar, Indonesia, ^bUniversity of Muhammadiyah Makassar, Indonesia, ^cUniversity of Muhammadiyah Makassar, Indonesia, Email: sukri.syamsuri@uin-alauddin.ac.id, ishakmadeamin@unismuh.ac.id, arief.m@unismuh.ac.id

The purpose of the study is to determine the conditions of mastery competence mapped through Teacher Competency Test (UKG) taken before participating in official teacher certification. The method used is analysis of current statistics. All respondents in this study were given a questionnaire and were all teachers who had not been certified and were participating in the 2016 Teacher Professional Education and Training (PLPG) activities that took place at Makassar State University and University of Muhammadiyah Makassar. The sample size was 109 teachers. The result showed 1) The 2015 UKG average score, especially for South Sulawesi Province, is still below the Minimum Competency Standard of 55, 2) Teacher pedagogical competence is lower than professional competence, and 3) The productive age of teachers at intervals of 30-40 years.

Key words: *Teacher, orientation, competence, and mapping.*

Introduction

The teacher has a position as a professional. The statute Number 14 the Year 2005 regarding Teachers and Lecturers defines that a profession is work or activities carried out by a person and becomes a source of income for life that requires expertise, skills that meet specific quality standards or norms and need professional education. As professionals, teachers are required to always develop themselves in line with the progress of science, technology, and art. The teacher is a professional educator with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education through formal education, primary education and secondary education.

Teachers must have a minimum academic qualification of bachelor (S-1) or diploma four (D-IV), master competence (academic, professional, social and personality), have an educator certificate, be healthy physically and spiritually, and can realise national education goals. Existing conditions and situations cause each teacher to have differences in mastering the competencies required. To find out the requirements of mastering the skill of a teacher, their competency mapping must be done through the Teacher Competency Test called UKG before participating in teacher certification. UKG is intended to determine the teacher mastery map on pedagogical and professional competence. Mapping teacher competency mastery will use as a basis for consideration in providing teacher training and professional development programs. UKG results are focused on identifying teacher weaknesses in mastering pedagogical and professional competencies.

Anvil of UKG

The cornerstone of the implementation of Teacher Competency Tests can be viewed from philosophical aspects. The aspects are: 1) the rights of the community and students to get a quality education. 2) qualified teachers are needed for quality education. 3) students must avoid the learning process that is not quality. 4) build a quality culture for teachers. 5) to ensure the eligibility of teachers in carrying out tasks following established standards, and 6) the nature of a profession. To summarise: a) the teaching profession is a specialised profession, which requires special competency requirements as well. b) individual competence teachers that require special treatment as well. UKG is one way to provide good teacher professional development and development services to teachers. c) those teaching professions receive special awards and welfare. Therefore, there needs to be a balance between the competencies they have and the rewards they receive.

The cornerstone of the implementation of UKG can be viewed from the theoretical, pedagogical aspects: 1) teacher performance appraisal is the evaluation of each item of the teacher's primary task activities to foster career ranks and positions. 2) promoting and developing the teaching profession can only be done effectively if based on the mapping of teacher competencies. 3) the Teacher Competency test functions as a mapping of teacher competencies (pedagogical and professional skills). 4) to build the existence and dignity of a profession required the quality or the quality of the members who are members of the profession. Quality is obtained from efforts to develop sustainable professionalism and control that is carried out continuously and systematically. Control efforts are carried out through testing and measurement. Teacher professionalism will be of quality if continually testing and measuring teacher competencies through competency tests. 5) performance measures can be seen from the quality of work results, timeliness of completing work, initiatives in completing work, ability to complete work, and ability to foster cooperation with other parties (TR Mitchell, 2008), and 6) continuous professional development is an

effort to improve teacher professionalism based on the results of teacher performance assessments and UKG.

While the basis for implementing UKG in terms of empirical social aspects: 1) guidance and development of the teaching profession without being based on anecdotal evidence of basic teacher competence can implement sustainable professional development in the form of training teachers lose focus. 2) Several studies prove that Test Teacher competence has a positive impact on improving teacher performance and improving the quality of education. 3) public trust in the dignity of teachers is getting higher, related to teacher performance and its impact on education quality.

UKG Competence

In the implementation of UKG for teachers, it examined on pedagogical and professional competencies. The educational competency standards are by Minister of National Education Regulation Number 16 the Year 2007 regarding Academic Qualification Standards and Teacher Competencies as follows:

1. Know the characteristics and potential of students
2. Mastering of learning theories and principles of active learning
3. Plan and develop curriculum
4. Carry out effective learning
5. Assess and evaluate learning.

The desired competence is the consistency of pedagogical mastery between content and performance, which is not just the mastery of teachers about the introduction of students, learning models, planning, implementation, evaluation, but tests that can predict how teachers integrate five in the application of learning, with a percentage of 30% competence pedagogic. Professional competence refers to the following:

1. Mastery of material, structure, concepts and scientific mindset that supports the subjects being taught.
2. Develop professionalism through reflective actions
3. Consistency in mastering teacher material between content and performance:
 - a. text, context & reality.
 - b. facts, principles, concepts and procedures.
 - c. completeness about the mastery of philosophy, origins, and application of science



Teacher Orientation of teaching in the 21st Century

Three concepts of 21st-century education have been adopted by the Ministry of Education and Culture of the Republic of Indonesia to develop new curricula for Primary Schools (SD), Junior High Schools (SMP), High Schools (SMA) and Vocational High Schools (SMK). The three concepts are 21st Century Skills (Trilling and Fadel, 2009), scientific approach (Dyer et al., 2009) and authentic assessment (Wiggins and McTighe, 2011); Ormiston, 2011; Aitken and Pungur, 1996; Costa and Kallick, 1992) Akib, E., & Muhsin, M. A. (2019). Furthermore, the three concepts are adapted to develop education towards Creative Indonesia in 2045. Adaptation is carried out to achieve concept compatibility with the capacity of students and the competence of educators and education staff.

1. First Concept: 21st Century Skills

This scheme presents a comprehensive view of the skills and knowledge of 21st-century students. There are three core subjects of 21st-century education, namely: 1) Life and Career skills, 2) Learning and innovations Skills - 4Cs, 3) Information, Median and Technological Skills.

a) Life and Career Skills, Life and Career, including:

- 1) Flexibility and adaptability. Students can adapt to change and be flexible in learning and doing activities in groups
- 2) Having initiative and being able to self-regulate. Students can manage goals and time, work independently and become students who can manage themselves.
- 3) Social and intercultural interactions. Students can interact and work effectively with diverse groups.
- 4) Productivity and accountability. Students can manage projects and produce products.
- 5) Leadership and responsibility. Students can lead their friends and be accountable to the wider community.

b) Learning and Innovation Skills

Learning and innovation skills (learning and innovating skills) include:

- 1) Think critically and overcome problems. Students can use various reasons (reasons) such as inductive or deductive for various situations; using systems thinking; make decisions and solve problems
- 2) Communication and collaboration. Students can communicate clearly and collaborate with other group members.

3) Creativity and innovation. Students can think and work creatively.

c) Information Media and Technology Skills

Technology and information media skills (Information media and technology skills), including 1) Information literacy. Students can access information effectively (information sources) and efficiently (time); evaluating information that will be used critically and competently; use and manage information accurately and effectively to solve problems, 2) literacy media. Students can choose and develop media used to communicate, and 3) literacy ICT. Students can analyse information media; creating appropriate media for communication. The elements or systems needed to ensure the success of mastery of the concepts of education and knowledge skills of the 21st century above, then the efforts made are: 1) standardisation of assessment. Educational assessment standards are national education standards relating to the mechanisms, procedures, and instruments of outcome assessment student learning, 2) curriculum. The curriculum is the goal of every educational program given to students because the curriculum is a means of achieving goals; the curriculum must be elaborated from the general goals of education, 3) innovative learning. Innovative learning also implies learning that is packaged by the teacher or other instructors which is a form of ideas or techniques that are considered new to be able to facilitate students to gain progress in the process and learning outcomes, and 4) the development of professionalism of educators.

Continuing professional development is needed to improve the quality of education services in schools/madrasas. Specifically the objectives of sustainable professional development are as follows; a) improve teacher competence to achieve competency standards set in the applicable laws and regulations. b) update teacher competencies to meet the needs of teachers in the development of science, technology and arts to facilitate the learning process of development. c) increase teacher commitment in carrying out basic tasks and its function as a professional. d) foster a sense of love and pride as a teaching profession. e) improve the image, dignity, and dignity of the teaching profession in the community. And f) supporting teacher career development.

2. Second Concept: Scientific Approach

The scientific approach is adapted from the concept of Innovator's DNA (Dyer et al., 2009). The scientific approach used in learning is packaged sequentially, being 1) observing, 2) questioning, 3) reasoning, 4) experimenting and (5) doing networking.

3. Third Concept: Authentic Assessment (Authentic Assessment)

Authentic assessment is an important measurement of students' learning outcomes for the realm of attitudes, skills and knowledge. The term Assessment is a synonym of assessment, measurement, testing, or evaluation. The term authentic is a synonym of original, real, valid, or reliable. Conceptually authentic assessment is significantly more significant than even a

standardised multiple-choice test. When applying authentic assessment to determine student learning outcomes and achievements, teachers apply criteria related to knowledge construction, observing and trying activities, and non-school performance scores.

Method

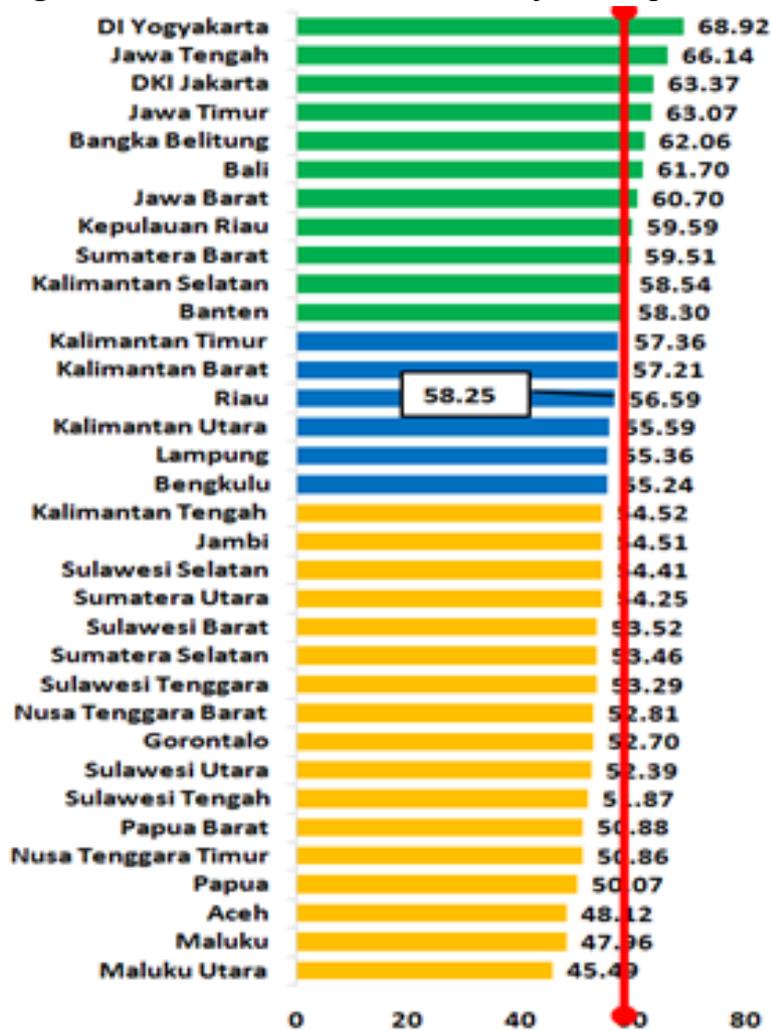
This research was a policy study using the existing statistics method, and through a questionnaire, respondents in this study were all teachers who have not been certified and while participating in 2016 Teacher Professional Education and Training (PLPG) activities that took place at State University of Makassar and Muhammadiyah University of Makassar, with sample of 109 people.

Findings

a. The result of UKG in 2015 for junior high school level

The national teacher competency test (UKG) results in 2015 showed that South Sulawesi ranks 18th out of 34 provinces with an average score of 54.41 where the national average score is 58.25. The average score of South Sulawesi is still below the Minimum Competency Standard of 55.00. Whereas for the level of education units at the level of junior high school (SMP) or equivalent, South Sulawesi obtained a 2015 UKG score of 52.55 where the national average score was 56.69. The average score of South Sulawesi UKG is also far from the Minimum Competency Standard of 55.00. As shown in the graph in Figure 1 below.

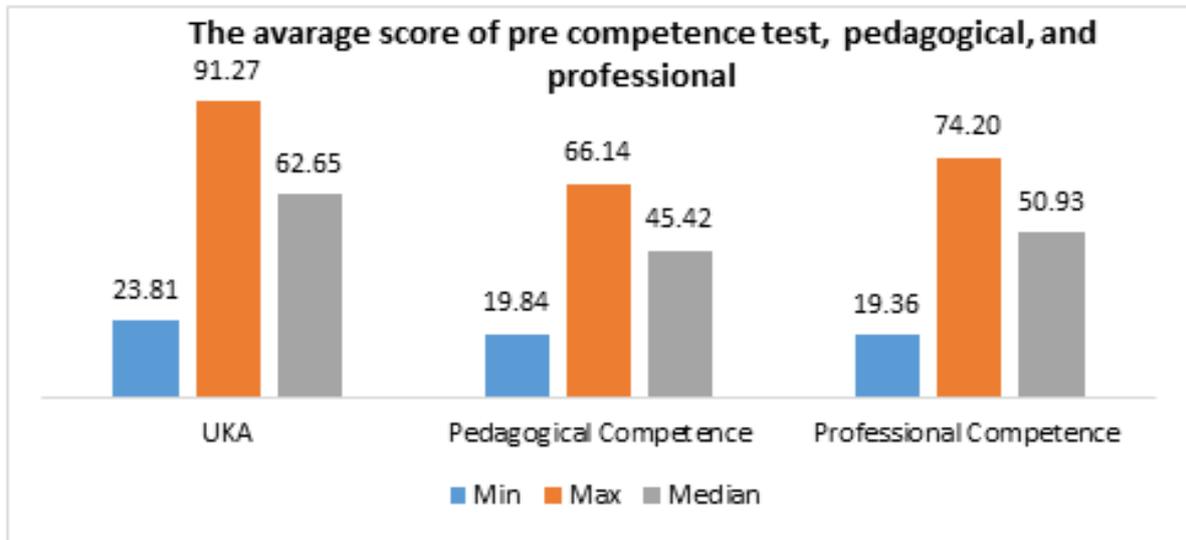
Figure 1. The result of UKG in 2015 for junior high school level



b. Average scores of UKG, pedagogical and professional competencies

The following graph, Figure 2 shows the results of the 2015 UKG analysis, pedagogical competence and professional competence of Indonesian subjects in junior high school (equivalent) with a sample of 2016 Teacher Professional Education and Training (PLPG) participants.

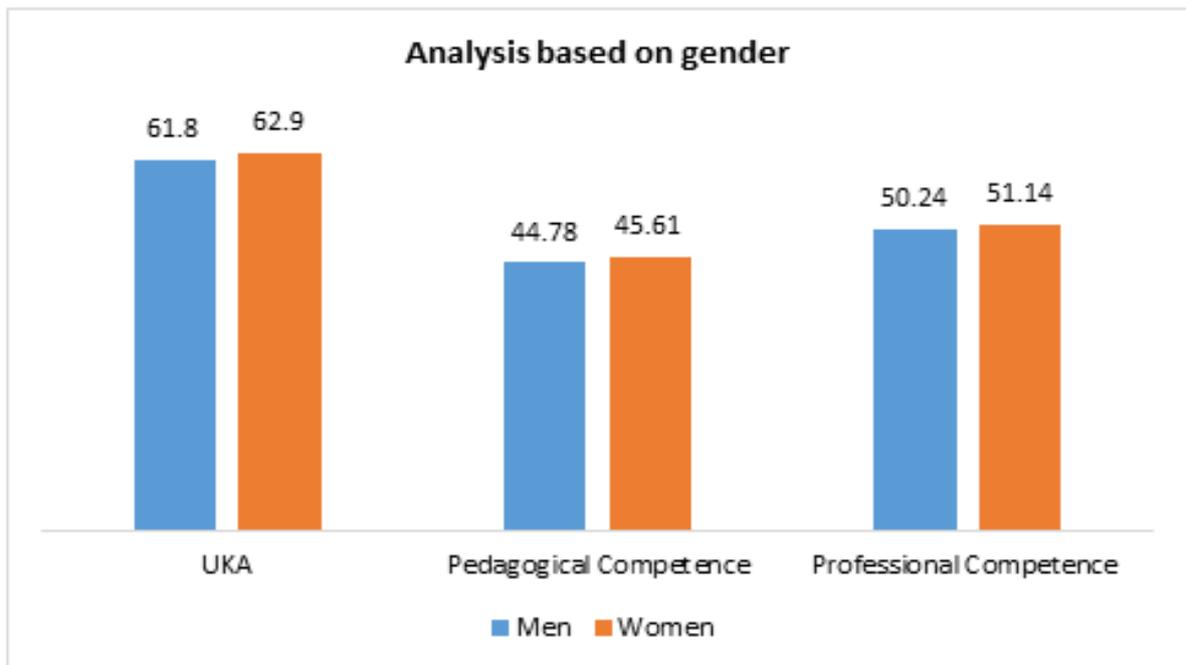
Figure 2. The score of UKG in 2015 Pre Teacher Competence (UKA), pedagogical, and professional competencies.



c. UKG based on gender

The following graph labelled Figure 3 below is the results of the 2015 UKG analysis based on the gender of Teacher Professional Education and Training (PLPG) in 2016 at junior high school (equivalent).

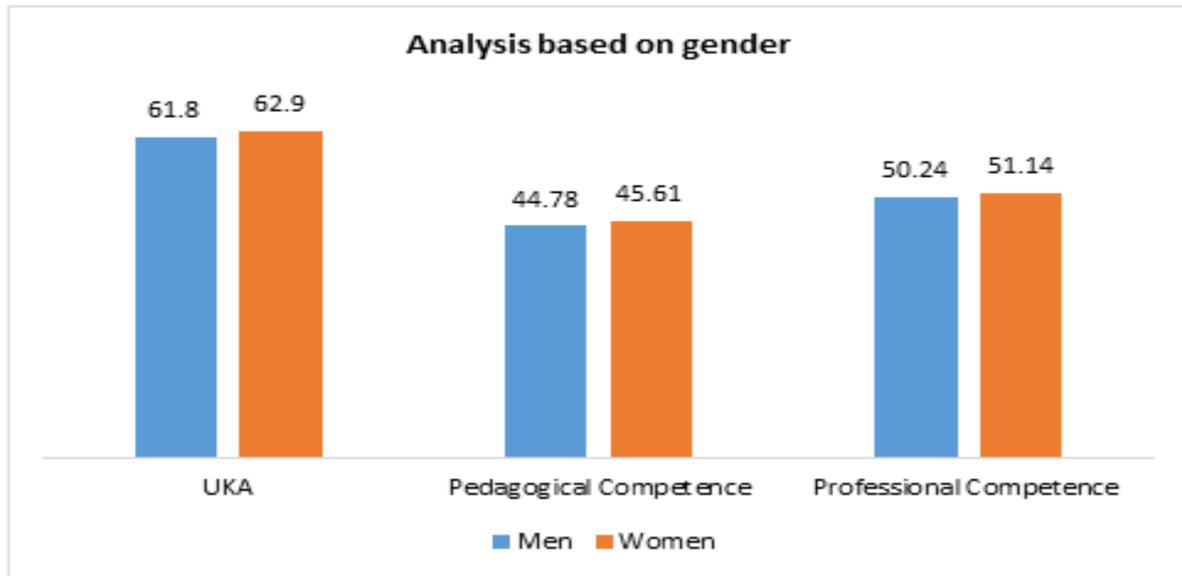
Figure 3. UKG scores based on gender in 2015



d. UKG based on age group

The following graph labelled Figure 4 below is the result of the 2015 UKG analysis based on the age group of Teacher Professional Education and Training (PLPG) 2016 participants for Indonesian subject at junior high school (equivalent).

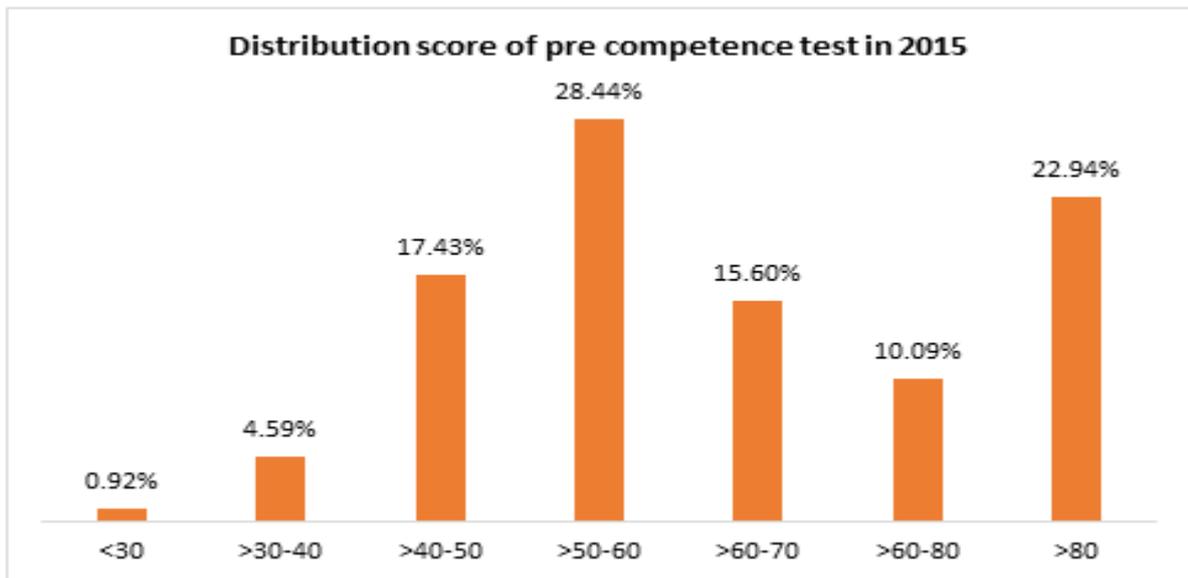
Figure 4. UKG scores based an age group



e. Distribution of UKG scores in 2015

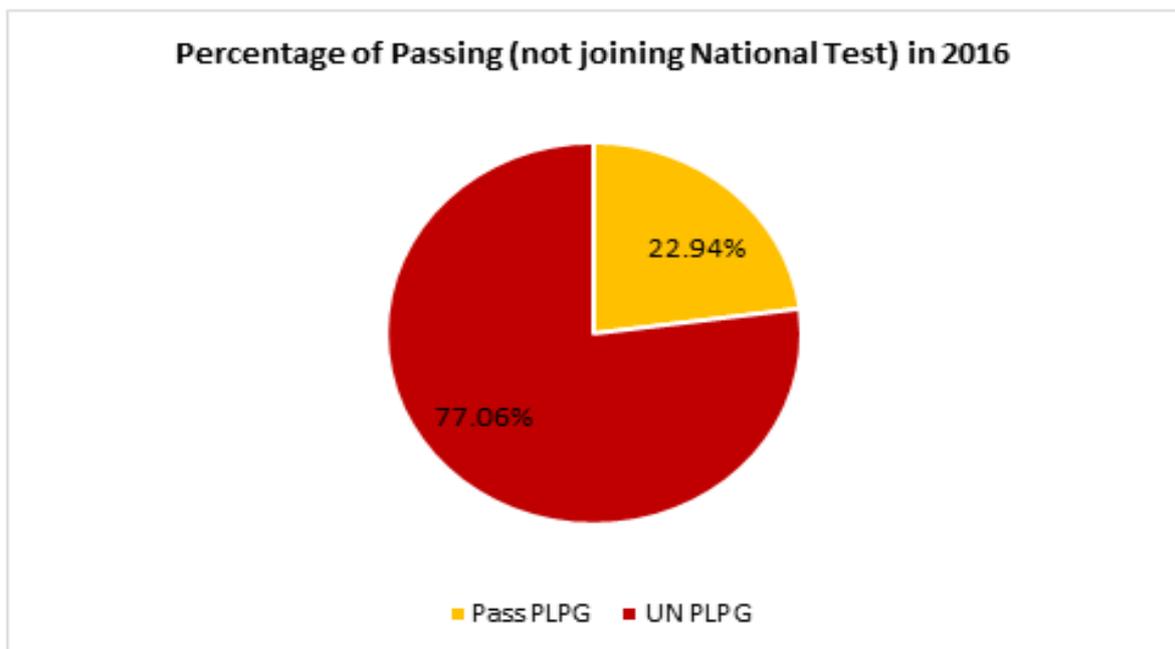
The following graph labelled Figure 5 below is the results of UKG analysis reviewed based on the delivery in 2015 by values at ten intervals in 2016 of Teacher Professional Education and Training (PLPG) in Indonesian subjects at junior high school level (equivalent).

Figure 5. Distribution of UKG Scores in 2015



The following graph labelled Figure 6 below is the percentage analysis results UKG in 2015 based on the graduation provisions with Standard Competence Minimum (SKM) of 80.00 of Teacher Professional Education and Training (PLPG) in 2016 for Indonesian subjects in junior high school (equivalent).

Figure 6. Percentage UKG Score in 2015 above SKM 80.00



Discussion

a. Pedagogic and Professional Competency Groups

Based on the results of the competency mapping by the Ministry of Education and Culture, there are ten groups of teacher competencies, which are a measure for professional teachers of Indonesian subjects. Professional competency groups: 1) the nature and acquisition of language, 2) a variety of language and language skills, 3) the position and function of Indonesian, 4) language skills and rules, 5) Indonesian language skills, theories and genres of Indonesian literature, 6) appreciation of poetry and prose, 7) writing poetry and appreciating drama texts, 8) writing prose and performing drama scripts, 9) linguistic schools, and 10) criticism of Indonesian literature.

The pedagogical competence group, consists of 1) the characteristics of students, 2) learning skills, 3) Indonesian language skills, 4) learning strategies, 5) ICT in learning, 6) learning models, 7) effective communication, 8) assessment of learning, 9) utilisation of assessment results, and 10) reflection of learning and Classroom Action Research (CAR). The results of the analysis of teacher competency mapping on Teacher Professional Education and Training 2016 participants in Indonesian subjects obtained an average score of pedagogical competencies of 45.42 and professional competence of 50.93. It showed that Standard Competence Minimum (SKM) still below 55.00. Although overall, the average UKG 2015 score is already above SKM. This data is in line with the national average rating for pedagogical competence of 48.94 (source: Directorate General of Teachers and Education Personnel of the Ministry of Education and Culture).

Data obtained based on pedagogical competence showed that the ability of teachers is still below the minimum competency standards in terms of implementing learning processes and processing in class. Pedagogical skill for Indonesian language teachers at a junior high level (equivalent) can be more specifically improved pedagogically as related to students, among others: 1) recognition of student characteristics, 2) application of learning strategies, 3) application of learning models. 4) utilisation of information and communication technology in learning. Other skills demonstrated by the teacher are: 1) learning skills, 2) Indonesian language skills, 3) effective communication, and increasing teacher competence in terms of the use of assessment: 1) conducting a structured learning assessment and 2) the use of evaluation, and 3) reflection learning for the next learning.

b. Teacher orientation in the Teaching Process

The most significant impact of improving teacher competence, both pedagogical skill and professional ability is found in the learning process in class, accompanied by student learning outcomes. However, as long as educational and professional competencies are still below the national SKM determined, these efforts have not been able to obtain maximum results.



One of the ways to enhance the learning process and student learning outcomes is to improve skills and knowledge. With respect to 21st Century Skills, students need to be equipped with the ability to adopt changes to the surrounding environment and be flexible in learning activities and activities in their groups. Further, students are provided with the opportunity to manage the implementation of learning independently accompanied by the achievement of goals that they set themselves so that these students become students who can self-regulate.

In the learning process, each student is directed to manage the projects charged by the teacher to produce products for this achievement. Each student can lead and be accountable to himself and the group and the broader community in the learning process of a professional teacher who can improve learning and innovating skills for students. Various forms of crafts and innovating as stated in the concept of 21st-century learning are students have the ability in critical thinking and overcome problems faced or given by teachers using various both inductive and deductive reasons for multiple situations encountered. Having the ability to communicate, collaborate, think creatively and have innovations to solve the problems faced.

Learning at this time is needed to use of information and communication technology, in general, has been used by teachers, but the creation of a learning process that encourages the use of information and communication technology by students still lacks, primarily related to learning itself. A professional teacher is a teacher who utilises information technology in the learning process. It is used as a medium that can bridge information delivery for students. In this case, they are expected to be active users of information technology; various forms of utilisation of information and communication technology for students involve the ability of students to access information effectively and make a source of learning references, along with the knowledge of these students to evaluate the information critically and competently.

The improvement of the ability, skills and knowledge can be ensured of success by accompanied by the use of standardised assessments; educational assessment standards are national education standards related to the mechanisms, procedures, and instruments of student learning outcomes assessment. The use of a quality curriculum is key because the curriculum is the goal of every educational program and is elaborated from the general purposes of education.

Development of professionalism of educators with various implementation models is aimed at improving the quality of education services in schools and to improve the quality of education. Most importantly, the emphasis is on innovative learning, which can be interpreted as learning that is packaged by teachers or other instructors which is an expression of ideas or techniques that are considered new to be able to facilitate students to make progress in the process and learning outcomes.

For professional teachers, the perspective of learning needs to be changed from a teacher-centred learning approach to a student-centred learning approach. Student-centred education makes students the centre of knowledge; the tendency of a teacher is as a learning facilitator. Student-centred learning, the achievement of learning outcomes will increase. It is in line with the learning experience theory by Edgar Dale (in Pastore). Edgar Dale's learning experience theory explains that if learning is centred on the teacher. The form of learning activities that can be engaged in involve reading, listening, and seeing so that various kinds of these activities can obtain only a maximum of 30% of knowledge while the way of student learning outcomes is still in the realm of C1 and C2 (remembering and understanding) where students are only able to define, describe, make lists, and explain. Whereas if student-centred learning with various models and forms of learning such as watching demonstrations. Learning through the application of e-learning media (web), participating in workshops, cooperative learning, simulating, modelling, designing and carrying out presentations, and doing real things then the maximum knowledge that can be obtained by 90% (when students do) with the form of learning outcomes can be demonstrated, implemented, practised, can analyse, define, evaluate, and create.

Figure 7. Figure Cone Edgar Dale's learning experience

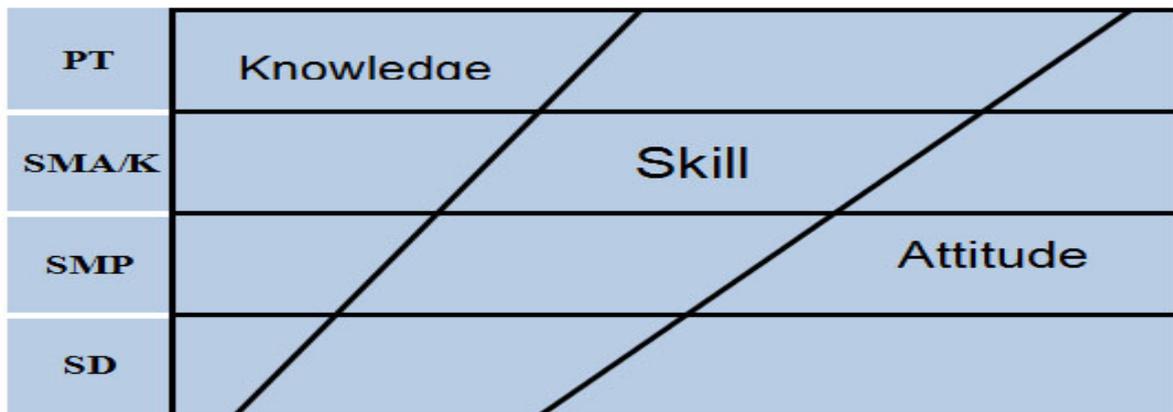


As depicted in Figure 7 above, implementation of 21st Century educational concepts involves a different type of curriculum delivery (2013) than previously required, but the formal legal foundation is still guided by the Law on National Education System (SISDIKNAS) No. 20 of 2003. Its implementation is based on Government Regulation No. 32 of 2013 concerning Amendments to Government Regulation No. 19 of 2005 concerning National Education Standards (SNP). The difference between the 2013 curriculum and the previous curriculum

(KBK and KTSP) is due to changes in concepts. This includes changes in Graduates Competency Standards (SKL), changes in curriculum structure, achievement of student competencies based on 21st Century Skills concepts (Trilling and Fadel, 2009), changes in learning approaches based on scientific method (Dyers et al., 2009), and learning assessment based on an authentic assessment (Wiggins, 2002 and Ormiston, 2011).

The 2013 curriculum creates a balance between developing cognitive skills (soft skills) and physical skills (hard skills). The higher the education, the smaller the value of the attitude taught to students. The lower the education, the higher the value of the perspective taught to students as depicted in Figure 8 below.

Figure 8. Balance of attitudes, skills and knowledge



Furthermore, the concept of 21st-century education is operationalized into a curriculum structure that contains compulsory subjects (groups A and B), and themes of specialisation in group C) below. Mandatory subject groups (A) are intended to achieve learning competency and innovation skills and technology and information media skills. While compulsory subject groups (B) and specialisation subject groups (C) are aimed at achieving life and career skills competencies. All subjects are derivatives of 3R core subjects, namely reading, writing and arithmetic.

Implementation of learning in the classroom teacher involves three learning strategies: 1) discovery learning, 2) project-based learning and 3) problem-based learning. Teachers may apply a variety of learning strategies according to student learning needs and the recommended teaching materials contained in the syllabus. Classroom learning is carried out systematically by using guidelines for implementing learning, called the Learning Implementation Plan (RPP). The RPP format can be used for all elementary level (elementary school) and secondary level (junior high and high school / vocational school) education units.

Conclusions and Recommendations

Based on the results of an analysis of policy research using the existing statistics method and through a questionnaire, it can be concluded as follows:

- 1) The 2015 UKG average score, especially for South Sulawesi Province, is still below the Minimum Competency Standard of 55
- 2) Teacher pedagogical competence is lower than professional competency
- 3) The productive age of teachers at intervals of 30-40 years

Based on the above discussion in the context of this study, it is recommended, as follows:

- 1) It is necessary to increase pedagogical competence for teachers; precisely material related to models, methods, learning strategies
- 2) Increased understanding of the preparation of RPP, LKPD, must be oriented towards cognitive processes.
- 3) Enhanced ability to prepare test instruments through the analysis of indicators with the BC in the curriculum is crucial.
- 4) Increased understanding and use of ICT in learning systems is a necessary investment for the teaching profession.
- 5) Increased teacher understanding of how to analyse essential competencies, teaching materials and their compatibility with learning methods should be a basic requirement.
- 6) Increased teacher knowledge about reflective learning is an essential skill for the education profession.



REFERENCES

- Aitken, Nola and Pungur, Lydia (1996) Authentic Assessment, diunduh dari www.ntu.edu.vn, Oktober 2016
- Departemen Pendidikan Nasional. (2005). Undang-Undang Republik Indonesia Nomor 14 Tahun 2005 tentang Guru dan Dosen. Jakarta. Cemerlang Publisher.
- Departemen Pendidikan Nasional. (2007). Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional. Jakarta. Cemerlang Publisher.
- Akib, E., & Muhsin, M. A. (2019). Assessment of Teaching In 21ST Century. In *Journal of Physics: Conference Series* (Vol. 1179, No. 1, p. 012065). IOP Publishing.
- Fasial, Sanafiah. (2009). Metodologi Penelitian Pendidikan. Surabaya: Usaha Nasional
- Fasli Jalal, Dedi Supriadi. (2001). Reformasi Pendidikan dalam Konteks Otonomi Daerah. Yogyakarta: Depdiknas – Bappenas – Adicita Karya Nusa.
- Gumelar, Awan, Tjep Dahyat. (2002). Kapita Selekta MBS Pengelolaan Pendidikan Profesional Berwawasan Masa Depan, Relevan, dan Lebih Bermutu. Bandung: Gatra Karya Prima.
- Kemendibud, 2015. Pedoman Pelaksanaan Uji Kompetensi Guru Kementerian pendidikan dan kebudayaan direktorat jenderal guru dan tenaga kependidikan.
- Kementerian Pendidikan dan Kebudayaan (2013) Paparan Pengembangan Kurikulum 2013, Jakarta
- Natawijaya, R. (2002) Struktur Profesi Kependidikan. Bandung: UPI
- Newton Public Schools, www3.newton.k12.ma.us/, diunduh September 2013
- Ormiston, Meg (2011). Creating a Digital-Rich Classroom: Teaching & Learning in a Web 2.0 World. Solution Tree Press. Pp. 2–3. ISBN 978-1-935249-87-0
- Pastore, Raymond S. *Dale's Cone Of Experience* [online]. Tersedia di: <http://teacherworld.com/potdale.html>. [diakses pada Tanggal 25 Oktober 2016).
- Peraturan Pemerintah No. 19 Tahun 2005 tentang Standar Nasional Pendidikan (SNP)
- Trilling, Bernie and Fadel, Charles (2009) 21st Century Skills: Learning for Life in Our Times, John Wiley & Sons, 978-0-47-055362-6.



Wiggins, G., and McTighe, J. (2011). *The Understanding by Design Guide to creating high-quality units*. Alexandria, VA: ASCD.