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Self-Efficacy Model for Elementary School Students: Case in Indonesia

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Abstract

This study aim is to propose a model to develop student self-efficacy at elementary schools in in East Jakarta in Indonesia. This model provided that student self-efficacy can be improved by level, strength, and generality. Data were collected from 204 students at Grade V from Jati 01, 05, 06, and 07 public elementary schools in East Jakarta in Indonesia. Analysis data in this study used the Structural Equation Modeling (SEM). The study result found that level, strength, and generality are predictors of self-efficacy. Other finding also confirmed that students being able to finish the most difficult exam, students being able to cope with obstacles, students determining achievement target, students having motivation to do assignments, and students learning suitable with capabilities estimate level. Another finding suggested that students having stability to concentrate, students being resilient in doing task, students surviving to face obstacles, and students using all of their competences in finishing assignments influence strength. However, student rising up from a failure as a predictor of strength was not supported in this study. Students conducting variety of tasks, students finishing learning problems, students having commitments, student belief of their skills to achieve their goal, and student trust of their potencies belonged encourage generality.

Keywords: self-efficacy, level, strength, generality

Modelo De Autoeficacia Para Estudiantes De Primaria: Caso En Indonesia

Resumen
El objetivo de este estudio es proponer un modelo para desarrollar la autoeficacia de los estudiantes en las escuelas primarias del este de Yakarta en Indonesia. Este modelo proporcionó que la autoeficacia de los estudiantes puede mejorarse por nivel, fuerza y generalidad. Los datos fueron recolectados de 204 estudiantes de Grado V de las escuelas primarias públicas Jati 01, 05, 06 y 07 en el este de Yakarta en Indonesia. Los datos de análisis en este estudio utilizaron el Modelado de ecuaciones estructurales (SEM). El resultado del estudio encontró que el nivel, la fuerza y la generalidad son predictores de autoeficacia. Otro hallazgo también confirmó que los estudiantes pueden terminar el examen más difícil, los estudiantes pueden hacer frente a los obstáculos, los estudiantes determinan el objetivo de rendimiento, los estudiantes que tienen motivación para realizar tareas y los estudiantes que aprenden con un nivel de estimación de capacidades adecuado. Otro hallazgo sugirió que los estudiantes que tienen estabilidad para concentrarse, los estudiantes son resistentes en la tarea, los estudiantes que sobreviven para enfrentar obstáculos y los estudiantes que usan todas sus competencias para terminar las tareas influyen en la fuerza. Sin embargo, el estudiante que se levanta de un fracaso como predictor de fuerza no fue apoyado en este estudio. Los estudiantes que realizan una variedad de tareas, los estudiantes que terminan los problemas de aprendizaje, los estudiantes que tienen compromisos, los estudiantes creen en sus habilidades para lograr su objetivo, y la confianza de los estudiantes en sus potencias pertenecientes fomenta la generalidad.

Palabras clave: autoeficacia, nivel, fuerza, generalidad.

Introduction

Mulyadi, Basuki, & Rahardjo (2016) stated that dimensions of student self-efficacy are level, strength, and generality which determine student concentration during class and preparation for exams. Jakesova, Gavora, Kalenda, & Vavrova (2016); Ozan, Gundogdu, Bay, & Celkan (2012); & Wongtienlai, Yaemsuda, Kampak, & Mornthawee (2015) found that student self-efficacy affected learning achievement and competences to study efficiently. Kvedere (2014); Rahmati (2015); Khatib & Maarof (2015); and Dolzan, Sartori, Charkhabi, and Fransesco De Paola (2015) present-

ed that individual self-efficacy influenced capability to be adaptable. Ait, Rannikmae, Soobard, Reiska, & Holbrook (2015); Zhang, Zhang, Zhang, Liu, Zhang, Wang, & Liu (2015); and Kostagiolas Lavranos, & Korfiatis (2019) suggested the self-efficacy can improve motivation and behavior. However, it still needs more detail measurement about student self-efficacy together with its dimensions.

The data provided by the Indonesian Ministry of Education and Culture on 10 May 2018 show that 148,856 elementary schools, 1,480,710 teachers, 25,395,436 students, 117,314 educational staff, and 1,114,408 learning groups exist in Indonesia. This data present that 1,537 state and 914 private elementary schools, 10,747 male and 27,903 female teachers, 420,539 male and 392,327 female students, 2,130 male and 1,536 female educational staff, and 29,116 learning groups exist in Jakarta. Another information from this source provides that 176 state and 197 private elementary schools exist in the north Jakarta region, 352 state and 179 private elementary schools in the south Jakarta region, 445 state and 197 private elementary schools in the east Jakarta region, 360 state and 241 private elementary schools in the west Jakarta region, and 190 state and 100 private elementary schools in the central Jakarta region.

Based on Indonesian Minister of Education and Culture Regulation Number 20 in 2016, one of the competences in affective dimensions of elementary school graduates is having attitude of self-efficacy. In fact, student efficacy has not been shown maximally at elementary schools in Jakarta. This study was conducted for 204 students at Grade V from Jati 01, 05, 06, and 07 public elementary schools in East Jakarta in Indonesia.

Literature review

Individuals' self-efficacy played a very important role in how goals, tasks, and challenges are approached (Hmoudova, 2015 and Muller, & Seufert, 2018; Capri, Ozkendir, Ozkurt, & Karakus, 2012; Alishah & Dolmaci, 2013; Kiamarsi & Abolghasemi, 2014). This study found that the one's believed about his own capability in organizing and realizing his performance and behaviors to realize a performance related to self-efficacy. This study also presented that self-efficacy led to optimism and diminished passivity by motivating person to solve the problems. Mulyadi, Basuki, & Rahardjo (2016) found that magnitude, generality, and strength are self-efficacy elements developed from Bandura's basic theory of self-efficacy. This study stated that low self-efficacy caused distractions in paying at-

tention during class and failing to prepare for exams. Jakesova, Gavora, Kalenda, & Vavrova (2016); Ozan, Gundogdu, Bay, & Celkan (2012); & Wongtienlai, Yaemsuda, Kampak, & Mornthawee (2015) presented that self-efficacy affected the level of goal challenge set, the effort used, and the persistence to face problems. This research found that self-efficacy influenced accomplishments of performance and student ability to study efficiently. Self-efficacy is an important psychological factor for individuals to make up their minds whether they should put their effort. Kvedere (2014); Rahmati (2015); Khatib & Maarof (2015); and Dolzan, Sartori, Charkhabi, and Fransesco De Paola (2015) stated that feeling confident to solve the problems was one of measurements of self-efficacy. This study found that individuals without having self-efficacy became easily burnout and less adaptable. Self-efficacy prevented individuals to display risky behaviours. Ait, Rannikmae, Soobard, Reiska, & Holbrook (2015); Zhang, Zhang, Zhang, Liu, Zhang, Wang, & Liu (2015); and Kostagiolas Lavranos, & Korfiatis (2019) stated that self-efficacy belief affected one's motivation and behavior as a predictor of one's performance. However, there is less detail explanation about the measurement of self-efficacy.

Theoretical framework

This study proposes the model of student self-efficacy. Level, strength, and generality are predictive variable for self-efficacy (Mulyadi, Basuki, & Rahardjo, 2016). The hypothesized relationship is explained in the model, which can be shown in figure 1.

Research design

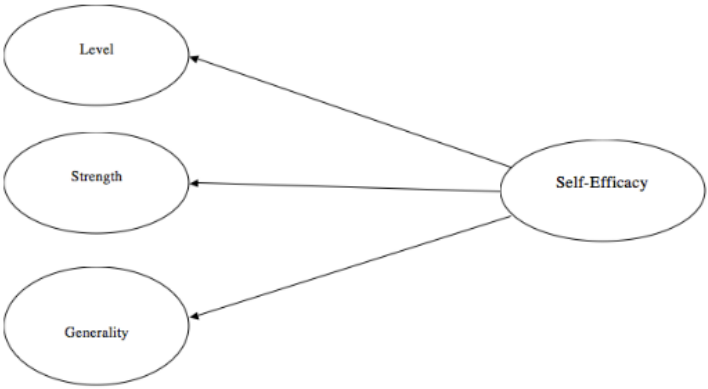
Survey research with the questionnaires was used in data collection from 204 students at Grade V from Jati 01, 05, 06, and 07 public elementary schools in East Jakarta in Indonesia. Data collected were related to self-efficacy as the endogenous variable and level, strength, and generality as the exogenous variables in this research.

The researcher conducted content analysis of the literature for self-efficacy on the basis of Mulyadi, Basuki, & Rahardjo (2016) consisting of three aspects: level, strength, and generality. These ideals were changed into the questionnaires given to 204 participants.

The questions associated with self-efficacy involved three dimensions: level, strength, and generality. Level is composed of five indicators (students being able to finish the most difficult exam, students being able to cope with obstacles, students determining achievement target, students

having motivation to do assignments, and students learning suitable with capabilities). Strength includes five indicators (students having stability to concentrate, students being resilient in doing task, students rising up from a failure, students surviving to face obstacles, and students using all of their competences in finishing assignments). Generality consists of five indicators (students conducting variety of tasks, students finishing learning problems, students having commitments, student belief of their skills to achieve their goal, and student trust of their potencies belonged).

Figure 1. Theoretical framework of the study



In this study, data analysis used the Structural Equation Modeling (SEM) with IBM SPSS Statistics 24 and SPSS AMOS 24 in 2017 Edition. It was applied to investigate the set of relationship between self-efficacy as the endogenous variable and level, strength, and generality as exogenous variables. Data was inputted with Excel by entering the scores of each item on the basis of 204 participant responses with strongly agree, agree, neutral, disagree, and strongly disagree (scored 5, 4, 3, 2, and 1, respectively, for positive questions and 1, 2, 3, 4, and 5, respectively, for negative questions).

Findings

It can be seen in Table 1 about the goodness-of-fit statistical analysis results. These results presented that Normed Fit Index (NFI) value attained 0.472 indicating that the model proposed is good fit. The Comparative Fit Index (CFI) value reached 0.532 pointing out that the model offered is good fit. Incremental Fit Index (IFI) value arrived at 0.548 showing

that the model is good fit. Relative Fit Index (RFI) value attained 0.363 suggesting that the model presented is good fit. Goodness of Fit Index (GFI) value reached 0.901 indicating that the model is good fit. Adjusted Goodness of Fit Index (AGFI) value gained 0.845 showing that the model hypothesized is good fit. SEM measurement showing that model recommended in this study is a fit model.

Table I. Model Fit Summary

Fit measurement	Fit Value		
	Cut-Off Limitation	*Value*	*Decision*
NFI	0 < NFI < 1; NFI ≥ 0.90= good fit	0.472	Good Fit
CFI	0 < CFI < 1; CFI ≥ 0.90= good fit	0.532	Good Fit
IFI	0 < IFI < 1; IFI ≥ 0.90= good fit	0.548	Good Fit
RFI	0 < RFI < 1; RFI ≥ 0.90= good fit	0.363	Good Fit
GFI	0 < GFI < 1; GFI ≥ 0.90= good fit	0.901	Good Fit
AGFI	0 < AGFI < 1; AGFI ≥ 0.90= good fit	0.845	Good Fit

Table II presented a measurement model test of the observed variables that level, strength, and generality were statistically significantly associated with self-efficacy of 1.052, 0.917, and 0.812, respectively. Students being able to finish the most difficult exam, students being able to cope with obstacles, students determining achievement target, students having motivation to do assignments, and students learning suitable with capabilities was significantly correlated with level of 0.218, 0.553, 0.468, 0.382, and 0.366, respectively. Students having stability to concentrate, students being resilient in doing task, students surviving to face obstacles, and students using all of their competences in finishing assignments as observed variables were significantly connected with strength of 0.320, 0.476, 0.315, and 0.368, respectively. However, association between students rising up from a failure and strength of 0.170 was not supported in this research. Students conducting variety of tasks, students finishing learning problems, students having commitments, student belief of their skills to achieve their goal, and student trust of their potencies belonged as observed variables were significantly associated with generality of 0.441, 0.443, 0.688, 0.529, and 0.510, respectively. It can be seen the structural model in Figure 2.

Table II. Measurement model test

Regression Weights: (Group number 1 - Default model)

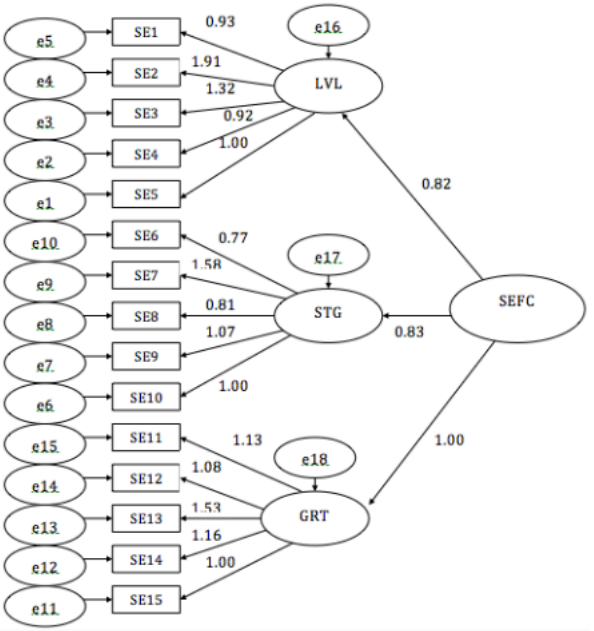
			Estimate	S.E.	C.R.	P	Label
LVL	<---	SEFC	0.823	0.238	3.457	***	
STG	<---	SEFC	0.828	0.238	3.483	***	
GRT	<---	SEFC	1.000				
SE5	<---	LVL	1.000				
SE4	<---	LVL	0.916	0.267	3.432	***	
SE3	<---	LVL	1.323	0.350	3.784	***	
SE2	<---	LVL	1.908	0.473	4.034	***	
SE1	<---	LVL	0.935	0.396	2.363	0.018	
SE10	<---	STG	1.000				
SE9	<---	STG	1.074	0.369	2.909	0.004	
SE8	<---	STG	0.811	0.442	1.833	0.067	
SE7	<---	STG	1.582	0.441	3.591	***	
SE6	<---	STG	0.770	0.262	2.938	0.003	
SE15	<---	GRT	1.000				
SE14	<---	GRT	1.161	0.230	5.055	***	
SE13	<---	GRT	1.531	0.268	5.714	***	
SE12	<---	GRT	1.075	0.238	4.513	***	
SE11	<---	GRT	1.132	0.252	4.499	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
LVL	<---	SEFC	1.052
STG	<---	SEFC	0.917
GRT	<---	SEFC	0.812
SE5	<---	LVL	0.366
SE4	<---	LVL	0.382
SE3	<---	LVL	0.468
SE2	<---	LVL	0.553
SE1	<---	LVL	0.218
SE10	<---	STG	0.368
SE9	<---	STG	0.315
SE8	<---	STG	0.170
SE7	<---	STG	0.476
SE6	<---	STG	0.320
SE15	<---	GRT	0.510
SE14	<---	GRT	0.529
SE13	<---	GRT	0.688
SE12	<---	GRT	0.443
SE11	<---	GRT	0.441

Notes:
LVL = Level
STG = Strength
GRT = Generality
SE1 = Students being able to finish the most difficult exam
SE2 = Students being able to cope with obstacles
SE3 = Students determining achievement target
SE4 = Students having motivation to do assignments
SE5 = Students learning suitable with capabilities
SE6 = Students having stability to concentrate
SE7 = Students being resilient in doing task
SE8 = Students rising up from a failure
SE9 = Students surviving to face obstacles
SE10 = Students using all of their competences in finishing assignments
SE11 = Students conducting variety of tasks
SE12 = Students finishing learning problems
SE13 = Students having commitments
SE14 = Student belief of their skills to achieve their goal
SE15 = Student trust of their potencies belonged

Figure 2. The structural model



Discussions

Table I shows that the NFI value arrived at 0.472, which was more than 0 and less than 1 indicating that the model offered was already fit. Table 1 showed that the CFI value reached 0.532, which was a value more than 0 and less than 1 suggesting that the model was fit. The IFI value came to 0.548, which was more than 0 and less than 1 indicating that the model suggested was already fit. The RFI value gained 0.363, which was more than 0 and less than 1 presenting that the model suggested was already fit. The GFI was 0.901, which was greater than 0.9 presenting that the proposed model was already fit. The AGFI was 0.845, which was more than 0 and less than 1 indicating that the hypothesized model was a good fit for the data.

Table II presented a measurement model test of the observed variables that level, strength, and generality had significant association with self-efficacy of 1.052, 0.917, and 0.812, respectively. This result is similar to the study of Mulyadi, Basuki, & Rahardjo (2016) presenting that the elements of self-efficacy are magnitude, generality, and strength.

Students being able to finish the most difficult exam, students being able to cope with obstacles, students determining achievement target, students having motivation to do assignments, and students learning suitable with capabilities had significant correlation with level of 0.218, 0.553, 0.468, 0.382, and 0.366, respectively. This is in line with the study of Muller, & Seufert (2018) recommending that one's capability belief affecting one's persistence to finish the task completely to reach the desired outcome is a component of self-efficacy.

Students having stability to concentrate, students being resilient in doing task, students surviving to face obstacles, and students using all of their competences in finishing assignments as observed variables had significant connection with strength of 0.320, 0.476, 0.315, and 0.368, respectively. However, association between students rising up from a failure and strength of 0.170 was not supported in this research. This is in line with the study of Jakesova, Gavora, Kalenda, & Vavrova (2016) stating that handling very difficult subject matter when concentrating enough is one of the components of self-efficacy. However, this is not similar to the study of Jakesova, Gavora, Kalenda, & Vavrova (2016) finding that despite the subject matter being difficult, one can try his or her best to handle it.

Students conducting variety of tasks, students finishing learning problems, students having commitments, student belief of their skills to achieve their goal, and student trust of their potencies belonged as observed variables

had significant association with generality of 0.441, 0.443, 0.688, 0.529, and 0.510, respectively. This is similar with the study of Hmoudova (2015) stating that one's belief in his or her competences to succeed in a particular situation is one of the elements of self-efficacy.

Conclusion

An empirical evidence-based model for the increase of student self-efficacy is proposed by this research. Level, strength, and generality can predict self-efficacy. Students being able to finish the most difficult exam, students being able to cope with obstacles, students determining achievement target, students having motivation to do assignments, and students learning suitable with capabilities estimate level. Students having stability to concentrate, students being resilient in doing task, students surviving to face obstacles, and students using all of their competences in finishing assignments stimulate strength. However, student rising up from a failure as a predictor of strength was not supported in this study. Students conducting variety of tasks, students finishing learning problems, students having commitments, student belief of their skills to achieve their goal, and student trust of their potencies belonged encourage generality.

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