

The Effect of Achievement Motivated Students and Mastery of Information Technology on the Results of an Elementary School Teacher Competency Test

La Ode Safihu¹, Patta Bundu², Hamsu Abdul Gani³

¹Department of Educational Science, Universitas Negeri Makassar
South Sulawesi, Indonesia
Email: laodesafihu6 [AT] gmail.com

2

¹Department of Educational Science, Universitas Negeri Makassar
South Sulawesi, Indonesia
Email: bundu [AT] unmm.ac.id

³Department of Educational Science, Universitas Negeri Makassar
South Sulawesi, Indonesia
Email: hamsuabdulgani [AT] yahoo.com

ABSTRACT---- *This study aims to ascertain the effect of achievement motivation and technological mastery on the results of a competency exam administered to elementary school teachers in Ambon City in 2015. This research comprises a quantitative analysis of 224 elementary school teachers who took the 2015 teacher competency exam. Multiple linear regression was used to analyze the data and test hypotheses with the assistance of SPSS Windows Version 24. The study discovered that achievement motivation (X1) and mastery of technology information (X2) both have a favourable and substantial effect on the competency test results of elementary school teachers (Y) in Ambon City. Thus, it is recommended that teachers develop a sense of achievement and proficiency in using information technology.*

Keywords: Motivation for achievement, knowledge of information technology, and assessment of primary school teachers' proficiency

1. INTRODUCTION

To date, education in Indonesia has encountered a variety of technical difficulties.[1] asserts that the Indonesian educational system appears to have a disconnect between aspiration and reality. The educational gap is caused by political, economic, sociocultural, and other elements that are constantly changing in response to the changes and developments of the times. Numerous elements that contribute to these issues affect the efficacy and efficiency of education. According to [2], ineffective teaching and learning in schools is a result of teachers' limited ability and the resources available to support their teaching and learning processes, as well as the lack of tools to assess teachers' and students' effectiveness in the teaching and learning process.

Teacher competency is critical because it is inextricably linked to the quality and efficacy of instruction. In this instance, teacher competence must be assessed and developed to improve the educational process. The UKG teacher competency test is a technique used to assess teacher proficiency. UKG is a test of mastery of professional and pedagogic abilities in the cognitive domain used to determine ongoing professional development activities and as part of teacher performance assessment, according to Minister of Education and Culture Regulation Number 57 of 2012.

In 2015, the Directorate General of Teachers and Educational Personnel held a national online UKG to which 34 provinces participated. UKG Maluku Province's results are alarming, as they are rated 33. Only 26,939 teachers out of 32,786 teachers in Maluku Province, as documented in the Education Quality database in 2015, participated in the UKG, earning an average score of 47.38. This value falls short of the Ministry of Education and Culture's minimal proficiency criterion of 55.00. In 2015, most instructors who took the UKG were elementary school (SD) teachers, totalling 14,037 individuals or 52.10 per cent with an average UKG score of 45.40.

Numerous variables contribute to the low UKG findings. According to [3], instructors in Indonesia lack pedagogic competency for various reasons, one of which is their educational background. According to [4], teachers' poor socioeconomic level affects their performance, especially their lack of competence. [5] identifies several factors that contribute to low teacher competence, including a lack of experience conducting classroom action research and writing articles, a lack of attendance at seminars or workshops, a lack of speaking opportunities at seminars, a lack of understanding of how teacher competency tests are implemented, and a lack of understanding of the test's purpose. Teacher competency as a prerequisite for advancement and teacher unpreparedness for the examination.

Meanwhile, [6] connects teachers' low competency and their grasp of information technology. According to [7], teachers' lack of competency results from their inability to design student-centred scientific learning. Teachers require pedagogical training.

[8] noted that technical and teacher issues plagued the introduction of UKG. The primary technological impediment is an inefficient internet system and a lack of computer literacy. It is consistent with [9]. Research findings that mastery of information technology is a component of pedagogic competence. Thus, [10] argue that a teacher must be proficient with information technology tools as part of his or her pedagogic competency. Meanwhile, the teacher encountered challenges due to the relatively uncommon practice of Classroom Action Research (CAR). If a teacher has mature experience with CAR research, such experience will naturally shape pedagogic competency, since [11] assert that experience affects teacher competence.

The generalization from the above account is that low teacher competency is influenced by various variables, one of which is motivation [12]. Achievement motivation has a favourable and considerable effect on Muaradua District primary school teachers [13]. Additionally, teacher competence is influenced by a teacher's grasp of information technology (IT) [6]. The impact of information technology, particularly the internet, on teacher competency can be measured by the following indicators: professionalism, higher education level, creativity, innovation, effectiveness in teaching, achievement, and ability to compete [14]. Achievement motivation and mastery of information technology are two elements believed to significantly impact elementary school teachers' low competency test scores in Maluku Province. Thus, this study aims to determine the effect of teacher success motivation and information technology competence on the results of primary teacher competency exams in Ambon City, Maluku Province.

2. LITERATURE REVIEW

2.1. Theories of Motivation

McClelland's Need for Achievement (N.Ach) theory is the applicable theory for explaining achievement motivation. According to this view, motivation fluctuates according to which an individual's need for achievement is strong in [15]. According to McClelland, high achievers share three general characteristics: (1) a preference for tasks of moderate difficulty; (2) a preference for situations in which their performance is the result of their efforts, rather than external factors, such as luck; and (3) a desire for feedback on their successes and failures, in comparison to low achievers.

According to [16], motivation is a collection of numerous elements that influence people's behaviour. [17] proposed the "Self-Worth Theory" in 1992. This idea indicates that one of the motivating factors for accomplishment is achieving self-esteem criteria. Achievements are motivated by self-esteem considerations [18]. As a result, each individual strives to increase his academic skills to achieve success. Success is a valued commodity, whereas incompetence results in failure, which generates feelings of worthlessness [19]. The fundamental idea is that "an individual's feeling of self-worth is heavily dependent on his achievements" [17]. Ability, effort, performance, and self-esteem are the four primary components of the Self-Worth Theory [17]. Additionally, Self-Worth Theory is bolstered by "*Self-determination theory is concerned with the nature and nurturing of those basic needs thought to support intrinsic task engagement, including a need for autonomy, a need for affiliation (relatedness), and a need for competency*" [19].

2.2. Motivation for Achievement

The term "motivation" derives from the Latin word "Movere," which translates as "to move" [20]. Motivation is a force within an individual that manifests itself through the formation of feelings and reactions to execute an action to accomplish a goal [8] [21]. This insight demonstrates the critical nature of motivation for everyone, as motivation dictates how much effort will be expended on tasks [22]. Achievement motivation is a desire to develop one's talents in all activities where standards of excellence are applied, and these activities can be carried out successfully or unsuccessfully [23]. [24] defines accomplishment

motivation as a person's proclivity to succeed or obtain a desired final objective, whereas [25] defines achievement motivation as something that exists and distinguishes a person's nature and is carried from birth. Evolved and grew as a result of interaction with the environment. Individuals' desire and incentive to do something well and succeed are based on their belief in their skills [20] and [26]. Thus, achievement motivation refers to a person's ambition and drive to perform at their best.

2.3. Advancement of information technology

The study of information technology applies electronic equipment, particularly computers, to the storage, analysis, and distribution of any data, including words, numbers, and images. According to [27], information technology combines computers and high-speed communication links that convey data, voice, and video.

The presence of information technology is critical and cannot be isolated from educational activities [28] since an information technology system within an educational institution can assist educational institutions in giving information to decision-makers [29]. In education, information technology can be thought of as a complex, integrated process that combines people, ideas, tools, and organizations to analyze problems, devise solutions, implement, assess, and manage problem-solving across all learning domains [30]. [31] highlights three critical points to consider while attempting to modernize education through information technology, namely how people learn, what they learn, and when and where they learn.

The objectives and role of information technology in education are as follows: to enhance competitive positioning; to enhance brand image; to enhance the quality of learning and teaching, to increase student satisfaction and income; to enhance service quality, to reduce operational costs; and to develop new products and services [32]. As a result, it is unsurprising that many educational institutions in Indonesia are actively competing to invest in information technology (IT) to compete in an increasingly competitive environment [28].

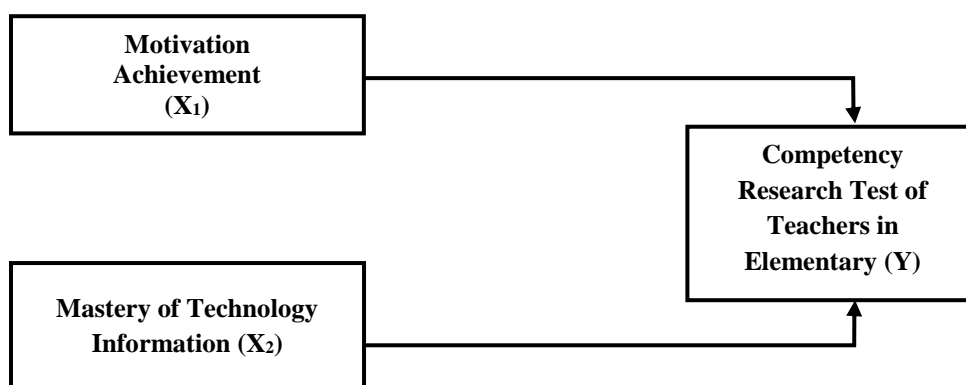
2.4. Teacher Competency Examination

The teacher competency test is a measure of mastery of professional and pedagogic competencies in the cognitive domain that is used in conjunction with performance and competency assessments of teachers or other educators to determine ongoing professional development activities and career development opportunities for teachers or other educators and educational institutions [33]. From a philosophical standpoint, teacher competency exams are conducted in Indonesia for a variety of reasons [34], including: (a) to ensure the community and pupils receive a quality education; and (b) to ensure the quality of education, teachers quality are required (c) students must avoid complete learning processes, (d) teachers must develop a culture of quality, and (e) teachers must be capable of carrying out assigned duties according to the established criteria. Meanwhile, from a theoretical, pedagogical perspective, successful coaching and growth of teacher professionalism require a foundation in teacher competence mapping.

Pedagogic competence refers to a teacher's ability to manage learning, which includes the following: (1) mastering students' physical, moral, spiritual, social, cultural, emotional, and intellectual characteristics; (2) mastering learning theory and educational learning principles; (3) developing curriculum related to the subjects taught; (4) organizing educational learning; (5) utilizing information technology; and (6) facilitating the development of students' potential to act [35].

2.5. Framework for Research

Numerous elements determine competence, one of which is motivation [12]. Teacher competence is determined by motivation for achievement. It is consistent with the Need for Success (N.Ach) theory, which states that a person is motivated to improve self-performance to fulfil a need for high achievement [15]. Achievement motivation has a favourable and considerable effect on elementary school teachers' pedagogical skills [13]. Additionally, [6] claims that teacher competency in information technology is influenced both directly and indirectly by the use of information technology equipment, teachers' perceptions of information technology, and teacher self-development. Indirect [10] discovered that learning information technology is the most critical part of teachers' competency development. It is consistent with [14]'s findings that information technology, particularly the internet, affects teacher competency. Thus, a research framework is developed to describe the effect of achievement motivation and information technology mastery on the Ambon City Elementary School teacher competency exam results, as illustrated in the accompanying chart.



2.6. The hypothesis of the Research

- Motivation for achievement substantially affects the SD Teacher Competency Test scores in Ambon City.
- Information technology proficiency has a considerable impact on the Ambon City Primary Teacher Competency Test results.
- Motivation for achievement and mastery of information technology substantially impacts the Ambon City Primary Teacher Competency Test results.

3. METHODS

This study examined 224 elementary school teachers in Ambon, Indonesia, who took the 2015 Teacher Competency Examination. The research is a quantitative descriptive study. Primary data collection was accomplished through a questionnaire, and secondary data collection was accomplished through the use of UKG result documentation for primary school instructors. Multiple regressions were used to evaluate hypotheses in SPSS version 24.

4. RESULT AND DISCUSSION

4.1. Research Findings

According to the comprehensive classical assumption test, the regression model utilized in this study does not exhibit the symptoms of Normality, Multicollinearity, Heteroscedasticity, or Autocorrelation. Additionally, hypothesis testing is used to determine if a hypothesis is accepted or rejected by examining the t-test, the F test, and the coefficient of determination (R^2) value.

Table 1. Test Result t

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
	(Constant)	-6.623	5.525		
Motivation Achievement (X1)	.367	.054	.457	6.826	.000
Mastery of Technology Information (X2)	.152	.054	.190	2.835	.005

Sources: Researcher Process 2022

The following table summarizes the t-test findings for the regression equation:

- The generated model is equal to $-6.623 + 0.367 X1 + 0.152 X2$.
- The constant of -6.623 indicates that if the accomplishment motivation (X1) and technological mastery (X2) variables are deemed to be non-existent or zero, the Teacher Competence (Y) variable is -6.623.
- The regression coefficient (X1) of 0.367 indicates that each point added to the teacher's competence due to the (+) sign of the achievement incentive variable increases by 0.367.
- The regression coefficient (X2) of 0.152 indicates that each point added to teacher competence due to the (+) sign of the information technology mastery variable increases teacher competence by 0.152 points.

Concluding the Hypothesis Testing Process, I

The following are the possible hypotheses for the research:

Ho: There is no influence of achievement motivation on UKG Elementary School Teachers in Ambon City.

Ha: Achievement motivation affects Ambon City's UKG Elementary School Teachers.

Conclusions can be reached based on the t-test findings (Table 1) using the following criteria:

- Accept Ho and reject Ha if the significant value is 0.05.
- If the significance level is 0.05, Ho is rejected, and Ha is accepted.

The hypothesis test revealed a significant value of 0.000 less than 0.05, rejecting Ho and accepting Ha, indicating that achievement motivation has a positive and substantial effect on the UKG of Elementary School Teachers in Ambon City.

Concluding the Hypothesis Testing Process II

The following are the possible hypotheses for the research:

Ho: Mastery of information technology has had little effect on Ambon City's UKG Elementary School Teachers.

Ha: Information technology proficiency affects the UKG of elementary school teachers in Ambon City.

Conclusions can be reached based on the t-test findings (Table 1) using the following criteria:

- Accept Ho and reject Ha if the significant value is 0.05.
- If the significance level is 0.05, Ho is rejected, and Ha is accepted.

The hypothesis test revealed a significant value of 0.005, less than 0.05, suggesting that mastery of information technology has a positive and substantial effect on the UKG of elementary school teachers in Ambon City.

Concluding the Hypothesis Testing Process III

Table 2. Test Result F

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>Regression</i>	8393.481	2	4196.740	58.360	.000 ^b
<i>Residual</i>	15892.359	221	71.911		
<i>Total</i>	24285.839	223			

Sources: Researcher Process 2022

The F test resulted in a calculated F value of 58,360 with a significance level of 0.000 less than 0.05, indicating that hypothesis Ha was accepted and hypothesis Ho was rejected. Both achievement motivation and mastery of information technology have a favourable and significant effect on the UKG of Ambon City elementary school teachers. The R Square value demonstrates the contribution of achievement motivation and mastery of information technology to the UKG for elementary school instructors (Table 3).

Table 3. Determinant Coefficient Test Results R2

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
<i>1</i>	.588 ^a	.346	.340	8.480

Sources: Researcher Process 2022

The coefficient of determination (R Square) is 0.346, which indicates that the independent variables achievement motivation (X1) and mastery of information technology (X2) can account for 34.6 per cent of the variance in the dependent variable teacher competence (Y). At the same time, the remaining 65.4 per cent is explained by other variables not included in this study.

4.2. Discussion

- a. The Effects of Achievement Motivation on the Teachers of UKG Elementary Schools in Ambon City.

Achievement motivation refers to how Ambon City Elementary School teachers are encouraged to achieve proficiency on competency examinations. The t-test results reveal that accomplishment motivation positively affects UKG, as evidenced by a value of 0.367. For every increase in teacher accomplishment motivation multiplied by one, teacher competence increases by 0.367. The effect is positive and significant because the significance value (0.000) is less than 0.05. In this example, primary school teachers in Ambon City have a high level of accomplishment, motivation, and competence. The bolsters the Desire for Success (N.Ach) theory, which states that a person is motivated to enhance self-performance to satisfy the need for high achievement in [15]. This study corroborates [13], who found that achievement motivation has a favourable and significant effect on primary school teachers' pedagogic ability.

- b. The Effect of Information Technology Mastery on the Competence of Ambon City Elementary School Teachers.

IT proficiency has become a job requirement and highly correlates with teacher competency in academic tasks. Teachers at elementary schools in Ambon City are being challenged to strengthen their abilities to operationalize work through information and communication technology tools. The more the teacher's understanding of information technology, the more supportive the instructor, will be in reaching his or her potential. The t-test suggested that the IT mastery variable positively affected the UKG variable in this study, as evidenced by a value of 0.152. If a teacher's ability to use technology rises by one, then the teacher's competency increases by 0.152. This effect is statistically significant because the significance level of 0.005 is less than the threshold of 0.05. In this scenario, the greater the teacher's proficiency with technology, the greater the competency. The most critical part for teachers is to advance their competency through technology [10]. It is corroborated by [14], who discovered that information and communication technology, specifically the internet, affected teacher competency.

- c. The Effects of Achievement Motivation and Information Technology Mastery on Teachers of UKG Elementary Schools in Ambon City.

Two critical elements in enhancing teacher competence are achievement motivation and mastery of information technology. Teachers who are eager to excel will undoubtedly strive to improve their competency while also adapting to the advancement of information technology. Mastery of information technology has become a requirement, as information technology is used in all aspects of academic activity. If teachers do not master information technology, they will face barriers to enhancing their competency on their own. The F test yielded 58,360 results in this investigation, with a significance level of 0.000 less than 0.05. In this situation, instructors with a high level of accomplishment drive and a strong command of information technology will boost teacher competency. Achievement motivation and mastery of information technology contribute 0.346 or 34.6 per cent to teacher competency. It is consistent with the findings of [3], [4], [5–7] that teacher competence is determined by the desire to excel and the capacity to apply technology.

5. CONCLUSIONS AND IMPLICATIONS

5.1. Conclusion

- a. The effect of achievement motivation on UKG Elementary School Teachers in Ambon City is excellent and significant. The greater the teacher's drive for success, the greater the teacher's competence.
- b. Information technology mastery has a good and significant effect on the UKG of Ambon City elementary school teachers. The greater the teacher's command of information technology, the greater the teacher's competence.
- c. Motivation for achievement and mastery of information technology have a good and significant effect on the UKG of Ambon City Elementary School Teachers. The greater the teacher's passion for achievement and capacity to master information technology, the greater the teacher's competence.

5.2. Implications

This finding has theoretical consequences, significantly reinforcing the achievement motivation and teacher competency theories. Meanwhile, the practical implications include implementing policies that promote a high-quality culture and the effective use of information and communication technologies.

5.3. Recommendations

This research recommends the following:

- a. Education Units, particularly Elementary Schools (SD), to enhance the quality culture and teacher competency and enhance teaching skills.
- b. Teachers should continue to strengthen their pedagogical and professional skills by using emerging information technologies.
- c. The Ambon City Education Office is responsible for developing strategic policies to enhance educational quality and the development of teacher human resources.
- d. Maluku Province's Education Quality Assurance Institute (LPMP) develops teachers' abilities, knowledge, and competence through seminars, training, technical guidance, and workshops.

6. REFERENCES

- [1] Aeni, A N, N Hanifah, and C Sunaengsih (2019). The impact of the internet technology on teacher competence and student morality. *Journal of Physics: Conf. Series* 1318 (2019), hal. 1-5.
- [2] Amir, Nyak dan Saifuddin (2017). Developing a measurement tool of the effectiveness of the physical education teachers' teaching and learning process. *Journal of Physical Education and Sport (JPES)*, Vol 17 Supplement issue 1, Art 20, 2017, pp. 127-134.

- [3] E.W. Matrtin et al. 1994. *Managing Information Technology: What Managers Need to Know*. New York: Prentice Hall.
- [4] Bakri, Fauzi dan Sabar Budi Raharjo (2015). Analisis Hasil Uji Kompetensi Guru Fisika. *Jurnal Penelitian & Pengembangan Pendidikan Fisika*. Volume 1 Nomor 1, Juni 2015, hal. 91-96.
- [5] Buhler, P (2004). *Alpha Teach Yourself Management Skills*. Edisi Pertama (Diterjemahkan oleh Sugeng Haryanto, SukonoMukidi, dan M. Rudy Atmoko.Prenada. Jakarta.
- [6] Covington, MV. (1992). *Making the Grade: A Self-Worth Perspective on Motivation and School Reform*. New York: Cambridge Univ. Press.
- [7] Duchesne, S., & McMaugh A. (2016). *Educational psychology for learning and teaching* (5th ed.). Sydney, Australia: Cengage Learning Australia.
- [8] Eccles, J.S.; Wigfield, A. (2002). Motivational Beliefs, Values, and Goals. *Annual Review of Psychology*. 53 (1): 109–132.
- [9] Heckhausen, H. (1967). *The anatomy of achievement motivation*. New York: Academic Press.
- [10] Khvilon, Evgueni dan M. Patru (2002). *Information And Communication Technologies In Teacher Education*. Division of Higher Education UNESCO.
- [11] Munirah (2015). Sistem Pendidikan Di Indonesia: Antara Keinginan Dan Realita. *Auladuna*, Vol. 2 No. 2, 2015, hal 244.
- [12] Nadeem, Mohammad, M. S. Rana, A. H. Lone, S. Maqbool, K. Naz, A. Ali. (2011). Teacher's Competencies and Factors Affecting the Performance of Female Teachers in Bahawalpur (Southern Punjab) Pakistan. *International Journal of Business and Social Science*. Vol. 2 No. 19 [Special Issue - October 2011]., hal.217-222.
- [13] Paidi, Subali, B., & Handoyo, L. (2021). The mastery of technological, pedagogical, and content knowledge among Indonesian biology teachers. *European Journal of Educational Research*, 10(3), 1063-1073. <https://doi.org/10.12973/eujer.10.3.1063>
- [14] Robbins, Stephen P. and M. Coulter (2002). *Management* (seven edition) (Prentice Hall, Upper Saddle River, New Jersey.
- [15] Rubayhan, Juwita, dan Sowiyah (2018). Reaction Teacher Achievement Motivation Onteacher Pedagogic Competence Atprimary Schools In. *Journal of Research & Method in Education (IOSR-JRME)*. Volume 8, Issue 5 Ver. I. (Sep. – Oct. 2018), PP 35-39.
- [16] Sardiman, A.M (2007). *Interaksi dan Motivasi Belajar Mengajar*. Jakarta: PT.Raja Grafindo Persada.
- [17] Sarwono, S. Wirawan (1997). *Psikologi Sosial*. Jakarta: PT. BalaiPustaka.
- [18] Silyvier, Tsindoli dan C. Nyandusi (2015). Factors Influencing Teachers' Competence in Developing Resilience in Vulnerable Children in Primary Schools in Uasin Gishu County, Kenya. *Journal of Education and Practice*, Vol.6, No.15, 2015.
- [19] Suyidno dan Moh. Yamin (2013). Analisis Kelemahan Uji Kompetensi Guru (UKG) SMPN di Kota Banjarmasin (Bahasa Inggris). *Jurnal kebijakan pembangunan*. Vol.8, no.2, hal.217-208.
- [20] Tambunan, Hamonangan (2014). Factors Affecting Teachers' Competence in the Field of Information Technology. *International Education Studies*; Vol. 7, No. 12; 2014., hal.70-75.
- [21] Wigfield, Allan and J.S. Eccles (eds) (2002). *Development of Achievement Motivation*. Academic Press, San Diego, California.
- [22] Zwell, Michael (2000). *Creating a Culture of Competence*. New York: John Wiley & Sons, Inc.