

The Influence of Work Period, Functional Position, and Professionalism of Lecturers' on the Level of Thinking in making Exam Questions

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The purpose of this research was to describe work period, functional position, professionalism of the lecturer, and the level of thinking in the test questions, and describe the influence of years of work period, functional positions, and professionalism of the lecturer, on the level of thinking in the test questions. This type of research is ex post facto. The sample of this study was all Civil Engineering Department Lecturers at the State University of Malang. The data analysis technique uses descriptive analysis and regression tests. The results of the study were that most of the lecturers were nearing retirement, reaching the position of head lecturer, namely functional positions IVa, IVb, and IVc, and reaching a professional level so that they had a lot of experience, achievements, and were certified. The level of thinking in the test questions the lecturer made was at a high level (HOTS), and there was a real tendency for the new work period to be lower than the old work period. The higher the class, and the more professional it was, the higher in making the HOTS exam questions.



Keywords: Working Period, functional position, Professionalism, Thinking Level, HOTS

1. Introduction

According to the results of the McKinsey Global Institute (MGI) research compiled from data from the Central Statistics Agency (BPS) in 2016, the need for a qualified workforce in Indonesia will reach 113 million by 2030 [22]. An increasing number of unemployed tendencies hold bachelor's degrees. The Central Statistics Agency (BPS) stated that unemployment with bachelor degrees in Indonesia was around 425,042 people in 2013, 398,298 people in 2014, 565,402 people in 2015, and 695,304 people in 2016 [23]. Unemployment is increasing, so the quality of graduates for tertiary institutions is still low.

The role of teaching staff (lecturers) is very important in improving students' abilities to solve problems. Lecturers are the most important component in the education system in Higher Education, including the ability to solve problems and the ability to think at a higher level [1]. Ability to develop the capacity of the Higher order thinking skills (HOTS) is closely related with thinking processes while problems solving [24]. In developing high-level thinking habits, namely by giving cognitive tasks or difficult questions that are in the form of HOTS questions [2]. HOTS has portrayed immense industry demand and the major goal of educational institutions in imparting education is to inculcate HOTS [25].

As is known, the lecturer working period is the number of years starting from being appointed as a lecturer until now. The working period is the length of work in a job [3]. The working period can be grouped into four categories, namely: (1) a new working period of 0-2 year, (2) a medium a working period of 3-8 year, (3) a term working period of 9-20 years, and (4) old working period of 21 year and above. While the functional position was the number of credit points obtained from achievements during his tenure [5]. The group consisted of four levels namely Expert Assistant (IIIa-IIIb), Lector (IIIc, IIId, IIIe), Associate Professor (IVa, IVb, IVc), and Professor (IVd, IVe) [6].

A profession is a position or occupation that demands expertise in teacher competence [3]. Teacher competencies that must be possessed by teaching staff include: pedagogic, personality, professional and social competencies obtained through professional education [8-9]. The cognitive domain has two levels: low order thinking skill (LOTS) and High order thinking skill

(HOTS) [10]. Based on the bloom taxonomy of HOTS, these are namely applying, analysing, synthesising and evaluating, while LOTS are knowing and understanding [11-12]. The working period influences lecturers' performance by 8.97% [26]. Promotion of functional position is significantly related to work motivation [27]. Professional influence on lecturer performance by 78.8% [28]. One of the lecturers' performance is the ability to make exam questions. Functional promotions are based on length of service and have many achievements [21].

Based on the description of the above problems, the purpose of the study was to determine the conditions of the work period, class, lecturer professionalism, and level of thinking, and to know the effect on the level of thinking in the test questions (test) in the Civil Engineering Department, Faculty of Engineering, State University of Malang. The hope in the results of this study is to determine the level of quality of the questions made, based on these findings.

2. Method

This type of research is ex-post-facto research. The independent variables are length of service, class, and professionalism of lecturers. The dependent variable was the level of thinking in the test questions. The sample in this study were lecturers in the Department of Civil Engineering FT UM. Data collection techniques in this study were using a questionnaire and documentation. The questionnaire was used to measure professionalism in lecturers. Filling out the questionnaire using the web, namely google form, students automatically responded immediately [30]. The documentation technique to explore the data of the working period, class, and level of thinking in the exam questions made by the lecturer, was a secondary data source [31]. Data analysis techniques used descriptive analysis and regression analysis. Descriptive analysis was used to analyse data by describing data that has been collected. Regression analysis was used to determine the effect of tenure, class, and professionalism of lecturers on the level of thinking.

3. Results

Based on the results of the analysis description in Tables 1-5. The analysis results for the tenure of the lecturer are as follows.

Table 1. Lecturer Work Period

Working Period	Category	Total	Percentage
1-2 years	New	1	3%
3-8 years	Is being	2	6%
9-20 years	Long Enough	6	17%
21years and above	Long	27	75%
Total		36	100%

From the Table above, the results with the highest percentage are lecturers who have a working period of 21 years and above and the lecturers with the lowest percentage are new working period. The average length of work of lecturers is a work period of 21 years and above. The results of the analysis for the lecturer functional position are as follows.

Table 2. Lecturer Functional Position

Functional Position	Position	Total	Percentage
IIIa, IIIb	Expert Assistant	5	14%
IIIc, IIId	Lecturer	12	33%
IVa, IVb, IVc	Associate Professor	19	53%
IVd, IVe	Professor	0	0%
Total		36	100%

Based on Table 2, the highest percentage of results is the lecturer who has the position of lecturer in the head and lecturer with the least percentage is the position of assistant expert (IIIa, IIIb). The results of the analysis for the professionalism of lecturers are as follows.

Table 3. Lecturer Professionalism

Professional score	Category	Total	Percentage
0-25	Unprofessional	0	0%
26-50	Less Professional	1	2,78%
51-75	Professional Enough	11	30,56%
76-100	Professional	24	66,66%
Total		36	100%

Based on Table 3, the most professional results of lecturers are professionals and the least are unprofessionals. The average professional level of lecturers is professional. Thus the lecturer reaches a professional level. The results of the analysis for the question (Test) as follows.

Table 4. Level of Thinking in the Test Questions (Test) prepared by the Lecturer

Cognitive Levels	Category	Percentage
Knowing	C1	2%
Understand	C2	25%
Apply	C3	56%
Analyzing	C4	16%
Evaluate	C5	1%
Creative	C6	0%
Total		100%

Based on Table 4, it can be seen that the test questions (tests) that are most made by lecturers are in the realm of applying C3 and the least is the domain of evaluating C5. The average

question made by the lecturer is the realm of applying C3. The results of the analysis for the tenure of lecturers on the level of thinking of test questions (test) is as follows.

Table 5. Level of Thinking in the Test Questions (Test) by Lecturer Work Period

Cognitive Domain Level Categories	Working Period			
	New (1-2 years)	Is Being (3-8 years)	Long Enough (9-20 years)	Long 21 years and above
Knowing C1	0%	10%	0%	2%
Understand C2	0%	20%	0%	31%
Apply C3	100%	50%	88%	48%
Analyzing C4	0%	20%	8%	18%
Evaluate C5	0%	0%	4%	0%
Creative C6	0%	0%	0%	0%
Total	100%	100%	100%	100%

Table 6. Level of Thinking in Exam Questions (Test) by Lecturer Functional Position

Functional Position

Cognitive Domain Level Categories	Expert Assistant IIIa, IIIb	Lector IIIc, IIId	Associate Professor IVa, IVb, IVc	Professor IVd, IVe
Knowing C1	5%	0%	2%	0%
Understand C2	10%	10%	29%	0%
Apply C3	75%	65%	52%	0%
Analyzing C4	10%	20%	16%	0%
Evaluate C5	0%	5%	0%	0%
Creative C6	0%	0%	0%	0%
Total	100%	100%	100%	0%

From Table 5, it can be seen that there is no association between the level of higher order thinking and the period of work. However, there is a real tendency for the new working period to be worse than the old working period and the questions made at each level of the lecturer working period are already in good criteria. From Table 6, it can be seen that there is no link between the level of high thinking and the functional position of the lecturer. So that the higher the functional position, the higher the level of thinking in the exam questions made, and the criteria for the questions made at each lecturer functional level are good. The results of the analysis for the professionalism of lecturers on the form of exam questions (Test) as follows.

Table 7. Level of Thinking in Exam Questions (Test) by Professionalism

Professionals

Cognitive Domain Level Categories	Unprofessional Score 0-25	Less professional score 26-50	Professional enough Score 51-75	Professional Score 76-100
Knowing C1	0%	0%	3%	2%
Understand C2	0%	0%	14%	30%
Apply C3	0%	100%	60%	53%
Analyzing C4	0%	0%	21%	15%
Evaluate C5	0%	0%	2%	0%
Creative C6	0%	0%	0%	0%
Total	0%	100%	100%	100%

From Table 7, it can be seen that there is no link between the level of high thinking and professionalism. So that the more professional the lecturer, the higher the level of thinking in the test questions test is made and the criteria for the questions made at each lecturer professional level is good.

4. Discussion

From the results of the study that most of the lecturers have a service life of 21 years and above, namely the work period of 32 years has carried out their duties in teaching. The working period of 32 years is more or less now 56 years old. Ages 55-65 are included in the retirement age limit (BUP) [13]. The lecturer workload includes guiding, conducting research, carrying out additional tasks, and doing community service [14]. So a lot of experience is gained by lecturers while working. Someone who has a lot of experience and a long working period is related to the functional position of the lecturer. For the results of the functional group or position at most, namely lecturers who have functional positions as head lecturers and lecturers at least are functional assistant expert positions. In promotion / class is concerned with his tenure [15]. So long work periods and many achievements are the same as having high functional positions. The most professional lecturers are at the professional level. This is because all lecturers have

received teacher certification. Teacher certification is an effort of the government in improving the quality of teachers so that teaching professionals in schools will also be of high quality [16]. For the results of research at the level of thinking that the test questions (test) for the low level LOTS is 27% and the high level HOTS is 73% then either were included in the criteria. Good categories range in value between 61-80 [17]. The results of this study are that the cognitive realm level implementing (C3) is often used [18]. KKNI (Indonesian National Qualification Framework) say that universities must be able to reach level 6, namely application [8]. Thus the test questions made by lecturers are already at a high level (HOTS) with good criteria and have met the KKNI criteria for tertiary institutions.

The results of research on the length of service and the level of thinking were that there was no significant relationship between the length of work with the level of thinking in exam questions. However, there was a sign that there was a tendency that the new work tenure was worse than the old work tenure. Length of service had no significant relationship with performance (the level of thinking in the test questions) to the ability to think at a higher level [20]. The new working generation is a young generation who has creative and ambitious characteristics in making creative test exam questions [19].

The results of research on groups and levels of thinking, were that there was no relationship between groups with the level of thinking in the test questions (test), so that the higher the class or position, the higher the level of thinking in the test questions. There was no influence between rank and class on employee motivation [21]. The results about the professionalism of lecturers and the level of thinking was that there was no relationship of professionalism with the level of thinking in the test questions (test). So that the more professional the lecturer, the higher the level of thinking in the test questions were made. There was no significant relationship between the professional or the amount of professional development that the teacher had on higher order thinking skills [12]. This was due to the lack of training, seminars, further studies, research and community service. Teachers only rely on certification as a lecturer, functional position or a high class and long years of service so that it can be assumed that they already have a lot of experience.



5. Conclusion

Referring to the results of the research and discussion, it can be concluded as follows: (1) most lecturers are approaching retirement, reaching the position of head lector namely group IVa, IVb, and IVc, and reaching a professional level so that they have many experiences, achievements, and certification. The level of thinking in the test questions (test) made by the lecturer was at a high level (HOTS) with good criteria. (2) There was a real tendency for the new work period to be lower than the old work period, the higher the class, and the more professional it was, the higher in making HOTS exam questions. So, the lecturer in compiling test questions for the realm of knowing (C1) and the realm of understanding (C2) must be reduced, and questions must be made with higher levels appropriate to the tertiary curriculum as in the realm of implementing (C3), analysing (C4), evaluating (C5), and creating (C6).



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