JPAI

CORRELATION BETWEEN PERCEPTIONS OF SCHOOL SUPPORT AND MASTERY OF INFORMATION TECHNOLOGY TO TEACHERS' SELF-EFFICACY

Serriawati, M.[1]✉ Azwar, S.[2]✉

[1,2]Program of Master of Psychology, Faculty of Psychology Universitas Gadjah Mada, Yogyakarta, Indonesia
✉kirei.suna@gmail.com[1]; sfazwar@ugm.ac.id[2]

A B S T R A C T

Curriculum 2013 requires teachers to master information technology in order to teach in a better way. In fact, many elementary school teachers have not been able to use computers. Lack of school support and information technology skills may be associated with low self-efficacy. The purpose of this study is to determine wether teachers' self-efficacy can be predicted by school support and mastery of information technology. Subjects of this research were 225 teachers from 19 elementary schools in Daerah Istimewa Yogyakarta province, which have become the pilot project of Curriculum 2013. Instruments used in this study were Self-Efficacy Scale, School Support Scale, and Information Technology Test. The data were analyzed using multiple linear regression analysis. The result of this study found that school support and mastery of information mastery simultaneously positively correlated to teachers' self-efficacy with a correlation value of 139,616 significance level p<0,01. The effective contribution of school support and mastery of information mastery together positively correlated to teachers' self-efficacy is 55,7%.

1. Introduction

Teacher is the second most important person after parents in terms of educating children. Suparlan (2008) states that teachers are interpreted as people whose tasks are related to efforts to educate the nation's life in all aspects from both spiritual and emotional, intellectual, physical, and others. Furthermore, there are three main components in the national education system, namely teachers, students, and curriculum. These three components of education are *conditio sine quanon* or the absolute requirements of the education process in school. Through mediators called teachers, students can get a menu of teaching material that is processed from the national curriculum and local content curriculum.

Community and government expectations of teachers are even greater when faced with the curriculum changes. Curriculum is a set of plans and arrangements about competencies that are standardized, and how they are achieved according to the circumstances. The curriculum is a guide for educators, parents, teachers, and other adults to be used in the context of stimulating child development (Ministry of National Education [Depdiknas], 2005). In the world of education, the curriculum becomes central because it directs learning and the objectives to be achieved in that learning. Hilda Taba in Nasution (2003) states that the curriculum is a way to prepare children to participate actively in their community. Each curriculum always has certain components such as statements about goals and objectives, selection and organization of materials and content of lessons, learning forms and teaching activities, and the evaluation of learning outcomes.

Time by time, curriculum changes cannot be avoided to achieve the development of education in this era. As mandated by the National Education System Law, that national education is an education based on the Pancasila and 1945 Constitution of the Republic of Indonesia which is rooted in religious values, Indonesian national culture and responsive to the demands of time changes (Ministry of National

Education, 2005). To fulfill this latest requirement, the government, in this case, the Ministry of Education and Culture, is trying to make a curriculum that is compatible with the educational needs of the 21st century.

The application of the new curriculum certainly requires cautious preparation, especially in preparing teachers, principals, the facilities and infrastructure needed. Every change in curriculum always creates shocks that can't be avoided. The curriculum 2013 demands student-centered learning, so the teacher is not the only source of knowledge in the classroom anymore. In the learning of curriculum 2006, the teacher explains, while students listen and memorize the lessons more. The learning method of curriculum 2013 is no longer dominated by teachers who talk in class and students just listen, but students are invited to develop material and find solutions to problems. The teacher becomes a facilitator who leads students to be more active in learning, conducting experiments, finding ideas and solutions to problems. This very basic change in teaching methods makes the teachers not ready to implement the curriculum 2013, and most observers in the education world think that the curriculum 2013 was not ready to be applied nationally.

All the problems accompanying this curriculum change can cause uncertainty for teachers. People who feel uncertain and anxious will affect their efficacy (Feist & Feist, 2008). According to the study by Arsanti (2009), there is a positive relationship between self-efficacy and performance. Teachers who have low self-efficacy will be affected by their performance, and then it can produce poor quality of learning. One way to improve self-efficacy is to provide social support. Social support can be obtained by teachers from their school environment. Support from the school principal and fellow teachers will increase teacher commitment (Singh & Billingsley, 1998). Teachers who receive support from superiors also experience less stress and burn out than those who have little or no support (Fimian, 1986). Teachers who feel themselves are supported by superiors and parents also feel that their self-efficacy is higher (Coladarci & Breton, 1997; Stipek, 2012).

Another thing that makes teachers difficult to directly implement the curriculum 2013 is the simplicity of textbooks. Teachers who previously only had to read texts provided by the government, now they must independently provide learning materials so that lessons are more interesting and not monotonous. The use of technology of information has become one of the requirements to be able to teach using this curriculum 2013. Scientific-based curriculum and simple textbooks provided by the government requires teachers to explore more information from outside, including the internet. This requirement is a heavy requirement for teachers, especially elementary school teachers because many teachers have not mastered the use of computers. Conversely, many students nowadays are more skilled in using technology because of the ease and cheapness of that technology. There is a big gap between teachers who still use the old ways of teaching and do not master the technology of information with students who were more advanced and accustomed to sophisticated gadgets. In order not to be left behind by the students, at least the teacher has to understand the basic use of computers and the internet.

The introduction of web-based technology of information has become a trend in education to get professional knowledge online. The internet not only helps teachers in teaching but also plays an important role in learning and developing professionalism. They have been encouraged to take part in web-based professional development to meet the demands of their future teaching (Vekiri & Chronaki, 2008). The main problem now is the ability of teachers to use computers and the internet that has not been evenly distributed.

There has not been much research on the technology of information literacy for elementary school teachers. However, Sumintono, Wibowo, Mislan, and Tiawa (2012) found that 22% of junior high school science teachers in various provinces in Indonesia had used the technology of information in classroom learning, while 46% have never used it in learning. In a study conducted by Demiralay and Karadeniz (2010) of final year university students in several universities in Turkey found that prospective elementary school teachers have the skills in mastering the technology of information with a Mean of 5.6 as measured by ILSES where scores of 5-7 are in the high category, 3 -4.99 medium category and 0-2.99 low category.

There are many challenges and obstacles faced by teachers in carrying out their profession along with the times and the increasing demands of the curriculum. These obstacles frequently affect teacher performance in teaching. Lack of ability and experience will affect the confidence of the teacher in the classroom. Even though they have been trained, but follow-up coaching provides support for mastery experiences that have the strongest effect on self-efficacy (Tschannen-Moran & McMaster, 2009). In this case, the teacher is not alone facing various difficulties in his duties at school. The role of the principal is quite important in improving teacher achievement and performance, even in providing comfort in teaching. Also, schools can help teachers regain their self-efficacy by helping them reflect on class expectations and practice, make adjustments, and record student progress. Helping teachers to become

reflective teachers is more an art than a science. The principal must be strong, patient, and consistent in guiding teachers through the reflective cycle (Awkard, 2017).

Based on the past research and concept, the purpose of this study was to examine the correlation between teachers' perceptions of support received from schools and the ability of teachers to use the technology of information with the teacher's self-efficacy in teaching using the curriculum 2013.

2. Methods

This research was conducted quantitatively with the dependent variable namely teacher's self-efficacy in teaching using the curriculum 2013. Self-efficacy was defined as the teacher's belief in their ability to teach using the curriculum 2013. The teacher's self-efficiency scale was compiled by researchers based on Bandura's Efficacy Theory (1997) consisting of 22 item items on the Likert Scale.

There are two independent variables in this study, namely the teacher's perception of school support and Information Technology Mastery. Teacher's perception of school support is the way teachers interpret the availability of assistance received from the environment of their teaching places, which can improve the teacher's self-efficacy in carrying out teaching tasks with the curriculum 2013. High or low perceptions about school support can be seen from the measurement results of the scale of school support. The School Support Scale is based on aspects proposed by Sarafino and Smith (2011) consisting of 24 item items on the Likert Scale. Mastery of information technology is the understanding or ability to use technology that helps people create, change, store, communicate and / or disseminate information. In this research, information technology used is the technology used to support the teaching tasks of teachers, which includes mastery of the use of the internet and mastery of using MS Word, MS Excel, and MS PowerPoint especially as one of the learning media and developing teaching materials and making assessments. High and low mastery of information technology can be seen from the results of measurements of mastery of information technology. The test used in this study is a test that has been used in Computer Literacy Training for Educational Personnel held by the Institute of Quality Assurance for Education D.I. Yogyakarta in several generations. This problem was chosen because it covers some of the basic competencies that teachers need to have in teaching. This test measures the teacher's mastery of operating the basics of Microsoft office. Consists of two kinds of tests such as a test about theory in the form of 20 multiple choice questions and 4 measurement questions about the practice on computer use. Before conducting the study, the school that was chosen as a respondent has been asked carefully and thoroughly, and it was ascertained that this school uses MS Office as a program commonly used in carrying out daily tasks.

The study was conducted on 225 teachers from 19 elementary schools in the Special Region of Yogyakarta who have been implementing the curriculum 2013 for four years since it was implemented in 2013. Analysis of the research data was carried out by using multiple linear regression analysis using the SPSS 17 Program.

3. Findings and Discussion

This research was conducted on 225 teacher respondents from 19 elementary schools in Yogyakarta consisting of 58 (25.8%) male teachers and 167 (74.2%) female teachers. The description of the data obtained from the study can be seen in Table 1.

Table 1.
Statistical Description of Data

Variable	Hypotetic Data				Empirical Data				
	Min	Max	Mean	SD	Min	Max	Mean	SD	Reliability
EDG	22	110	66,00	14,667	53	109	86,658	11,246	0,912
DS	24	120	72,00	16,000	56	118	99,938	11,575	0,917
PTI	0	50	25,00	8,330	15	45,5	27,907	6,543	0,688

From Table 1, it can be seen that from 225 respondents studied, the average value obtained for the teacher's self-efficacy variable in teaching using the 2013 curriculum amounted to 86.66578 with SD 11.2458; the average school support variable is 99.9378 with an SD of 11.5749, and the Information Technology Mastery variable has a Mean value of 27.9067 and an SD of 6.54345. The comparison of empirical data and hypothetical data shows the tendency of research subjects on each research variable. From the elementary school, it is known that the Empirical <SD Hypotettic Elementary School, so it can be concluded that the data in this study are homogeneous.

The results of the analysis obtained from this study indicated that school support and mastery of information technology can play a role in teacher's self-efficacy in teaching using the Curriculum 2013. This can be known through the F value of 139.616 with p≤0.01, so the hypothesis in this research was proven and accepted. This study also produced an effective contribution of the variables of school support and mastery of information technology on teacher self-efficacy together by 55.7%. The results obtained were in line with research conducted by Stipek (2012) and Coladarci and Breton (1997) who found that teachers who received support from superiors and parents also felt that their self-efficacy was higher. A research conducted by Chiou and Wan (2007) showed that the experience of using a computer is positively related to self-efficacy. This means that the more often teachers use computers in carrying out their teaching assignments, they will increase their own mastery experience, and in the end, it will increase their self-efficacy.

In this study, it was found that the value of the effective contribution of school support to the teacher's self-efficacy in teaching using the Curriculum 2013 was higher than the effective contribution of mastering information technology. Bandura (1997) stated that teachers make assessments of their self-efficacy, one of them is based on the verbal reinforcement (verbal persuasive) of important people, such as colleagues, supervisors, and administrators. This means that the support obtained from the school environment, one component of which is the verbal reinforcement of important people for teachers, has an important role in increasing teacher self-efficacy. This result was in line with research conducted by Skaalvik and Skaalvik (2010) who found that teacher efficacy is influenced by resources and support from schools.

Social support gained by the teacher from the environment can be in the form of support from the principal and co-workers because the principal and coworkers are significant persons for a teacher. Newman, Rutter, and Smith (1989) found that two organizational climate factors that are important for improving self-efficacy are administrative support and collaboration among colleagues. With the high support from the school, teachers will feel comfortable at work, able to innovate in learning, work hard, improve achievement and as the experience increases, their self-efficacy will increase. Even though they have to face heavy tasks and even students with bad behavior, if the teacher gets high social support, the teacher will have high self-efficacy (Kruger, 1997).

Mastery of information technology enables teachers to innovate in learning. The curriculum 2013 forces a teacher to have basic skills of computer use, such as MS Word (to make learning materials and class administration), MS Excel (for assessment), MS Powerpoint (to make learning more interesting), and the internet to get learning material, not in the teacher's handbook. The introduction of web-based information technology has become a trend in education to get professional knowledge online. The internet not only helps teachers in teaching but also plays an important role in learning and developing professionalism (Vekiri & Chronaki, 2008). Teachers with high self-efficacy are associated with the quality of instruction and the use of innovative teaching methods. Also, teachers who have high self-efficacy are associated with using instructional strategies that are more effective, more efficient in managing the class, more powerful in trying to organize, plan and deliver lessons (Tschannen-Moran & Woolfolk-Hoy, 2001). Teachers who use ICT more and feel more competent in ICT use more different media in the classroom (Goeman, Elen, Pynoo, & van Braak 2015). Limitations in the ability to use information technology affect the way teachers lead the lessons (Alharbi, 2012). Teachers who master information technology will be more confident because they can improve knowledge, innovate, create interesting learning models, and develop learning materials. With the improvement of the quality of learning, students will be happy, so the teacher will also feel comfortable, receive good feedback from students and their parents. Therefore, it will improve the efficacy of themselves in teaching.

One of the results of this study was the distribution of categories of respondents in this study. In the variables of self-efficacy and school support, most respondents were in the high category with the number of respondents 169 (75.1%) and 192 respondents (85.3%), while the mastery of information technology was mostly in the medium category, as many as 174 respondents (77.30%). So, even though most of the respondents had moderate information technology capabilities, the highest number of respondents had a high category of self-efficacy. This indicated that there were other causes or other predictors that could affect the teacher's self-efficacy in teaching using the Curriculum 2013. The other predictors were most likely the teaching experience and training that teachers have received, as revealed by Prieto and Altmaier (1994). Teachers who have enough experience and have the knowledge needed by the demands of their profession will have greater self-efficacy than teachers who do not have experience. Likewise, the role of training received by the teacher will affect his self-efficacy. The duration of the training is also quite helpful in increasing the teacher's self-efficacy. Teachers who received training for two years scored higher than teachers with less training (Shechtman, Levy, & Leichtentritt, 2005). Teachers who were respondents in this study had the experience of teaching using the curriculum 2013

for two years (grades 3 and 6), three years (grades 2 and 5) and four years (grades 1 and 4). Teachers who have enough knowledge of information technology may have gotten more training and assistance on the curriculum 2013 and have a longer teaching experience than other teachers, so they feel more confident in teaching using the curriculum 2013.

The other result obtained from the study was self-efficacy predicted by other variables besides school support and mastery of information technology by 44.3%. Many other factors can play a role here. Raudenbush, Rowan, and Cheong (1992) found that teachers would increase their efficacy when teaching in good schools and smart students. Schools that are piloting the curriculum 2013 are the selected by Ministry of Education and Culture with several criteria including, having accreditation A, or a former of International Standard School Pilot, the location of the school is not far from the highway and has a variety of adequate facilities. Schools with such criteria will usually be able to attract good students as well. Teachers who have good students will easily manage the learning situation, feel comfortable, and students can get good results. The teachers will feel successful in teaching, which makes the teachers have mastery experience in teaching so that they can also increase their efficacy.

Self-efficacy can be predicted from the mastery experience they get during teaching. Teachers with a lot of experiences in teaching anything must have experienced a lot of positive and negative things. A positive experience will increase their self-efficacy (Bruinsma & Jansen, 2010) while a negative experience will decrease their self-efficacy, but it is in line with other experiences they encountered and the support from school that they get will be able to increase their self-efficacy again. This was in line with research proposed by Soodak and Podell (1997) who found that teachers with more than 15 years of teaching experience had higher efficacy in classroom management and learning practices. The self-efficacy found in this study may be related to the respondent's teaching experience.

Teachers who are more senior and experienced in teaching especially using curriculum 2013 and the previous curricula would have a better mastery of the material. Moreover, by the existence of curriculum training, it will make teachers have the provision to teach that will make them more confident. The government provides curriculum training for all teachers who will implement the curriculum 2013 and mentoring for some time to provide encouragement to teachers in teaching. This is in line with the research of Roberts, Henson, Tharp, and Moreno (2000) who stated that teachers who initially had low self-efficacy would have higher efficacy after receiving training. Research by Aõalsteinsson, Frímannsdóttir, and Konráõsson (2014) also found that teacher training would affect self-efficacy. The continuous mentoring model by the authorities in education will be very beneficial for teachers who are teaching using this curriculum 2013.

This study found several limitations throughout the observation of the study. The first limitation was the problem of measuring the School Support which still had an item with different power below 0.3 which was forced to be used to maintain the composition of the research scale. Another limitation happened when collecting data, the respondents were not conditioned in a special room so that it was still possible for respondents to see the answers from other respondents, especially in the acquisition of information technology mastery data.

4. Conclusion

From the results and discussion of this study, it can be concluded that there is a positive correlation between the support of schools received by teachers and teachers' mastery of information technology together with the teachers' self-efficacy in teaching using the Curriculum 2013. The higher the school support and the ability to use information technology, the higher teachers' self-efficacy in teaching using the curriculum 2013 will be.

It was found that school support and mastery of information technology can predict the self-efficacy of teachers in teaching using the Curriculum 2013. It is suggested for the school, especially the principal, to maintain the social support that has been provided to the teacher by providing emotional support, advice, advice, financial support, as well as tools and facilities needed in learning. Besides, schools are expected to be able to facilitate or coordinate training or mentoring information technology mastery for teachers. Elementary school teachers should be actively independent or in groups of teacher working groups to organize information technology training so that they are no longer dependent on their fellow teachers or school staff in carrying out teaching assignments.

References

Alharbi, G. (2012). Primary school teachers' perceptions regarding ict usage and equipment in kuwait. *Journal of International Education Research*, *8*(1).

Aõalsteinsson, R.I., Frímannsdóttir, I.B., & Konráõsson, S. (2014). Teachers' self-esteem and self-efficacy. *Scandinavian Journal of Educational Research, 58*(5), pp. 540-550.

Arsanti, T.A. (2009). Hubungan antara penetapan tujuan, *self-efficacy* dengan kinerja. *Jurnal Bisnis dan Ekonomi*, *16*(2), pp. 97 – 110.

Awkard, T., 2017. The power of reflective action to build teacher efficacy. *Kappanmagazine.org, 98*(6).

Bandura, A. (1997). *Self-efficacy:The exercise of control*. New York: W.H. Freeman and Company.

Bruinsma, M., & Jansen,E.P.W.A., (2010). Is the motivation to become a teacher related to pre-service teachers' intentions to remain in the profession?. *European Journal of Teacher Education, 33*(2), pp. 185-200.

Chiou, W.B., & Wan, C.S. (2007). The dinamic change of self efficacy in information searching on the internet: influence of valence of experience of prior self-efficacy. *The Journal of Psychology*, *141*(6), pp. 589-603.

Coladarci, T., & Breton, W.A. (1997). Teacher efficacy, supervision, and the special education resource-room teacher. *The Journal of Educational Research*, *90*(4), pp. 230-239.

Departemen Pendidikan Nasional (Depdiknas). (2005). *Kurikulum 2004*. Jakarta: Departemen Pendidikan Nasional.

Demiralay, R., & Karadeniz, S. (2010). The effect of use of information and communication technologies on elementary student teachers' perceived informastion literacy self-efficacy. *Educational Sciences*: *Theory & Practice, 10*(2).

Feist, J. & Feist, G.J. (2008). *Theories of personality*. Jakarta: Pustaka Pelajar

Fimian, M.J., (1986). Social support and occupational stress in special education. *Exceptional Children*, *52*, pp. 436 – 442.

Goeman, K., Elen, J., Pynoo, B., & van Braak, J. (2015). Time for action! ICT integration in formal education: Key finding from a region-wide follow-up monitor. *Technology Trends*, *59*(5).

Kruger, L.J. (1997). Social support and self efficacy in problem solving among teacher assistance teams and school staff. *The Journal of Educational Research, 90*(3), pp. 164-168.

Newman, F.M. Rutter, R.A., & Smith, M.S. (1989). Organisational factors that affect school sense of of efficacy, community, and and expextation. *Sociology of Education, 62*, pp. 221-238.

Nasution, S. (2003). *Asas-asas kurikulum*. Jakarta: Bumi Aksara.

Prieto, L.R. & Altmaier, E.M. (1994). The relationship of prior training and previous teaching experience to self efficacy among graduate teaching assistants. *Research in Higher Education,* 35(4), pp. 481-497.

Raudenbush, S.W., Rowan, B., Cheong, Y.F. (1992). Contextual effects on the self percieved efficacy of high school teachers. *Sociology of Education*, *65*(2), pp. 150-167.

Roberts, J.K., Henson, R.K., Tharp, B.Z., & Moreno, N. (2000). *An examination of change in teacher self-efficacy beliefs in science education based on the duration of inservice activities*. Paper presented at a conference held by Southwest Educational Research Association, Dallas, Texas.

Sarafino, E.P., & Smith, T.W. (2011). *Health psychology: Biopsychosocial interactions*. New York: John Wiley and Sons.

Shechtman,Z., Levy, M., &Leichtentritt, J. (2005) Impact of life-skill training on teacher's percieved environment and self efficacy. *The Journal of Educational Research, 98*(3), pp. 144-154

Singh, K., & Billingsley, B.S. (1998). Proffesional support and its effects on teacher' commitment. *The Journal of Education Research*, *91*(4), pp. 229 – 239.

Skaalvik, E.M., & Skaalvik, S. (2010). Teacher self efficacy and teacher burn out: A study of relation.*Teacher and Teaching Education*, *6*, pp. 1059-1069.

Soodak, L.C., dan Podell, D.M. (1997). Efficacy and experience: Percepton of efficacy among preservice and practicing teacher, *Journal of Research and Development in Education, 30*(4), pp. 214-221

Stipek, D. (2012). Effect of student characteristics and percieved administrative and parental support on teacher self efficacy. *The Elementary School Journal*, *112*(4).

Sumintono, B., Wibowo, S.A., Mislan, N., & Tiawa, D. (2012). Penggunaan teknologi informasi dan komunikasi dalam pengajaran: Survey pada guru-guru sains SMP di Indonesia. *Jurnal Pengajaran MIPA*, *17*(1).

Suparlan. (2008). *Menjadi Guru Efektif*. Yogyakarta: Hikayat Publishing.

Tschannen-Moran, M. & Woolfolk-Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, *17*, pp. 783-805

Tschannen-Moran, M., & McMaster, P. (2009). Sources of self efficacy: Four professional development formats and their relationship to self-efficacy and implementationof a new teaching strategy, *The Elementary School Journal*, *110*(2).

Vekiri, I, & Chronaki, A. (2008). Gender Issues in technology use: percieved social support, computer self-efficacy and value beliefs, and computer use beyond school. *Computer & Education, 51*(3), pp. 1392-1404.