Education Psychology and Learning Performance: Does Mental Skills and Mental Techniques influences Learning Performance? A Survey Study on Indonesian Educational Institutions

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Abstract

The prime objective of this study is to investigate the role of education psychology in learning performance of students. To address this objective, cognitive aspect of education psychology is preferred in relation to the learning behavior and learning performance of students among the higher educational institutions of Indonesia. Although, education psychology remained under discussion in literature, however, earlier studies have not considered the cognitive aspect of education psychology in the presence of learning behavior and learning performance of students. A survey is carried out among the higher educational institutions of Indonesia. Data collection is made by using questionnaire. After analyzing the data through artistical tool, it is found that; education psychology has major importance among the educational institutions. As education psychology has positive role to promote learning performance of students. Cognitive aspects of education psychology such as foundation skills, interpersonal skills, mental imagery and self-task has important contribution to achieve positive student behavior and higher learning performance.

Keywords. Education psychology, learning behavior, learning performance, foundation skills, interpersonal skills, mental imagery, self-task, higher educational institutions.

1. Introduction

Educational psychology is one of extensively discussed research area in the literature. Many studies in the literature discussed education psychology through various perceptive and highlighted that educational psychology is playing an important role (Benedict, 2022; Tyasmoro et al., 2022). Similar with the psychology, the impact of organizational psychology or educational psychology has vital importance among several institutions. With the growing importance of this phenomenon, more dimensions are required to explore in this field. Therefore, this is one of the areas of interest in the literature and having significant practical implications for the institutions.

However, still the number of aspects of education psychology are needed to explore. Prior studies highlighted number of dimensions of educational psychology (Mayer, 2012), however, still a significant gap exist in this field. Particularly, in the educational institutions of Indonesia, the investigation on the education psychology requires extensive research. In this way, the current study carried out research in the educational institutions of Indonesia. Most importantly, the cognitive aspect of educational psychology is rarely addressed by the previous studies in educational institutions. Several dimensions of education psychology are found in the literature; however, it is very rare that any study formally documented the cognitive dimension of education psychology. In this way, to address the cognitive aspect of education psychology, the current study considered mental skills as well as mental techniques. The area of mental skills and mental techniques are rarely investigated in the literature. Several studies highlighted mental skills in the literature among several organizations (Anton et al., 2020; Aronson et al., 2022) but mental skills as a part of education psychology is not considered by literature. In this way, there is a significant gap exist in the field of psychology to carry research on mental skills related to the educational institutions as well as students' academic performance. Similar with the mental skills, the role of mental techniques is also important in students learning performance as well as students learning behavior. Although mental techniques are mentioned in the literature (Holland et al., 2010), however, the role of mental techniques in learning performance as well as learning behavior is not considered. Most importantly, the role of mental techniques in relation to the educational psychology is really addressed in the literature. Therefore, these two aspects namely; mental skills and mental techniques of educational psychology is considered in the current study which is not addressed in the literature. The importance of mental skills as well as mental techniques cannot be ignored in student's learning performance. By considering the importance of mental techniques and mental skills, this study considered educational

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institutions in Indonesia. Most importantly, the higher education institutions of Indonesia are considered in this study (Saleh & Mujahiddin, 2020; Tjahjadi et al., 2019).

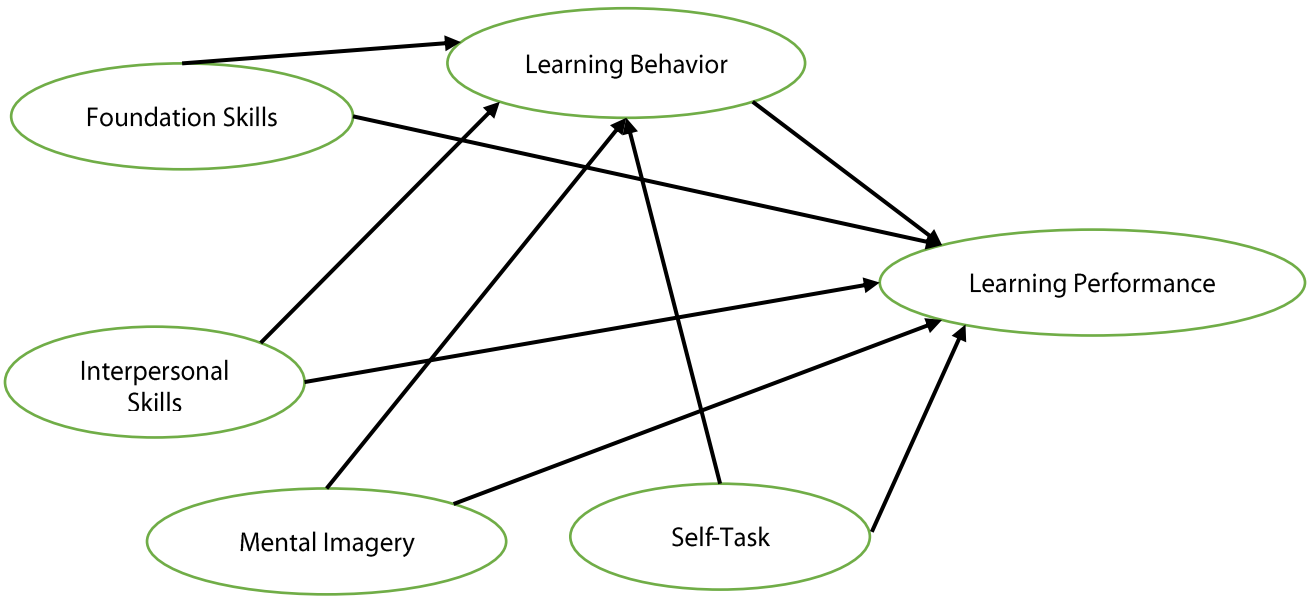
To fill the aforementioned literature gap, the current study considered two elements related to the mental skills. These elements include foundation skills (Goldberg et al., 2021; Marbun et al., 2020) and interpersonal skills. Both the foundation skills and interpersonal skills are connected with the mental skills of the students. Furthermore, while considering mental techniques, the current study considered imagery skills and self-test. Significant role in education psychology having the influence on learning performance of students as well as learning behavior. Therefore, the current study considered important elements related to the educational psychology which has effect on learning performance and learning behavior of students in higher educational institutions. It is evident from the literature that mental skills as well as mental techniques are discussed, however, not in the relation with the education psychology and learning performance along with the learning behavior.

Finally, the objective of the current study is to examine the role of educational psychology in learning performance of students in higher educational institutions of Indonesia. The current objective of the study is not achieved in the literature and most of the elements considered in the study are unique, therefore, this study has vital contribution to the literature. As the relationship tested in the study has major literature gap having theoretical implications. Therefore, practically this study has important role in educational institutions, practitioners as well as management of the higher educational institutions to promote learning performance with the help of learning behavior.

2. Literature Review

Learning performance can be described as a measure of how well students are learning in terms of knowledge and skills development. It has major importance for the students' performance (Al-Rahmi et al., 2015; Susilawati et al., 2021; Thai et al., 2017) Because better learning performance led to the better skills as well as knowledge which allow the students to perform better in various jobs as well as businesses. Therefore, it has importance for the better career development of students. This study considering the learning performance of the students in higher educational institutions of Indonesia. Indonesia's higher education system produces around 250,000 graduates per year through its 4,600 plus higher education institutions and over 26,000 fields of education, or subject areas. However, to get better output, learning of students must be enhanced. In this way, the current study introduced educational psychology among the educational institutions. According to this study, educational psychology has major importance for students learning which is not considered by the previous studies. The effect of education psychology is considered in relation to the students learning behavior and students learning performance. To measure the effect of education psychology, the current study considered mental skills and mental techniques. Mental skills measured by two important elements; foundation skills and interpersonal skills. Mental technique is measured by considering; mental imagery and self-task. All these types are given in Figure 1 which shows the relationship between foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance.

Mental Skills



Mental Techniques

2.1 Learning Behavior

Learning Behaviour is learned actions that allow students to approach learning and cooperate with others effectively in the community. These behaviours are developed in and outside of educational institution. In the current study, learning behavior is considered in relation to the interest of the student in learning activities. Whether the students performing actively in the class assignments or any other class activities related to the learning reflect the behavior towards learning. However, the low interest of students towards the learning activities denotes to the negative learning behavior. Prior students have considered learning behavior of the students (Tran et al., 2020), however, it is not addressed in relation to the education psychology.

2.2 Mental Skills

2.2.1 Foundation Skills

Foundation skills are basic to a person's contribution to the workplace, the community as well as in education and training. These skills are a mixture of language, literacy as well as numeracy (LLN) skills and employability skills. Similarly, the foundation skills among the students as educational institutions are based on the contribution of students in various learning activities as well as performance in the examination. It is also based on the learning of the students and to gain the knowledge related to the various business activities outside the educational institutions. Better language as well as literacy level for the students which help them to achieve position in business along with the jobs in various organizations. Number of previous studies addressed foundation skills in relation to various fields (Pratami et al., 2022; Rhodes et al., 2016; Stephen et al., 2014), however, foundation skills are not considered in relation to the education psychology. Therefore, this is one of the important studies with consider the effect of foundation skills on learning performance. The study considered the effect of foundation skills directly on learning behavior. According to the study, foundation skill has direct effect on learning performance and learning behavior. As given in previous studies, foundation skills have major relationship with students learning (Morris et al., 2013). Indirectly foundation skills have positive role to enhance the positive behavior of the students towards learning which further increase learning performance. However, the low-level foundation skills among the students lead to the negative learning behavior which may decrease the learning performance. Therefore, the current study proposed following hypotheses;

Hypothesis 1. Foundation skills has positive effect on learning performance.

Hypothesis 2. Foundation skills has positive effect on learning behavior.

Hypothesis 3. Learning behavior mediates the relationship between foundation skills and learning performance.

2.2.2 Interpersonal Skills

Interpersonal skills are the skills an individual use every day when communicate as well as interact with other people, both individually and in different groups. There are several types of interpersonal skills among the individuals. The common enter personal skills involve the awareness, caring about the people, collaboration and communications as well as conflict management at any place. Furthermore, the other specific interpersonal skills include the decision-making power, problem solving ability, verbal communication, patience, listening skills negotiation and nonverbal communication. According to the literature, all these skills have major importance in student learning (Aled, 2007; Hébert & Hauf, 2015). Students learn these interpersonal skills in educational institutions and perform better inside the educational institutions and outside the educational institutions. Learning behavior depends on the interpersonal skills of an individual or student. A student having better interpersonal skills can perform better in various activities. The skill has direct effect on learning behavior of the students as well as learning performance. It has the ability to enhance learning behavior of the students towards better performance. As highlighted in the previous studies that interpersonal skills have major relationship with the learning behavior of the students and learning performance of the students. Therefore, the current study proposed following hypotheses;

Hypothesis 4. Interpersonal skills have positive effect on learning performance.

Hypothesis 5. Interpersonal skills have positive effect on learning behavior.

Hypothesis 6. Learning behavior mediates the relationship between interpersonal skills and learning performance.

2.3 Mental Techniques

2.3.1 Mental Imagery

Similar with the mental skills, the role of mental techniques is also important in educational institutions. Generally, the mental techniques include planning to achieve a certain task such as to set the deadlines, make a list, stop multitasking as well as reward yourself. This mental technique has influence on students learning process. Various mental techniques have relationship with an individual's learning process. A student having the better ability to apply various mental techniques can learn better

and can perform better in examination as compared to the student having low level mental techniques. A person having better mental techniques will remain motivated having the positive behavior to learn. Therefore, among the educational institutions, the positive learning behavior of the students is also based on the mental techniques such as mental imagery. Mental imagery can be described as pictures in the mind or a visual representation in the nonappearance of environmental input. This is not a universal talent; not everybody can conjure up mental images at will. Sanders et al. (2004) reported that mental imagery has important relationship with the learning of students. It has direct effect on learning behavior and learning performance. Therefore, the current study proposed following hypotheses;

Hypothesis 7. Mental imagery has positive effect on learning performance.

Hypothesis 8. Mental imagery has positive effect on learning behavior.

Hypothesis 9. Learning behavior mediates the relationship between mental imagery and learning performance.

2.3.2 Self-Task

The second most important mental technique is self-task. Along with the mental imagery, self-task also has significant role in an individual's life. Self-task is based on the individual's preference to the management of various problems without involving the others. Majorly the self-task is based on the self-talk of an individual with himself related to any problem or any activity. It is a process in which a student prefers to self-talk, it means that he or she prefer to talk with himself to solve any difficult problem. Generally, self-talk improve the actions and it provides more focus on the problem which can provide different technique as well tactics to go through from difficult time. Generally, the talk to himself regulate the thoughts of students as well as emotions. It is an important part of educational psychology which has influence on students learning behavior as well as learning performance. Self-talk is highlighted by several previous studies (Flanagan & Symonds, 2022), however, it is not highlighted in relation to the educational institutions. Particularly, it is not observed in relation to the learning behavior as well as learning performance. According to this study, increase or decrease in self-task can increase or decrease in learning performance. Therefore, the current study proposed following hypotheses;

Hypothesis 10. Self-task has positive effect on learning performance.

Hypothesis 11. Self-task has positive effect on learning behavior.

Hypothesis 12. Learning behavior mediates the relationship between Self-task and learning performance.

Hypothesis 13. Learning behavior has positive effect on learning performance.

3. Methodology

3.1 Questionnaire Development and Pre-Test

The questionnaire is developed by adapting the already reaved scale items by previous studies. Mental skills are measured by using foundation skills and interpersonal skills. The scale items of foundation skills and interpersonal skills are adapted from Behnke et al. (2019). Foundation skills are measured by considering, self-confidence, ability, strengths and weaknesses, and to overcome on failure. Interpersonal skills are measured by considering teamwork, fit with other people, following the rules and effective communication in the team. All these scale items are given in Table 1. Furthermore, metal techniques are measured through mental imagery and self-task. Self-task is measured by considering the self-improvement, technique, tactics, body sensation and control on emotions. Mental imagery is considered through performance evaluation, emotions recognition and planning. All these scale items are given in Table 1. For learning behavior, scale items are considered from Politzer and McGroarty (1985). All these scale items of learning behavior are reported in Table 1. The scale items of learning performance are also given in Table 1 and adapted from Jackson (2002).

3.2 Data Collection

Data collection of the current study is based on the survey questionnaire among the higher educational institutions of Indonesia. The respondents of the study are the postgraduate students. By following the sample size in previous studies, this study considered 700 sample size which is good. Therefore, 700 questionnaires were distributed among the postgraduate students of higher educational institutions of Indonesia. This study has not considered the students of a single department; however, students of all departments are participated in the survey. Area cluster sampling is used in this study which is most suitable to collect data from widespread population (Altaf et al., 2019). Instructions were given before to fill the questionnaire. 325 questionnaires were returned from the respondents. 09 questionnaires were incomplete, therefore, excluded from the survey. Finally, 316 questionnaires were used in the current study to examine the relationship between foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance.

Table 1

Scale Items

Variables	Scale Items
Foundation Skills	1. "I have a high level of self-confidence that makes me believe I can achieve anything I put my mind to. 2. I have an unshakable belief in my ability. 3. I know my own value, my strengths and weaknesses, and I plan how to improve them. 4. I am able to bounce back and overcome any failure. It does not discourage me from further action."
Interpersonal Skills	1. "I accept my role in the group and I see it clearly. 2. I understand my role, and the role of others on my team and how it all fits into the greater system. 3. I understand and follow the rules established in learning. 4. I am able to communicate effectively with my team and staff during the exam."
Mental Imagery	1. "I use mental imagery to control my own emotions. 2. Before the start of competition, I visualize my performance going exactly the way I want it to look like during the real competition. 3. During preparation for the competition, I create real and accurate inner films, planning possible obstacles and feeling sensations associated with the actual situation to come."
Self-Task	1. "I use self-talk to help myself overcome difficult times. 2. I use self-talk to improve my actions, focusing my attention on key-elements of performance (technique, tactics, body sensations, etc.). 3. I talk to myself to regulate my own thoughts, emotions and arousal."
Learning Behavior	1. "During learning words or phrases, i say them out loud to my- self. 2. During reading assignment, i often try to get the general meaning of a sentence or paragraph before looking up the unfamiliar words. 3. Sometimes I think about differences between English and native language and-as a result-avoid making mistake. 4. I often look up words in the diction. 5. While reading a text, i look up all the unknown words first and write them in the text before attempting to reading. 6. While memorizing words or phrases, I generally associate them with words or phrases in native language rather than with other words or phrases in English or with pictures or actions."
Learning Performance	1. "I can always manage to solve the most difficult problems if I try hard enough. 2. I can always manage to figure out the most difficult psychology examination problems if I try hard enough. 3. I can remain calm when facing the most difficult exam items because I know I have the ability to do well. 4. When confronted with an especially difficult exam item, I can usually figure it out. 5. I can solve the complex problems. 6. I can solve the practice questions in minimum time. 7. I can learn the topic quickly."

4. Findings

Earlier studies recommended that; before to examine the relationship between variables, the errors in the data must be managed. As the errors in the data during data entry process may decrease the originality of the results. Missing values and outlier in the data are possible during data entry. This study found three missing values in learning performance and five missing values in learning behavior. Furthermore, interpersonal skills found four outlier and self-task found two missing values. Both the issues of missing value and outlier in the data are resolved. Finally, the data statistics are given in Table 2.

Table 2

Data Statistics

	No.	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
FS1	1	0	2.041	2	1	5	0.969	0.524	0.94
FS2	2	0	2.059	2	1	5	1.18	0.594	1.192
FS3	3	0	1.864	2	1	5	0.923	1.056	1.141
FS4	4	0	1.84	2	1	5	0.879	0.697	1.004
IPS1	5	0	2.083	2	1	5	1.138	0.847	1.197
IPS2	6	0	2.112	2	1	5	1.112	0.838	1.157
IPS3	7	0	1.846	2	1	5	0.973	2.987	1.675
MI1	8	0	1.858	2	1	5	0.981	1.351	1.276
MI2	9	0	2.024	2	1	5	0.985	1.692	1.265
MI3	10	0	2.018	2	1	5	1.169	0.832	1.266
ST1	11	0	2.189	2	1	5	1.305	0.127	1.109
ST2	12	0	2.053	2	1	5	1.163	0.339	1.057
ST3	13	0	1.976	2	1	5	1.088	0.631	1.105
ST4	14	0	1.994	2	1	5	1.029	1.142	1.228
LB1	15	0	1.911	2	1	5	0.966	1.152	1.213
LB2	16	0	2.101	2	1	5	1.08	0.497	1.047
LB3	17	0	1.97	2	1	5	1.122	0.371	1.123
LB4	18	0	1.994	2	1	5	1.189	0.809	1.268
LB5	19	0	1.793	2	1	5	0.966	2.114	1.46
LB6	20	0	2	2	1	5	1.032	0.492	1.043
LP1	21	0	2.231	2	1	5	1.093	-0.143	0.791
LP2	22	0	1.805	2	1	5	0.879	2.954	1.501
LP3	23	0	2.036	2	1	5	1.151	0.938	1.27
LP4	24	0	2.16	2	1	5	1.143	0.562	1.098
LP5	25	0	2.089	2	1	5	1.109	0.553	1.059
LP6	26	0	2.237	2	1	5	1.173	0.069	0.927
LP7	27	0	2.13	2	1	5	1.164	0.06	0.969

Note: LB = Learning Behavior, LP = Learning Performance, FS = Foundation Skills, IPS = Interpersonal Skills, MI = Mental Imagery, ST = Self-Task

4.1 Partial Least Square-Structural Equation Modeling (PLS-SEM)

This study carried out data analysis by using Partial Least Square-Structural Equation Modeling (PLS-SEM). PLS-SEM is most popular data analysis technique and to check the relationship between variables (Hooi et al., 2018; Purwanto & Sudargini, 2021). Figure 3 shows the PLS outer model. PLS outer model is used to examine the factor loadings which is important to examine internal item's reliability. Internal item reliability is considered to examine the suitability of the scale items. It is found that; all the items have factor loadings within the minimum threshold level which is 0.5. Learning behavior is considered by examining the six scale items having factor loadings above 0.7. Foundations skills are measured by using four scale items having factor loadings above 0.7. Furthermore, this study used three scale items for interpersonal skills and mental imagery having factor loadings higher than 0.8. Self-task is measured through four scale items with factor loadings higher than 0.8. Finally, learning performance is measured by using seven scale items with factor loadings higher than 0.5. Initially, interpersonal scale items were four, however, one item was deleted due to low factor loading. Factor loadings are given in Table 3.

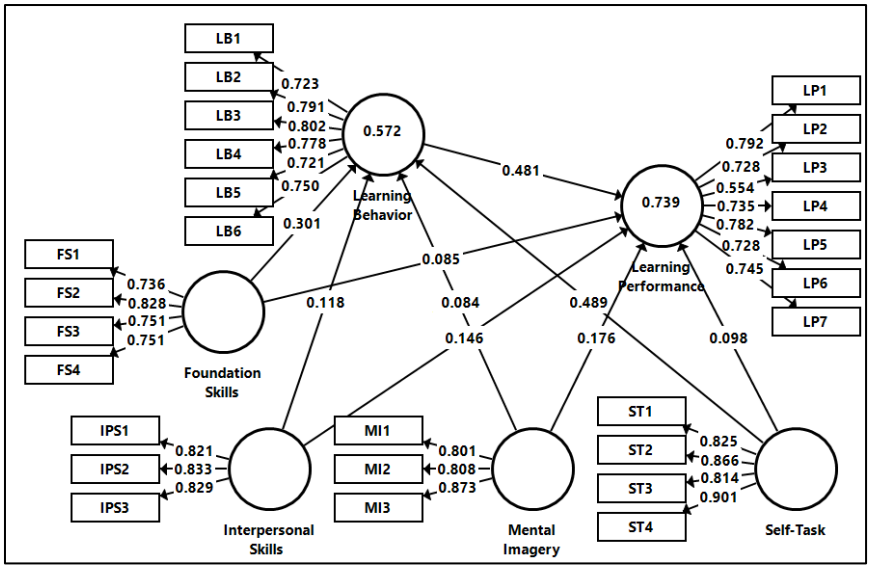


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Figure 3. Measurement Model

Table 3

Factor Loadings and Convergent Validity

Variables	Items	Loadings	Alpha	CR	AVE
Foundation Skills	FS1	0.736	0.767	0.851	0.588
	FS2	0.828			
	FS3	0.751			
	FS4	0.751			
Interpersonal Skills	IPS1	0.821	0.771	0.867	0.685
	IPS2	0.833			
	IPS3	0.829			
Learning Behavior	LB1	0.723	0.855	0.892	0.58
	LB2	0.791			
	LB3	0.802			
	LB4	0.778			
	LB5	0.721			
	LB6	0.75			
Learning Performance	LP1	0.792	0.85	0.886	0.528
	LP2	0.728			
	LP3	0.554			
	LP4	0.735			
	LP5	0.782			
	LP6	0.728			
	LP7	0.745			
Mental Imagery	MI1	0.801	0.77	0.867	0.686
	MI2	0.808			
	MI3	0.873			
Self-Task	ST1	0.825	0.874	0.914	0.726
	ST2	0.866			
	ST3	0.814			
	ST4	0.901			

Note: LB = Learning Behavior, LP = Learning Performance, FS = Foundation Skills, IPS = Interpersonal Skills, MI = Mental Imagery, ST = Self-Task

It is not sufficient to confirm the internal item reliability. The confirmation of composite reliability (CR) and average variance extracted (AVE) is also important to confirm the discriminant validity. Previous studies recommended that the confirmation of CR is above 0.7 and AVE is above 0.5 has the indication of convergent validity achievement (Hair et al., 2021; Joe F Hair Jr et al., 2020). Therefore, this study presented the CR and AVE in Table 3. It is evident from the Table 3 that all the variables (foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance) have CR higher than 0.7 and AVE higher than 0.5. Finally, this study confirmed the discriminant validity (Hyland et al., 2019) which is achieved by using two recommended methods; 1) *heterotrait-monotrait* ratio of correlations $(HTMT)_{0.9}$ and 2) cross-loadings. $HTMT_{0.9}$ is reported in Table 4 which shows that all the values are below 0.9. On the other hand, cross-loadings are given in Table 5.

Table 4

$HTMT_{0.9}$

	Foundation Skills	Interpersonal Skills	Learning Behavior	Learning Performance	Mental Imagery	Self-Task
Foundation Skills						
Interpersonal Skills	0.824					
Learning Behavior	0.801	0.735				
Learning Performance	0.874	0.868	0.705			
Mental Imagery	0.771	0.674	0.685	0.848		
Self-Task	0.811	0.795	0.813	0.813	0.791	

Table 5

Cross-Loadings

	Foundation Skills	Interpersonal Skills	Learning Behavior	Learning Performance	Mental Imagery	Self-Task
FS1	***0.736***	0.545	0.505	0.498	0.439	0.395
FS2	***0.828***	0.674	0.601	0.623	0.673	0.623
FS3	***0.751***	0.562	0.504	0.521	0.607	0.509
FS4	***0.751***	0.631	0.39	0.544	0.568	0.514
IPS1	0.725	***0.821***	0.46	0.577	0.671	0.503
IPS2	0.629	***0.833***	0.563	0.646	0.694	0.597
IPS3	0.605	***0.829***	0.472	0.543	0.689	0.523
LB1	0.418	0.486	***0.723***	0.638	0.418	0.662
LB2	0.589	0.57	***0.791***	0.632	0.457	0.636
LB3	0.532	0.396	***0.802***	0.6	0.342	0.569
LB4	0.526	0.475	***0.778***	0.577	0.503	0.537
LB5	0.527	0.456	***0.721***	0.606	0.495	0.411
LB6	0.403	0.361	***0.75***	0.564	0.324	0.399
LP1	0.556	0.58	0.764	***0.792***	0.488	0.603
LP2	0.613	0.598	0.689	***0.728***	0.633	0.592
LP3	0.471	0.427	0.411	***0.554***	0.502	0.459
LP4	0.534	0.556	0.58	***0.735***	0.59	0.477
LP5	0.5	0.493	0.519	***0.782***	0.448	0.539
LP6	0.417	0.427	0.474	***0.728***	0.429	0.421
LP7	0.501	0.503	0.488	***0.745***	0.389	0.466
MI1	0.61	0.705	0.446	0.57	***0.801***	0.522
MI2	0.642	0.675	0.479	0.558	***0.808***	0.579
MI3	0.611	0.677	0.459	0.593	***0.873***	0.515
ST1	0.596	0.501	0.62	0.581	0.502	***0.825***
ST2	0.603	0.571	0.583	0.577	0.578	***0.866***
ST3	0.448	0.538	0.566	0.596	0.474	***0.814***
ST4	0.632	0.626	0.659	0.659	0.654	0.901

Note: LB = Learning Behavior, LP = Learning Performance, FS = Foundation Skills, IPS = Interpersonal Skills, MI = Mental Imagery, ST = Self-Task

Figure 4 highlighted the relationship between foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance. To address this relationship, the effect of foundation skills, interpersonal skills, mental imagery and self-task is examined on learning behavior. Furthermore, the effect of foundation skills, interpersonal skills, mental imagery and self-task is considered on learning performance. PLS structural model is used in this study (Joseph F Hair Jr et al., 2021) to examine these relationships. T-value 1.64 is considered in this study to check the significance of the study and beta value is considered to check the relationship. Foundation skills has significant effect on learning behavior of the study as the t-value is 2.629. Interpersonal skills have also significant effect on learning behavior as the t-value 3.348. Mental imagery has insignificant relationship with learning behavior with t-value 0.723. Furthermore, it is also found that self-task has significant relationship with t-value 4.746. Additionally, foundation skills have insignificant effect on learning performance with t-value 1.001. Interpersonal skills have significant effect on learning performance with t-value 1.675. Furthermore, mental imagery has significant effect on learning performance with t-value 2.081. Self-task has insignificant effect on learning performance with 1.368. Finally, while examining direct effect learning behavior has significant effect on learning performance with t-value 6.759. All the results of direct effect are reported in Table 6.

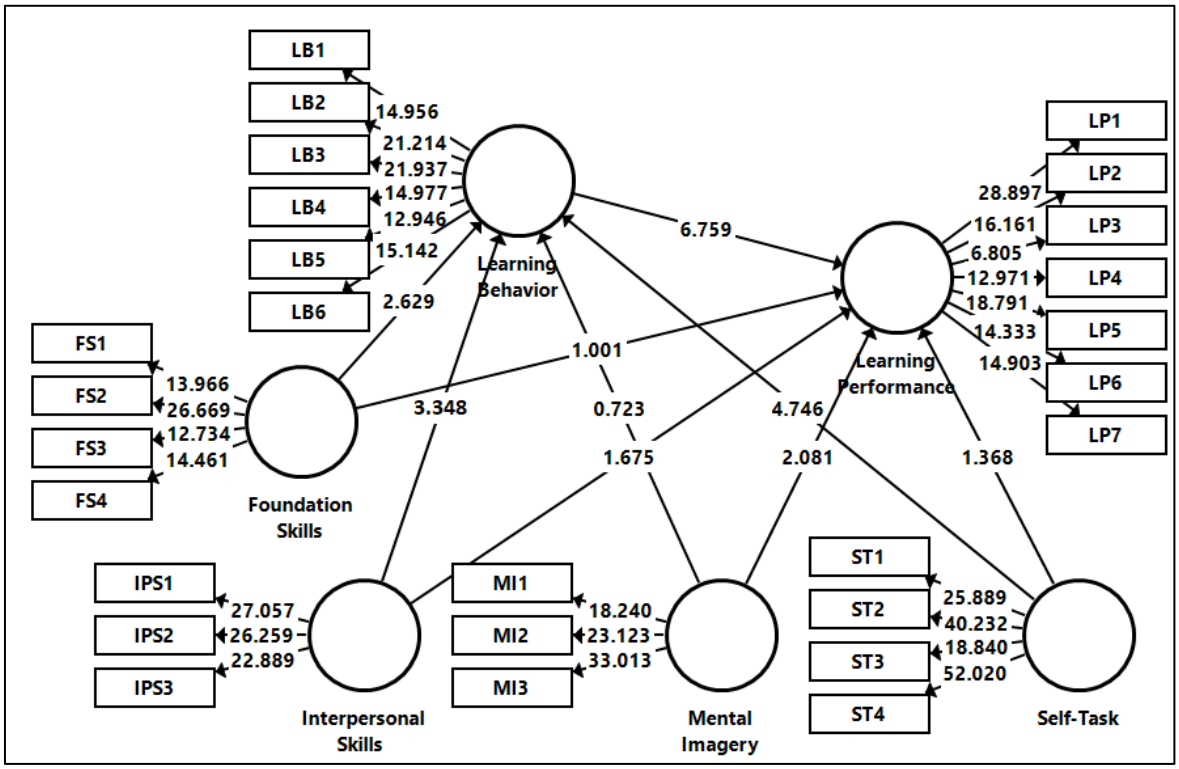

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Figure 4. Structural Model

Table 6

Direct Effect Results

	Beta	Mean	SD	T Statistics	P Values
Foundation Skills -> Learning Behavior	0.301	0.309	0.115	2.629	0.004
Foundation Skills -> Learning Performance	0.085	0.079	0.085	1.001	0.159
Interpersonal Skills -> Learning Behavior	0.118	0.13	0.035	3.348	0
Interpersonal Skills -> Learning Performance	0.146	0.155	0.087	1.675	0.047
Learning Behavior -> Learning Performance	0.481	0.47	0.071	6.759	0
Mental Imagery -> Learning Behavior	-0.084	-0.088	0.117	0.723	0.235
Mental Imagery -> Learning Performance	0.176	0.182	0.085	2.081	0.019
Self-Task -> Learning Behavior	0.489	0.48	0.103	4.746	0
Self-Task -> Learning Performance	0.098	0.103	0.072	1.368	0.086

In addition, with the direct effect, the mediation effect of learning behavior is considered. First, the mediation effect of learning behavior is considered between foundation skills and learning performance. Second, the mediation effect of learning behavior is considered between interpersonal skills and learning performance. Third, the mediation effect of learning behavior is considered between mental imagery and learning performance. Four, the mediation effect of learning behavior is considered between self-task and learning performance. The mediation effect of learning behavior between foundation skills and learning performance which is significant with t-value 2.242. The mediation effect of learning behavior between interpersonal skills and learning performance is insignificant with t-value 1.148. The mediation effect of learning behavior between mental imagery and learning performance is insignificant with t-value 0.698. The mediation effect of learning behavior between self-task and learning performance is significant with t-value 4.007. The mediation effect of learning behavior is considered between foundation skills and learning performance is given in Figure 4. All the mediation effects are reported in Table 7. This study also examined r-square value which is 0.739. It shows that; foundation skills, interpersonal skills, mental imagery, self-task and learning behavior are expected to bring 73.9% change in learning performance. The mediation effect of learning behavior is considered between self-task and learning performance is given in Figure 5.

Table 7

Indirect Effect Results

	Beta	Mean	SD	T Statistics	P Values
Interpersonal Skills -> Learning Behavior -> Learning Performance	0.057	0.059	0.049	1.148	0.126
Foundation Skills -> Learning Behavior -> Learning Performance	0.145	0.147	0.065	2.242	0.013
Mental Imagery -> Learning Behavior -> Learning Performance	-0.041	-0.044	0.058	0.698	0.243
Self-Task -> Learning Behavior -> Learning Performance	0.235	0.225	0.059	4.007	0

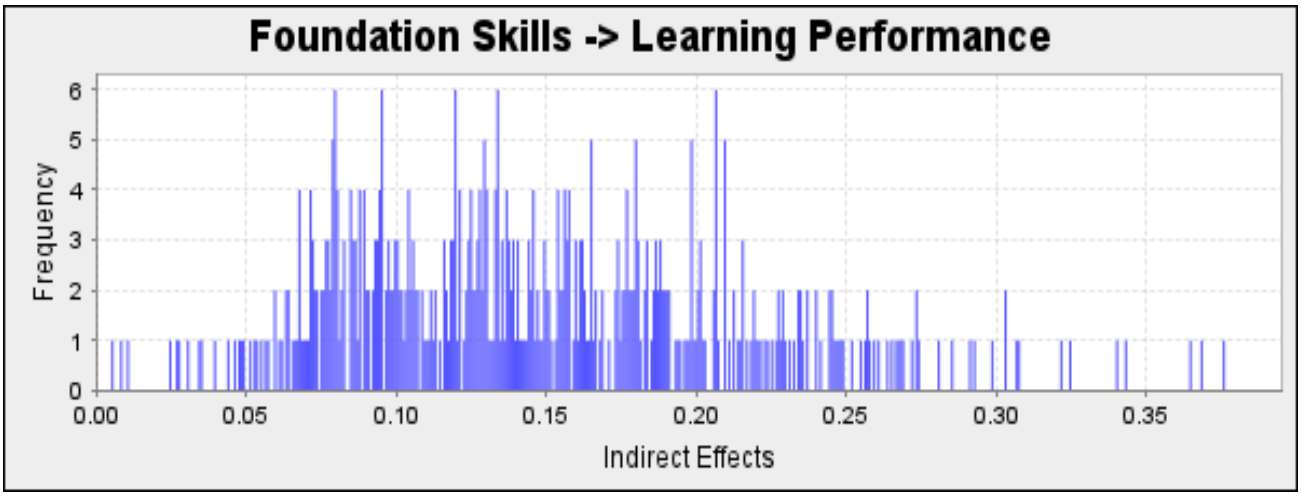

Figure 4. Mediation effect of learning behavior between foundation skills and learning performance

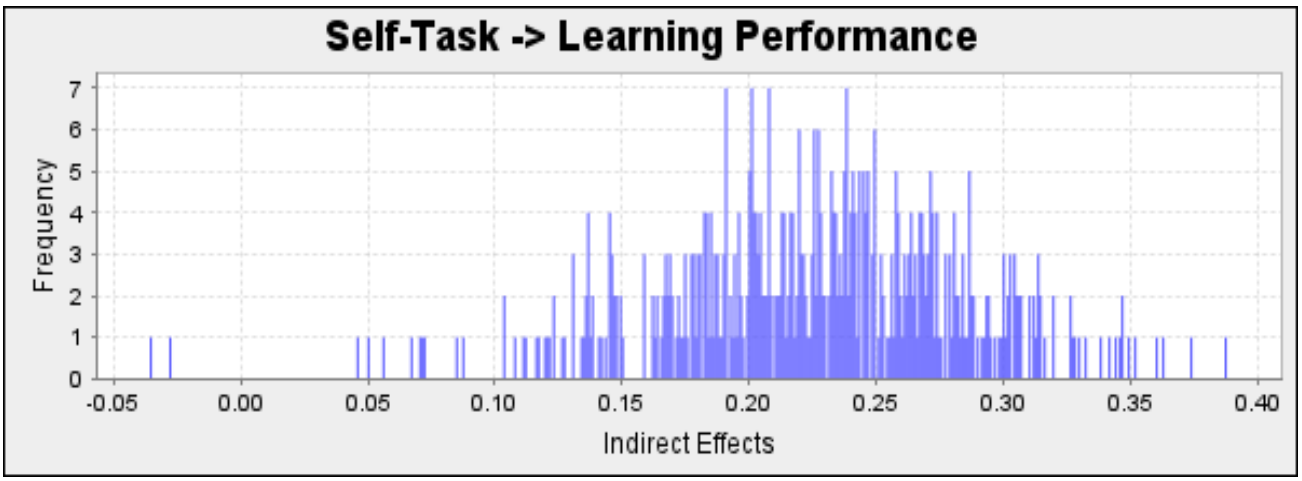

Figure 5. Mediation effect of learning behavior between self-task and learning performance

5. Discussion and Conclusion

This study examined the relationship between foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance to investigate the role of educational psychology in learning performance of students. Furthermore, cognitive aspect of educational psychology is preferred in relation to the learning behavior and learning performance. In cognitive aspect of education psychology, metal skills and mental techniques are considered to examine the effect on learning performance through learning behavior. Both the direct and indirect effect hypotheses are considered in this study.

The results of the current study are consistent with the previous studies. Although this study examined most of the relationships which were not considered in earlier studies, however, the results of hypotheses are in line with the arguments of previous studies. Results of the study hypothesis 2 and hypothesis 5 are supported. It is found that; foundation skills have positive effect on learning behavior. The increase in learning skills among the higher education institutions of Indonesia can increase the learning behavior among students. In line with this study, other studies also shows the positive role of student skills in learning (Klegeris & Hurren, 2011). Similar with the foundation skills, the interpersonal skills of students among the higher educational institutions of Indonesia also have vital role in learning. The learning performance among the higher educational institutions is based on the interpersonal skills of students. Therefore, increase in interpersonal skills of the students can increase learning similar with foundation skills. Previous studies also shows that interpersonal skills of the students has major important in their learning activities (Moradi et al., 2018). However, the effect of mental imagery has no effect on learning behavior. There is no relationship between mental imagery and learning behavior of the students in higher educational institutions. Mental imagery as mental techniques considered by the study has no effect on learning behavior which is shown in hypothesis 8. However, hypothesis 11 shows the positive effect of self-task on learning behavior. It indicates that increase in self-task among the students can increase the learning behavior. It is also one of the mental techniques along with the mental imagery. On the other hand, foundation skills and interpersonal skills are based on the mental skills.

The next four hypotheses, hypothesis 1, hypothesis 4, hypothesis 7 and hypothesis 10 considered the effect of foundation skills, interpersonal skills, mental imagery and self-task on learning performance. Result is consistent with the literature. It is found that foundation skills have no effect on learning performance. There is an insignificant relationship between foundation skills and learning performance. In education, mental imagery can increase the learning performance. However, similar with the effect of foundation skills, the self-task also has insignificant effect on learning performance which shows that self-task has no effect on learning performance. Therefore, results of these hypotheses shows that both the mental skills and mental techniques has effect on learning performance, however, few elements of foundation skills have no effect on learning performance.

From the results, it is also observed that learning behavior has relationship with learning performance which is also proved in previous studies (Chen et al., 2018; Walumbwa et al., 2009; Webster-Stratton & Reid, 2004; Zou et al., 2022). According to the results of the study, increase in learning behavior can increase the learning performance of higher educational students. Hypothesis 13 shows that learning behavior has positive effect on learning performance. Number of previous studies is also proved that learning behavior has positive effect on learning performance. Therefore, similar with the literature, this study results are also positive and significant. Furthermore, this study also considered learning behavior as mediating variable between mental skills and learning performance. It is also considered as mediating variable between mental techniques and learning performance. Hypothesis 3, hypothesis 6, hypothesis 9 and hypothesis 12 are considered as indirect effect of learning behavior. Few of the indirect effects of learning behavior are significant, however, few of the effects are insignificant. Indirect effect shows that learning behavior can transfer the positive effect of foundation skills on learning performance. Although foundation skills have no direct effect on learning performance, but it can influence the learning performance of students with the help of learning behavior. It is indicated that foundation skills do not affect directly on learning performance. Generally, foundation skills effect on learning behavior (Morris et al., 2013) of the students which further causes to increase or decrease in learning performance. Similar with the foundation skills, the results of the study also found that self-task has influence on learning performance. Although the self-task has no direct effect on learning performance, however, it can affect on learning performance with the help of learning behavior. Self-task has a potential to alter learning behavior which causes to increase or decrease in learning performance of students in higher educational institutions of Indonesia.

Finally, it is concluded that; educational psychology has major importance in learning performance. The education

psychology has direct effect on learning performance as well as indirect effect on learning performance with the help of learning behavior of the students. The two mental skills of educational psychology, namely; foundation skills and interpersonal skills has effect on learning performance. Furthermore, the two mental techniques of education psychology, namely; mental imagery and self-task also has influence on learning performance. Therefore, on the higher educational institutions of Indonesia, the role of education psychology is most significant to achieve higher learning performance among the students.

6. Implications of the Study

6.1 Theoretical Implications

The relationship between foundation skills, interpersonal skills, mental imagery, self-task, learning behavior and learning performance is one of the vital contributions to the literature. Therefore, it has several implications for the theory. Educational psychology is well discussed phenomena in the literature and extensive literature is available on educational psychology. However, there is number of gaps available which are needed to address to clear the phenomena of educational psychology. In this way, this study addressed several gaps in the literature and provided several implications. Most importantly, this study addressed two important elements of education psychology, namely; mental skills and mental techniques. Both the mental skills and mental techniques comes under cognitive element of the education psychology. This element is not addressed in previous studies and cognitive elements are really identified in the literature. Most notably, the cognitive aspect in form of mental skills and mental techniques are not addressed in relation to the learning performance. Therefore, by addressing these unique elements this study provided several theoretical implications. Additionally, this study also targeted the learning behavior of the students. In Indonesia, the role of learning behavior of the students between educational psychology and learning performance is not considered in earlier study. Therefore, these elements of the study are rarely addressed in the literature by other studies. Therefore, these studies started a new debate in the field of education psychology and learning performance along with the learning behavior of the students.

6.2 Practical Implications

Practically the current study provided several practical implications for the practitioner to promote learning performance. These results of the study are helpful for the higher educational institutions of Indonesia because this study addressed various insights to improve the learning performance of students. For instance, the current study highlighted that; educational psychology must be focused in educational institutions performance. Moreover, the mental skills of the students must be promoted to enhance learning performance. Similarly, along with the learning skills the learning techniques must be introduced in education system to promote the students to work efficiently and perform better. The learning can be achieved in less time with the help of applying various learning techniques or mental techniques. Both the mental techniques and learning skills can play vital importance for the learning performance and professionals should address these elements of educational psychology. Therefore, it is recommended to the practitioners as well as management of higher educational institutions in Indonesia to enhance learning performance with help of mental skills and mental techniques which can increase the learning behavior of the students.

7. Limitations and Future Directions

Although the current study covered the most important part of literature in relation to the education psychology, but still the study has limitations. Furthermore, this study also covered the important aspects of learning performance as well as learning behavior. However, regarding educational psychology, this study has two major limitations which could be the future directions for the researchers. This study comprises mental skills in relation to the foundation skills and interpersonal skills. Other mental skills, for example, performance skills are required to add. Therefore, future studies should also consider other mental skills, especially performance skills. Second, the current study also considered only to elements of mental techniques which are mental imagery and self-task. However, future studies should also include various other mental techniques in the current study framework.

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