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Scopus® & ERA® (Excellence in Research Australia) listed journal

ISSN 2201-1323

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Tensions in Creating an Innovative Community of Vocational Education and Entrepreneurship

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Professional Behaviour of Educator-Certified Social Studies Teachers Working in Junior High Schools in the Bantul District

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Recommendation System Using Machine Learning: A Review Paper

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Recommendation System software aims at helping users by giving recommendations when faced with big amounts of information. Big information requires time to process and generate a recommendation. It also requires a model of knowledge from a group of data to give the appropriate recommendation. One of the ways to optimise the recommendation system is machine learning. This article discusses recommendation system model development, including the collaborative filtering model, the content-based model, the knowledge based model, the demography model, and a hybrid model using machine learning. This is to increase accuracy and simplify the computational process on the recommendation system. Pages 40 to 56

Moral Values of the Javanese Traditional Game Songs to Strengthen Character Education at Elementary Schools in Surakarta

Siti Supeni^a, Lydia Ersta^b, Oktiana Handini^c, Yusu^d ^{a,b,c,d}Slamet Riyadi University Surakarta Indonesia, Email : ^a sitisupeni@unisri.ac.id

This study aims at finding a strategy for developing learning models through Javanese traditional game songs in elementary school students, and the meaning in the lyrics of the songs. The type of research is descriptive qualitative. The techniques used in collecting the data are observation, interview, and documentation. In analysing the data, the researchers used the Interactive Analysis Model. Research findings show that the number of teachers who understand the Javanese cultural values are 62-70 (30% - 40%). Only 40% of them understand the art of educating while playing by stimulating children's motor skills through musical activities. Dancing comprises about 20-30% because not all of the elementary schools have gamelans to improve children's motor skills. The conclusion is that the teaching of character education is compulsory learning material that is integrated in every learning subject. It is also an independent subject which is called Civics subject. Pages 57 to 70

Social Ecology and Survival among Multi-Ethnic Youths in Urban Areas

Mohd Ariffuddin Bin Kamari^a, Abdul Razaq Bin Ahmad^b, Jalaluddin Abdul Malek^c, Norshariani Abd Rahman^d, Andries Lionardo^e ^{a,b}Faculty of Education, Universiti Kebangsaan Malaysia, ^cFaculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, ^dInstitute of Islam Hadhari, Universiti Kebangsaan Malaysia, ^eFaculty of Social and Political Studies, University of Sriwijaya, Palembang, Indonesia, Email: ^c ir.ariffuddin@mps.gov.my

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Key words: *Teacher, Profession, and Work.*

Introduction

Background

The issuance of Act number 14 of 2005 concerning Teachers and Lecturers in the Indonesian National Education System has created changes in the position, and of teachers as professional educators. Article 1, verse 1 of this act affirms that a teacher is a professional educator whose tasks are to educate, teach, guide, direct, train, assess, and evaluate learners at the early childhood education level, in formal education, and in elementary and secondary education (Li et al, 2011).

Moreover, Act number 2 of 2003, on the National Education System, article 1, verse 1, asserts that “Education means conscious and well-planned effort in creating learning environment and process so that learners will be able to develop their full potential for acquiring spiritual and religious strengths, develop self-control, personality, intelligence, morals, and noble character and skills that one needs for him/herself, the community, the nation, and the state.”

Munthe (2014) declares that education is an effort that adopts various strategies, methods, and techniques to enable the achievement of given learning outcomes by guiding, assisting, and training, professional teachers. To achieve these educational goals, an independent, active, creative, and innovative learning process in a joyful atmosphere is required. In teaching, teachers should be professional, thorough and well prepared to make learners interested and motivated in the learning process. In addition, the teacher should not present learning materials only.

Changes in the regulation of teachers' professional status requires from prospective teachers work ethic, dedication, talent, interest, and ability. The consequence of certifying teachers is that it requires standardised competence and responsibilities in trained teachers. A professional teacher is one of determining factors in successful education; hence, it is feasible to consider the job of educating learners and teaching as an equal position to other professional positions. The professional teacher should have competence in anticipating various issues related to education and learning activities (Yuniasanti & Abas, 2019).

Moreover, Government Regulation Number 19 of 2005 on National Education Standards asserts that the government has decided that the teacher's job is a professional position involving teaching, educating, and developing tasks for learners. As a consequence of determining a teacher's job as a profession, teachers are certified as an educator and with a teacher's professional allowances (Yuniasanti & Abas, 2019). The teaching profession, therefore, is currently in an equal position to other professions such as doctors, engineers, pharmacists, accountants, and others. From the above description and field observations, especially in Bantul JHS, researchers are further motivated to study (1) the teacher's

professional behaviour and the improvement of education quality, particularly in the subject of Social Studies (SS), (2) the consequences of providing teacher professional certification and the actual performance of teachers, and (3) the behaviour of professional teachers and the professional performance of educator-certified teachers in SS learning. Our question is, “Have the professionally-certified SS teachers behaved professionally in improving their performance, and have they been able to improve the quality of SS learning in JHS in the Bantul District?”

Problem Formulation

From the various problems mentioned, the problems are as follow: (1) To what extent can SS teachers with teacher’s professional certificate improve their professional behaviour? (2) Does age, years of service, the certification program, and schools, inform teachers' professional behaviour? (3) How can SS teachers with teacher certificates improve their teaching performance? (4) Is it still necessary to provide behaviour coaching for certified SS teachers?

Objective

This study aims to identify (1) the professional behaviour, work performance, and work ethic improvement of educator-certified teachers in performing their professional tasks, (2) the changes in teachers’ behaviour after they obtain professional certificate (3) the contributions of age, years of service, certification program, and school category to teachers’ professional behaviour.

Literature Review

Professional Teacher

Since the enactment of Act Number 5 of 2005 of Teachers and Lecturers, the teacher is considered to be a professional position requiring special expertise. A teacher's job can no longer be performed by those without the necessary expertise. To become a teacher, special requirements must be fulfilled. To be a professional teacher, an individual should master everything about education alongside the sciences that need to be learned and developed through a certain period of education or pre-service education.

Based on this understanding, a professional teacher is someone who has special competence and expertise in the field of teacher training and education. In addition, he or she is able to carry out his or her duties and functions as a teacher optimally. In other words, a professional teacher is an individual who is well-educated and well-trained and has proportional experience in his or her field (Djohar, 2008).

Teacher professional have special requirements as stated by Usman (2006), i.e. (a) skills based on the concepts and theories of in-depth knowledge, (b) an expertise in a particular field in line with professional field, (c) an adequate level of teacher education and training, (d) sensitivity on the social impact of the work carried out, and (e) development in line with the dynamics life of the community.

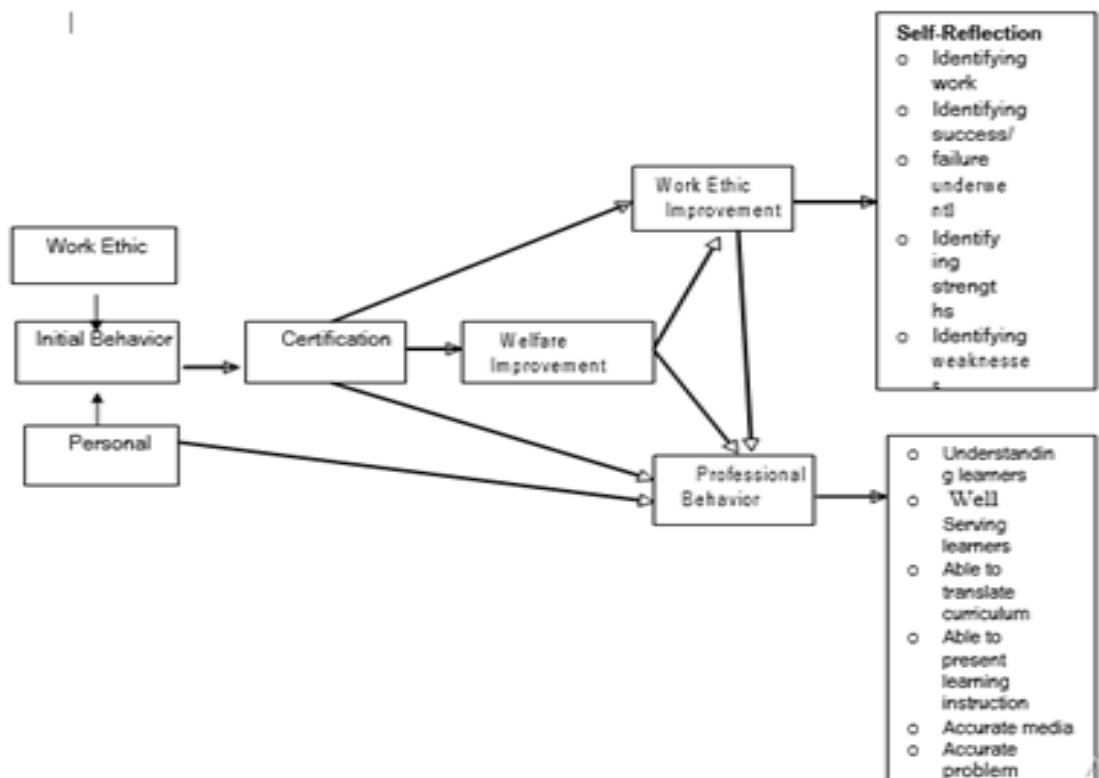
The comprehensive profiles and competencies of professional teachers involve: (a) in-depth analysis competence on learners (students) served, (b) mastery of the scientific and educational field of the study, (c) competence in organising learning, and (d) continuous professional development (Directorate of Manpower, Directorate General of Higher Education, 2007). Mastery of the four competencies can be seen through knowledge, skills, and attitudes as an integrated unit with two inseparable dimensions, i.e. academic and professional dimensions.

It is known that professional positions are identified by the ratio balance of the theoretical and practical contents, i.e. 50% theory and 50% practice, and its trainees. Based on the provisions of the Directorate of Manpower and the Directorate General of Higher Education, the Ministry of National Education (2008) affirms that in the pre-service teacher education curriculum the weight of this profession is assigned to training and education professional placement or teaching practice course. The contents of teaching practice course include the planning and implementation of teaching-learning. Djohar (2008) suggests that to carry out the teaching planning task a teacher must master: (1) the characteristics of the learners taught, (2) the comprehension on the curriculum which is divided into (a) conceptual structure; (b) conceptual map; (c) essential concept; (d) teaching material; and (e) the provision of learning objects and problems, (3) planning of learning implementation, (4) planning and providing learning media, and 5) planning and preparing evaluation tools.

Furthermore, Djohar (2009) explains that to carry out teaching assignments, teachers implement learning plans that are directly submitted to learners. This means he or she conducts five activities of teaching planning at the same time, i.e. the identification of learners' characteristic by identifying the uniqueness of individual learner.

Based on the Regulation of the Minister of National Education, Number 18 of 2007, article 2, in-position-teacher certification based on portfolio assessments is focused on certain issues including: (a) academic quality, (b) education and training, (c) teaching experience, (d) learning planning and implementation, (e) assessment by a superior and supervisor, (f) academic achievement, (g) professional development of work, (h) participation in scientific forums, (i) organisational experience in educational and social fields, (j) relevant awards to education. The paradigm of study is schematically depicted in Figure 1.

Figure 1. The Paradigm of the Study (Djohar, 2009), modified



Method

Background

This was an ex-post-facto study, that is, a study assigned to teachers as samples/respondents by revealing available data through questionnaires as the main instrument (Masri & Efendi 1989).

Variable

There are four variables namely: (1) initial behaviour of the educator-certified teacher, (2) the teacher's self-reflection, (3) the teacher's work ethic, (4) professional behaviour of certified teachers.

Instrument

The instruments of data collection in this study included a self-inventory questionnaire using a Likert scale. There were four response options for this questionnaire: Always do = 4, Frequently do = 3, Rarely do = 2, and Not yet thought of = 1.

Data Analysis Technique

The data analysis technique was a descriptive statistical analysis. This statistical analysis discusses the number of subjects, the highest and lowest scores the teacher obtains, mean score, and the standard deviations used to present the characteristics of the distribution of behaviour scores of certified SS teachers.

Result and Discussion

Result

The description of teacher initial behaviour

The initial behaviour of educator-certified teachers in the Bantul District JHS, in terms of personality and performance, after receiving certification treatment is indicated by the responses on the relevant points of the questionnaire that educator-certified teachers provided.

Table 1: Description of Teachers' Initial Behaviour

Initial Behaviour Item	<i>Response Option</i>			
	4	3	2	1
1	109	6	1	0
2	115	1	1	0
3	75	41	0	0
4	60	56	0	0
5	44	67	5	0
6	54	58	4	0
7	65	48	3	0
Total	522	277	14	0
Mean	74.57	39.57	2.00	0.
Rank of Number	2, 1, 3, 7, 4, 6, 5	5, 6, 4, 7, 3, 1, 2	5, 6, 7, 1, 2	

Table 1 shows that most of the teachers indicated sound initial behaviour since all of the teachers performed well in their learning activities. From the data, it can also be stated that the initial behaviour of the professional SS teachers in Bantul District JHS was good, but not optimal. Of the seven items of initial behavioural indicators, only two or about 64% items were met. The critical value is indicated when it exceeds 35%.

The Description of the Teacher's Competence and Habit Profile

The competence and habits of professional teachers in the Bantul District in carrying out self-reflection are shown in their responses to items relevant to the points based on the questionnaire provided. Meanwhile, the description of the SS teachers' competence and professional habit in Bantul District JHS in carrying out self-reflection is presented in Table 2.

Table 2: The description of the Teacher's Competence to Perform Self-Reflection

Teacher's Competence in to Performing Self-Reflection	Response Option			
	4	3	2	1
8	63	50	3	0
9	47	66	3	0
10	54	53	9	0
11	51	54	11	0
12	55	53	8	0
Total	270	276	34	0
Mean	54.00	55.20	6.80	0.00
Rank of Number	8, 12, 10, 11, 9	9, 11, 10, 12, 8	11, 10, 12, 8, 9	-

Data in Table 2 reveals that the competence of professional SS teachers in Bantul District JHS to conduct self-reflection is not yet optimal because, from the five indicators of this competence, only one or 54% to 55% of the items were met. The critical value is indicated when it exceeds 35%.

The Description of the Teacher's Work Ethic

The work ethic of professional SS teachers in Bantul District JHS is shown in their responses to the relevant items of the related questionnaires, that is, items 13-20. The description of the professional teacher's work ethic is presented in Table 3.

Table 3. The Description of Teacher's Work Ethic

Teacher's Work Ethic Item	Response Option			
	4	3	2	1
13	55	51	10	0
14	49	58	9	0
15	51	55	10	0
16	56	47	13	0
17	55	52	8	0
18	52	55	8	0
19	59	50	6	0
20	47	51	17	0
Total	424	419	81	0
Mean	53.00	52	11	0
Rank of Number	19, 16, 13, 17, 18, 15, 14, 20	14, 18, 15, 17, 13, 20, 19, 16	20, 16, 15, 13, 14, 18, 17, 19	-

Table 3 indicates that the competence of certified professional SS teachers in Bantul District JHS in terms of work ethic is not yet optimal. From eight indicator items, only two items were met (or 44% -45%). The level of 35% indicates that the critical value was exceeded. Therefore, the indicator items reveal that the certified teachers have not yet carried out their tasks optimally. These involved: 1) working using the right method, 2) working on time, 3) doing the right job as the objectives require, 4) working by always setting targets, 5) completing work on time, 6) work resulting in accurate achievement, and 7) producing completed achievement. Furthermore, the sequence of work ethic indicators, from those not used to be done (not good) to those used to be done (already good), is as follows: (1) work resulting in accurate achievement, 2) working using the right method, 3) completing achievement, (4) working by always setting targets, (5) doing work on time, (6) completing work on time, (7) doing the right job as the objectives required, and (8) being aware of the work.

The Description of Behaviour Profile

The professional behaviour of professional SS teachers in Bantul District JHS is based on the behaviour of teachers showing their competence in various aspects related to the SS learning process and described in questionnaires twenty-one to forty.

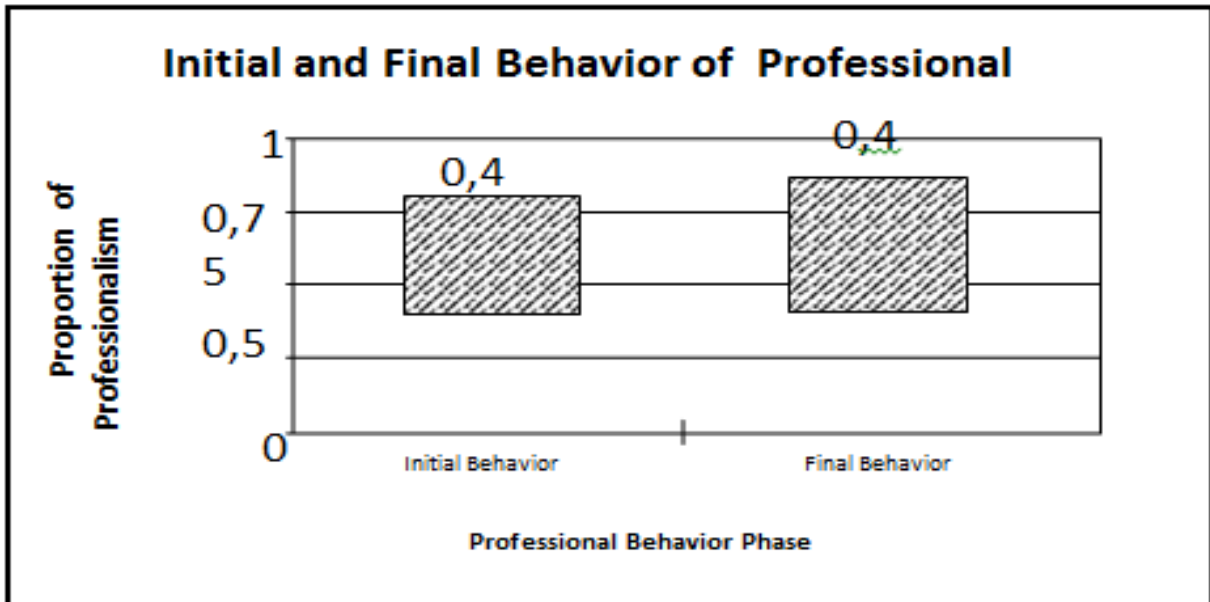
Table 4: The Description of Teacher’s Professional Behaviour

Description of Teacher’s Professional Behaviour	Response Option			
	4	3	2	1
21	47	58	10	0
22	52	51	12	0
23	61	52	3	0
24	61	50	5	0
25	60	48	8	0
26	60	48	8	0
27	57	53	6	0
28	47	61	8	0
29	56	52	8	0
30	52	57	7	0
31	59	45	12	0
32	45	68	3	0
33	56	50	10	0
34	66	41	9	0
35	47	53	15	0
36	51	60	5	0
37	62	50	4	0
38	47	63	6	0
39	80	33	3	0
40	58	53	5	0
Total	1124	1046	147	0
Mean	56.20	52.30	7.35	0.00
Rank of Number	39, 34, 37, 23, 24, 25, 26, 31, 40, 27, 29, 33, 22, 30, 36, 21, 28, 35, 38, 32	32, 38, 28, 36, 21, 30, 40, 27, 35, 23, 29, 22, 37, 24, 33, 25, 26, 31, 34, 39	35, 22, 31, 21, 33, 34, 28, 29, 25, 26, 30, 38, 27, 36, 40, 24, 37, 32, 23, 39	-

Table 4 depicts the professional behaviour of educator-certified SS teachers. The data can be interpreted as follows: (1) teachers already have had the readiness to conduct teaching-learning to face the different characteristics of individual learner, (2) teachers have been able to compose learning materials based on the learning objectives, (3) teachers are used to giving both classes and providing for group-based learners as well, (4) teachers are used to developing evaluation

instruments, (5) teachers have been able to interpret learning process and evaluation results, and (6) teachers are used to conducting follow-up learning evaluation results.

Figure 2. The Comparison of Initial and Final Behaviour of Educator Certified Teachers

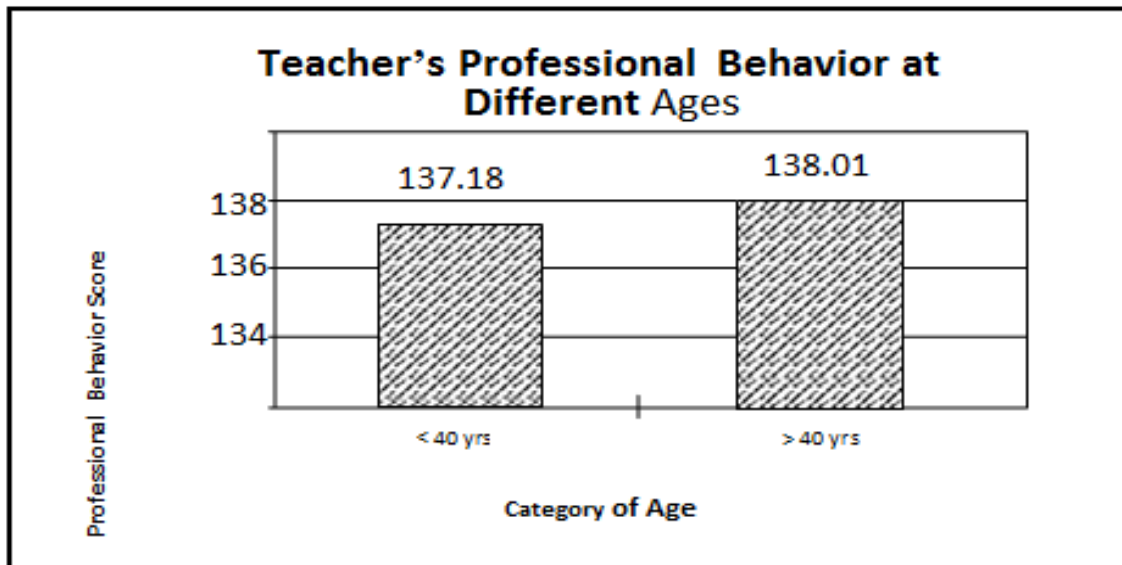


Such a condition shows that the teacher certification program has not been able to provide stimulation in developing ideal professional behaviour. The results of the comparative analysis on the quality of professional behaviour based on the contribution of age, years of service, certification program, and school category are described in detail thus.

a. The Contribution of the Age Factor to a Teacher's Professional Behaviour

The professional behaviour of the educator-certified teacher in terms of age is depicted in the diagram of Figure 3:

Figure 3. The Comparison of Age Groups in Educator Professional Behaviour

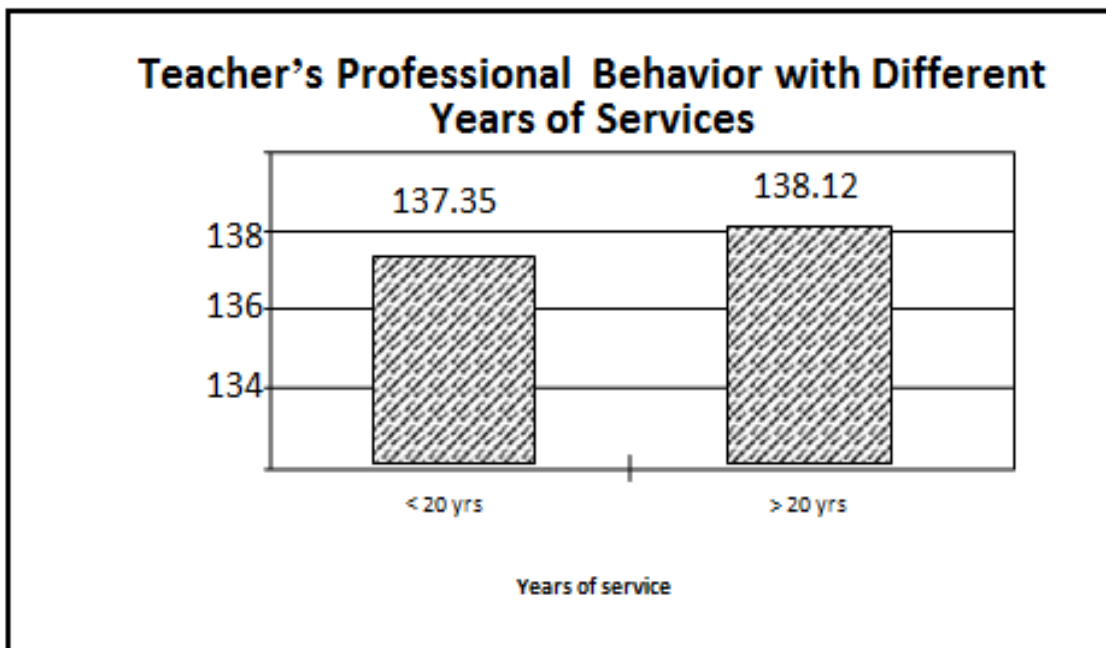


The figure clearly shows that the teacher's age tends to have a negative correlation with professional behaviour. At an older age, professional behaviour is not better than those at younger ages: the senior is worse than the junior.

b. The Contribution of Years of Service to a Teacher's Professional Behaviour.

A teacher's professional behaviour, in terms of years of service, is illustrated in Figure 4.

Figure 3. The Comparison of Age Groups in Educator Professional Behaviour



The figure clearly shows that a teacher's years of service did not correlate with professional behaviour. At longer years of service, their professional behaviour was relatively similar to those of the younger.

c. The Contribution of the Certification Program Factor to a Teacher's Professional Behaviour

The teacher's professional behaviour under the portfolio-review certification system is the behaviour of those who successfully passed portfolio review; and those who did not pass the portfolio review and had to participate remedial training course. The results are depicted below.

Figure 5. The Comparison in Professional Behaviour between the Group under Portfolio-Review-System and the Group under PLPG System.

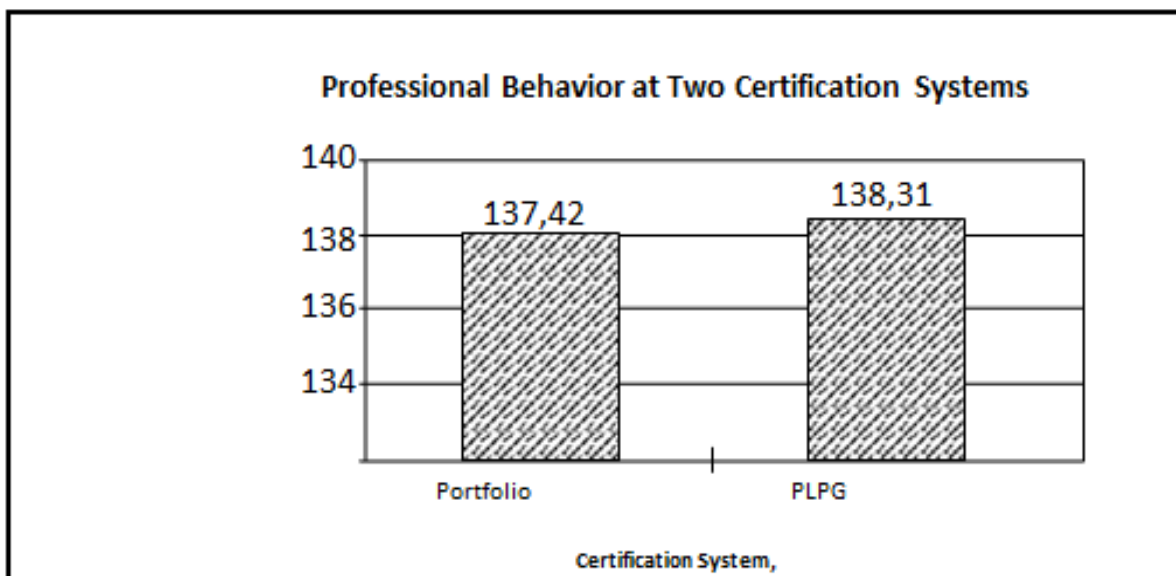


Figure 5 indicates that the portfolio program tended to be better in contributing to professional behaviour. In the portfolio program, the average score of professional behaviour was 137.42, while under the PLPG system it was 138.31.

d. The Contribution of School Category Factor to a Teacher's Professional Behaviour in terms of school category, i.e. private school, (low category), state school (high category), is depicted on the diagram in Figure 6.

Figure 6. The Description of Teacher's Professional Behaviour at State- and Private-schools.

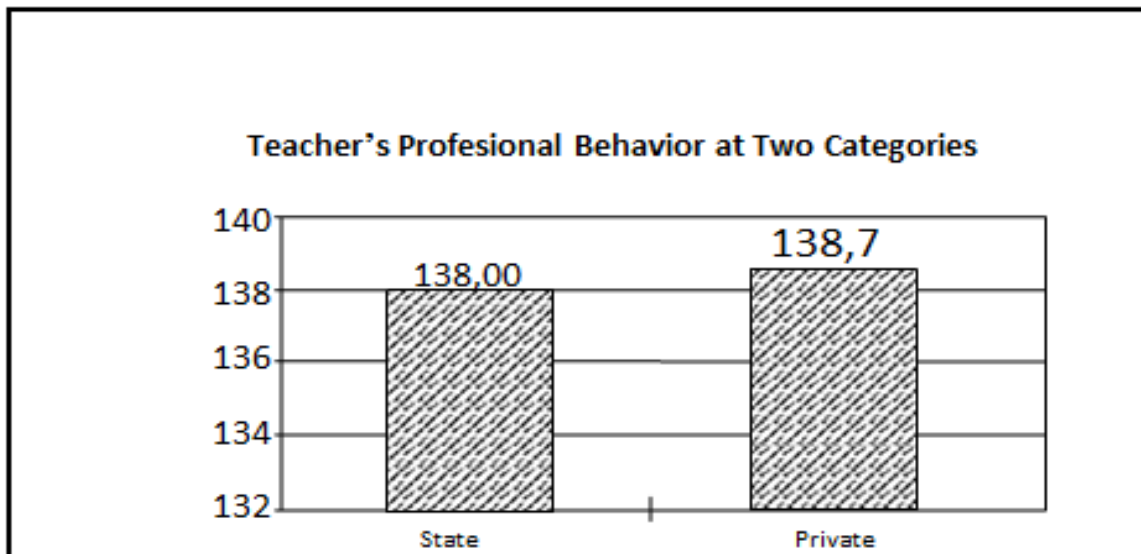


Figure 6 depicts the school category in which the schools where the certified teachers work, tend to provide a different contribution to the teacher's professional behaviour.

Discussion

The results of the study indicate that the initial behaviour of teachers, self-reflection competence, work ethic, and professional behaviour of SS teachers is as it should be (Mokshein et al, 2015). Most of the indicators of a teacher's initial behaviour, self-reflection competence, work ethic, and professional behaviour have been already been approved and certified in SS teachers in Bantul District JHS. In other words, the teacher already possesses habits in terms of the initial behaviour of the teacher, self-reflection competence, work ethic, and professional behaviour. However, there are still a few indicators or aspects in habit or behaviour that have not been fulfilled yet. This suggests that the professionalism of certified teachers can personally and professionally be maximally realised.

The finding concerning the quality of professionalism in professionally certified teachers is interesting enough to be observed, explored, and further maximised. Poor professional quality among the professionally certified SS teachers can be caused by numerous factors. Moreover, some factors are able to influence or provide a contribution, especially those concerning a teacher's age, years of service, certification program, and the category of school they work within.

The identification of teacher's age factors is associated with the level of physical and non-physical optimisation of humans. The age of forty years is considered as an important age in the career path of an individual. Many experts consider that the age of forty is the productive

age, and generally, at this age, a person successfully finds his or her identity. Many people reach their career peak at the age of forty years. Muhammad Musa Syarif (2008) states that the age of forty becomes the stage of attaining mental and spiritual maturity. It turns out to be a stage when life doctrine and mindset, collectively and partially, change. It also has various positive characteristics. At the age of 40s, people appreciate life and time more, and spend it well.

The age factor does not provide a positive contribution in terms of teachers' professional behaviour in Bantul District. The results of the analysis have shown that there is no direct relationship between age and professional behaviour. This can be interpreted that the increasing age of a teacher does not affect his or her professional behaviour. However, from the data analysis above, it indicated that teachers who are getting older experience a decrease in their professional behaviour (Anaraki, 2016). This can be seen from the value of the correlation coefficient, which was negative. It is also indicated by the average professional behaviour scores at the age of forty years and below, which was higher than the average score for teachers aged over forty years.

The theory of adult education states that the older of the teacher is, the more resistant they are toward the inputs given or the more resistant they are to innovations (Lunandi, 1986). Among educator-profession-certified teachers, the confinement of the school system and environment contributes to the growth of the resistant attitude of senior teachers to innovation.

The aforementioned phenomenon is also found in terms of years of service or teacher's teaching service. Based on the result analysis, it shows that there is almost no difference in professional behaviour between groups of teachers with less than twenty years of service and those with longer than twenty years of service. The difference was only 0.7 (Figure 4), and the difference can be ignored. The long years of service do not always influence his or her professional behaviour.

Based on the different analysis results of a teacher's professional behaviour from different certification programs, there is a small difference in teacher's behaviour. The difference was 0.76 as seen in the figure (Figure 5). There is a tendency that the PLPG program is slightly higher than the portfolio system, although the difference is only very small. Therefore, it can be interpreted that the PLPG system provides a positive impact on the professional behaviour of teachers.

Some previous factors considered to contribute to the professional behaviour of teachers involve age, years of service, and certification program, and the category of schools. However, they did not significantly contribute to the professional behaviour. The existence of school categories from pre-independent to independent does not necessitate a higher standard of

teacher professionalism. Based on the previous data and analysis, as shown in Figure 6, the difference was 13. This indicates that the highest professional behaviour of certified teachers was found in state schools or medium-category schools, and it was followed by preferred private schools or high-quality schools, and then pre-independent schools or low-category schools. Based on the data analysis results, it can be said that in independent schools the behaviour of professional teachers contributes less. Furthermore, in preferred schools, there is less focus on improving the learning process by providing professional teachers. Instead, the focus is on the provision of learning tools using ICT (Information Communication Technology) and the use of English. In fact, the professionalism of personally- and professionally certified teachers in Bantul District, has been maximally realised. This shows that the teacher certification program has provided positive and real impacts. The current professional behaviour of the teacher can be seen as a reflection of the conventional behaviour of the teachers. In other words, conventional behaviour dominates and contributes to the profile of these professionally-certified teachers in their professional behaviour.

Based on the available data, the teacher certification program in Bantul is able to maximally improve teachers' competence in conducting self-reflection on the personal, work and learning processes carried out. Although it has not been optimally able to improve work ethic, as well as develop or create professional teachers with professional behaviour, the teacher certification program is still continuing.

The fact shows that age and years of service do not provide a significant contribution to the professional behaviour of the educator-certified teacher. Therefore, age and years of service in the 2017-2018 teacher certification program should be adopted as the basis and the priority for teachers in obtaining professional certificates as professional teachers. We note, however, that their effectiveness still needs to be improved. Older age and long years of service are not followed by better performance. Instead, it tends to decrease. This means that in addition to the certification system, there are other factors that need to be reviewed, which are related to management, particularly the management of the potential inherent in professional teachers. According to Lee Harris & Anthony H (2001), the increasing of age and years of teaching service of teachers should indicate increasing experience and maturity of teachers as professionals in the education sector. Class management experience, the skill of dealing with learners' uniqueness, and other didactic experiences, turn out to be investments accumulatively increasing with age and years of teaching service. In addition to updating, how to manage the strengths and weaknesses of professionally-certified teachers becomes a special challenge with to solve.

The certification system, and the category of schools, in which professionally certified teachers work, do not significantly contribute to the teacher's performance. Teachers passing the portfolio review program are not required to participate in training and education programs or

PLPG since they are considered to possess sufficient experience as professional teachers. Therefore, pedagogic, social, and personality competence are the aspects of teacher professionalism that are considered to have been acquired by teachers under the portfolio review system. Participants who do not pass such a review system have to participate in training or PLPG. In this program, participants are provided with experiences or tools to carry out the teacher's profession. The insignificance difference made by these program systems on the teachers' professional behaviour shows that further improvements are required in the next certification system. It is necessary to direct the certification program towards teacher professionalism, and not to teacher administration.

Due to inefficiency in the category of independent (state) schools in its contribution to the professional behavior of professional teachers who have been educator-certified, reorientation and improvement is still needed. It is known that independent schools are not always identical with ICT and English. Teachers in preferred schools are not sufficiently equipped with the skills to use ICT and English in their learning-teaching process. However, it is necessary to perform improvement on the quality of services and learning processes to ensure a successful learning process.

Conclusion

The study draws some important conclusions: (1) The professional behaviour of professionally-educator-certified teachers is more affected by initial behaviour than by the guidance and development of professional teachers. (2) Most of the professionally-educator-certified teachers have shown the professional behaviour of a professional teacher. While there are some pretty good teachers, they are not gained the habit of implementing several indicators of professional teacher behaviour, particularly in terms of performing self-reflection on (a) their personality and work, (b) work ethic, and (c) professional behaviour. Factors of age and years of service contribute less to the professional behaviour of teachers. Older age and the long years of service correlate with a decrease in the quality of professional behaviour is. 3) Professionally certified SS teachers in JHS have shown the skills needed for self-reflection and to improve their work ethic as professional teachers. Differences in the school categories of independent or public schools and pre-independent schools, i.e. private schools, provide a different contribution to a teacher's professional behaviour. 4) Teachers under the portfolio-review certification system have shown better professional behaviour, although only in a very small number. They are more prominent than those under the PLPG system. This has proved that teachers under the portfolio-review certification system acquire more potential basic competence than those under PLPG system.

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