IDENTIFYING THE BEHAVIOR PATTERNS THAT INFLUENCE ON STUDENTS’ ACHIEVEMENT IN PSYCHOLOGICAL FOUNDATIONS OF LEARNING AND DEVELOPMENT: A CASE OF MEKELLE UNIVERSITY, ETHIOPIA

By

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ABSTRACT

Generally, the behavior patterns concern a social significance of values. This paper highlights the various behavior patterns like planner behavior, solution oriented behavior, and prescriptive behavior patterns. The main objective of the present study is to identify the behavior patterns that influence on students’ achievement in psychological foundations of learning and development: a case of Mekelle University, Ethiopia in general. The one hundred PGDT student teachers were participating in this research. The data were collected by Behavior Pattern Rating Scale created and standardized by Nihat Caliskan (Caliskan et al., 2017) and the investigator developed a self-made questionnaire for students’ achievement in psychological foundations of learning and development. The data were analyzed by ‘t’ test and Pearson’s product moment correlation. The results of the study revealed that there is no significant difference was found in the relationship between behavior patterns and psychological foundations of learning and development.

Keywords: Behavior Pattern, Planner, Solution-Oriented, Prescriptive.

INTRODUCTION

Education is universally acknowledged in the vast body of literature as an essential element in the process of national development (UNESCO, 1997, 2005; TGE, 1994; GCE, 2002; Psacharopoulos, 1985; Lockheed and Verspoor, 1991). In the Ethiopian context, the traditional education goes back to the Aksumite Kingdom of the fourth century AD (Bekele, 1991). The prime objective was to train priest, monks, teachers, and debteras (Areaya, 2008). This article focuses on secondary teacher education (Grade 12+4) in Ethiopia. Ethiopian Teacher Education System Overhaul (TESO) was introduced as a teacher education program in 2003. The secondary teacher preparation was introduced and the new teacher training program which was known as a Post Graduate Diploma in Teaching (PGDT) was implemented by ten universities in Ethiopia in the year 2011 (Kassa and Arndemeskel, 2013; Ministry of Education, 2011; Mekonnen 2017, p. 367). In PGDT program, the teacher trainees are given one year of professional theoretical and practical training before they were employed in a mainstream teaching job (Gemechu et al., 2017, p. 4). The researchers position of this article, working as an assistant professor and Lecturer in educational psychology in the department and one of the instructors of psychological foundation of learning of PGDT teacher trainees. Thus, the researchers having close experience with the PGDT program in Mekelle University in regular and enrolled in the year 2016. Therefore, the researchers broached as to arise with the research issue to lead some practice concerning with this study. The purpose of the present study is to examine the impact of behavior patterns among the students' achievement in psychological foundation of learning; the case of Mekelle University. The questions addressed whether the behavior patterns across students' achievement assessment by psychological
foundation of learning from a Post-Graduate Diploma in Teaching (PGDT) program. The significance of this study could identify certain dimensions of behavior patterns, the students' who are practicing certain types of behavior patterns, namely planner behavior, solution-oriented behavior, and prescriptive behavior that addresses the achievement in psychological foundations of learning and the teacher trainees were treating their students psychologically. This research finding suggests that the relationship between behavior patterns and students' achievement in psychological foundations of learning needs to explored in more detail. Further, in exploring these relationships also included some demographic variables in order to elucidate more clearly the unique contribution of students' behavior patterns in their achievement in psychological foundations of learning.

1. Behavior Patterns and Psychological Foundations of Learning

The definition of 'behavior' from the psychology dictionary: behavior is "any observable overt movement of the organism generally has taken to include verbal behavior as well as physical movements". Behavior is every action by a person that can be seen or heard (Alberto and Troutman, 2003). Behavior patterns of man are so simple and rudimentary facilitates greatly the process by which he acquires new habits by means of the mechanism of the conditioned response. This simplicity of his inherited patterns is closely correlated with his neural flexibility or synaptic incompleteness (Bernard, 1926). Behavior pattern from the psychology dictionary: a recurrence of two or more responses which occur in a prescribed arrangement or order. These patterns of behavior develop through operant conditioning. They are also described as chains of behavior, which are complexly linked from simpler, smaller segments and also called behavioral pattern.

Russian physiologist Ivan Pavlov (1849-1936) demonstrated the types of behavior patterns of dog, there are three main behavior patterns that are associated with classical conditioning are extinction, stimulus generalization, and discrimination. In order to extinction, it occurs when we unlearn something, or become desensitized to it and the stimulus no longer creates the effect it used to cause. Stimulus generalization occurs when something similar to our conditioned stimulus creates the same responses and discrimination occurs when our new stimulus is too different from our original conditioned stimulus to cause the effect we want. Meyer Friedman and Rosenman (1959) associated the specific overt behavior pattern with blood and cardiovascular findings. It indicated that the behavior pattern of man included such factors as striving for achievement, competitiveness, impatience, tense posture, and abrupt speech, over commitment to one's vocation, and excessive drive and hostility. In psychology, 'learning' is defined as a relatively permanent change in, or acquisition of knowledge or behavior. Similarly, psychological foundations of learning are one of the subjects of postgraduate diploma in teaching. Therefore, the teacher trainees of PGDT program in Ethiopia, must practice the major learning theories and implication in teaching; basic cognitive processes that impact learning for all pupil; physical, social, emotional, moral, and linguistic, as well as cognitive development of secondary school students, and how teachers can figure out when students are prepared to learn particular content in particular ways, and how to support them as they assign on new tasks with the role of guiding and counseling students' learning and development.

Therefore, the researcher addressing a putative relationship between students' achievement in psychological foundation of learning and behavior patterns of postgraduate diploma in teaching trainees, Caliskan et al., (2017) developed the behavior patterns rating scale for pre-service teachers which rate the behavior of the student teachers in their own classroom learning in three dimensions: planner behavior, solution-oriented behavior, and prescriptive behavior. Thus, the student and teachers ready to assess themselves to identify their own behavior patterns like a planner, solution-oriented, and prescriptive behavior patterns.

2. Research Objectives

The objectives of the research are to identify the behavior patterns that influence students' achievement in psychological foundations of learning as the case of Mekelle University, Ethiopia in general, and the specific behavior patterns in particular: planning behavior pattern, solution oriented behavior pattern, and prescriptive
behavior pattern. This study had the following specified objectives.

- To understand whether there is any significant difference in behavior patterns that influence students' achievement in psychological foundations of learning with regard to gender and subject stream.
- To analyze whether there is any significant relationship between behavior patterns and students' achievement in psychological foundations of learning with regard to gender and subject stream.

3. Research Hypothesis

The research hypothesis of the present study had the following null hypothesis.

- Behavior patterns and students' achievement in psychological foundations of learning do not have significant difference as the function of gender and subject stream and do not have a significant relationship with regard to gender and subject stream.

4. Method and Instruments

The investigator adopted survey method to identify the behavior patterns that influence students' achievements in psychological foundations of learning a case of Mekelle University.

4.1 Population and Sample

This study was conducted at one of the Higher Education Universities in Ethiopia, Mekelle University. Hence, the population for present study consists of Postgraduate Diploma in Teaching (PGDT) students who are studying in Mekelle University, Ethiopia in the regular of 2016. The sample for the present study comprises of one hundred postgraduate diploma in teaching student teachers participated in this research, of whom fifty three (53%) are male and forty seven (47%) is women and of which forty nine (49%) from Science stream and fifty one (51%) from Arts stream, were selected by using a stratified random sampling method. Special attention was given to such demographic factors like gender and subject stream.

4.2 Instruments

The instruments used for the present study were Behavior Pattern Rating Scale created and standardized by Caliskan et al. (2017) and the investigator developed a self-made questionnaire for students' achievement in psychological foundations of learning. The questionnaire had two sections; the first section was dealing with personal information. The second section was a five point Likert-type scale to measure the planning, solution oriented and prescriptive behavior patterns and the behavior patterns. Each item included 'never agree', 'agree', 'undecided', 'agree', and 'completely agree' as five point scale. The investigator established concurrent validity of the scale and the reliability of the scale was examined by the split-half method. The Cronbach's Alpha internal coefficients for the instrument were found: planning behavior pattern (0.703), solution oriented behavior pattern (0.503), prescriptive behavior pattern (0.515) and the behavior patterns (0.819) in general. The dependent variable is the students' achievements of the psychological foundations of learning and development in the form of raw score were taken for the study.

4.3 Data Analysis

Data analysis included descriptive statistics, the data were collected, coded, and analyzed through quantitative analyses by computing SPSS 16.0 (Statistical Package for the Social Sciences) for Windows, followed by the demographic factors to describe in the population and sample. The statistical techniques, independent sample t-test was used for binary comparison (gender and subject stream) and Pearson's product moment coefficient of correlation were also used to find out the relationship between behavior patterns and students' achievement in psychological foundation of learning.

5. Findings and Results

5.1 Behavior Patterns as a function Gender and Subject Stream

As it is evident from Table 1, there is a significant difference between male and female students with regard to the dimension of behavior pattern namely solution oriented behavior. The mean scores of solution oriented behavior pattern, 17.98 (±2.37σ) of male students and 15.97 (±2.32σ) from female students, the male students were significantly higher than the female students in their solution oriented behavior pattern. The obtained t-value is (-) 2.12 greater than the table value of 1.96 at 0.05 level of
Table 1. Behavior Patterns as a Function Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Planner Behavior</th>
<th>Solution Oriented Behavior</th>
<th>Prescriptive Behavior</th>
<th>Behavior Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (N=53)</td>
<td>28.60 ± 3.48</td>
<td>17.98 ± 2.37</td>
<td>14.94 ± 2.47</td>
<td>58.52 ± 7.07</td>
</tr>
<tr>
<td>Female (N=47)</td>
<td>28.27 ± 3.49</td>
<td>15.97 ± 2.32</td>
<td>15.08 ± 2.84</td>
<td>59.34 ± 7.49</td>
</tr>
</tbody>
</table>

t-value  | (+) 0.46 | (-) 2.12 | (-) 0.26 | (-) 0.55 |

At 5 percent Level of Significance

Table 2. Behavior Patterns as a Function Subject Stream

<table>
<thead>
<tr>
<th>Subject Stream</th>
<th>Planner Behavior</th>
<th>Solution Oriented Behavior</th>
<th>Prescriptive Behavior</th>
<th>Behavior Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts Group (N=51)</td>
<td>27.82 ± 3.14</td>
<td>15.33 ± 2.43</td>
<td>14.57 ± 2.66</td>
<td>57.72 ± 6.85</td>
</tr>
<tr>
<td>Science Group (N=49)</td>
<td>29.10 ± 3.70</td>
<td>15.57 ± 2.36</td>
<td>15.47 ± 2.57</td>
<td>60.14 ± 7.51</td>
</tr>
</tbody>
</table>

t-value  | (-) 1.86 | (-) 0.49 | (-) 1.72 | (-) 1.68 |

At 5 percent Level of Significance

Table 3. Students' Achievement in Psychological Foundations of Learning as a Function Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Psychological Foundations of Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (N=53)</td>
<td>73.47 ± 9.19</td>
</tr>
<tr>
<td>Female (N=47)</td>
<td>74.42 ± 10.05</td>
</tr>
</tbody>
</table>

t-value  | (-) 0.49 |

At 5 percent Level of Significance

Table 4. Students' Achievement in Psychological Foundations of Learning as a Function Gender and Subject Stream

As it is vividly illustrated in Table 3, there is no significant difference between male and female students with regard to students' achievement in psychological foundations of learning. The mean scores, 73.47 for male students and 74.42 for female students, are higher than the male students in their achievement in psychological foundations of learning. The obtained t-value is (-) 0.49 lesser than the table value 1.96 at 0.05 level of significance. Hence the hypothesis is stated, to be accepted.
obtained t-value is (-) 1.75 is lesser than the table value 1.96 at 0.05 level of significance. Hence the hypothesis is stated, to be accepted.

5.3 The Relationship between Behavior Patterns and Students’ Achievement in Psychological Foundations of Learning and Development in General

As it is evident from Table 5, there is no significant relationship between the dimensions of behavior patterns, namely planner behavior, solution oriented behavior, and prescriptive behavior and students’ achievement in psychological foundations of learning and development, as the calculated ‘γ’ values 0.818, 0.804 and 0.912 are higher than the table value 0.178 at the 0.05 level of significance. In general, there is no significant relationship between behavior patterns and students’ achievement in psychological foundations of learning and development, as the calculated ‘γ’ value 0.989 is higher than the table value 0.178 at 0.05 level of significance. Hence the null hypothesis is stated, to be rejected.

6. Discussions

In the present study, the researchers found evident supportive good measurable property for the Behavior Pattern Rating Scale (Caliskan et al., 2017). Specifically, three patterns were addressed, such as planner behavior, solution oriented behavior, and prescriptive behavior. According to Paul D. Bush (1987) clearly indicated the behavior patterns, that is, ‘social significance of values’.

<table>
<thead>
<tr>
<th>Subject Stream</th>
<th>Psychological Foundations of Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts Group (N=51)</td>
<td>72.29 ± 9.18</td>
</tr>
<tr>
<td>Science Group (N=49)</td>
<td>75.61 ± 9.76</td>
</tr>
<tr>
<td>t-value</td>
<td>(-) 1.75</td>
</tr>
<tr>
<td>At 5 percent Level of Significance</td>
<td>No Significance</td>
</tr>
</tbody>
</table>

Table 4. Students’ Achievement in Psychological Foundations of Learning as a Function Subject Stream

There are two types of social significance of values (i) value function as the standard of judgment by which behavior is correlated and (ii) value not only correlate behavior within the behavior patterns, they also correlate behavior patterns with one another. The interconnection among behavior patterns of one behavior patterns may be envisioned as the correlation of our behavior of one behavior patterns by a give value with the behavior from other behavior patterns. In essence, the interconnection among behavior patterns is accomplished by a behavior pattern (p. 1077). Likewise, the present study is interconnected with the behavior patterns and student teachers’ achievement in psychology. Generally, the purpose of the study was to investigate the identification of behavior patterns, such as planner behavior, solution oriented behavior, and prescriptive behavior patterns that influence students’ achievement in psychological foundations of learning and development.

6.1 Planner Behavior Pattern

The discovery of planner behavior factor is a significant achievement in the field of cognitive psychology. The planner behavior as a higher order cognitive process helps the learner to make decisions in adopting suitable strategies and monitoring as well as evaluating his/her course of action towards the attainment of the goal. The process of planning at three different levels, namely, perception, memory, and conceptualized in order to study the contribution of planning at these levels towards the achievement of students (Mahapatra, 2016, p. 74). From the present study, it is evident that the dimension of behavior pattern of planner behavior as shown in Tables 1 and 2, it is confirmed by the behavior patterns of planner behavior from the background variables gender and subject stream, as the t’ test result reveals that there is no significant difference between (i) male and female and (ii) arts group student teachers and science group student teachers in their planner behavior pattern. In this study, the gender has no significant, hence it has a direct effects on planner behavior; the data presented in the Table 1 helps us to understand the reasons for the different planner behavior among male and female. Generally, female were significantly less likely than male to believe the planner behavior. It can be seen that the male are applying higher
order cognitive skills be having planned by considering the future in order to keep their agenda ready. In general, they would have a behavior of setting goals, understanding their own styles of learning and teaching and evaluate their own. Also preparing a plan and set goals related to working, parenting, and/or participating in their community by sharing and explaining their own learning preferences, learning, and teaching strategies to others and determine next steps or changes of plans and activities. Moreover, the results of this study indicated that the science group student teachers are higher in their planner behavior pattern than the arts group student teachers. It implies the fact, the science group student teachers' planner behavior was behaving much about before beginning a task or teaching or learning like set goals, plan the task or content sequence, plan how to accomplish the task, and prove themselves.

6.2 Solution-oriented Behavior Pattern

The people think analytically and systematically about the problems they face and also they broke problems down into sequential steps by attacking the problem in such a methodical manner. Solution-oriented person would never waste time blaming others for difficult situations; they accept when a problem needs fixing and they get to work (Duczeminski, 2015). The present study confirmed that the dimension of behavior pattern of solution oriented behavior pattern, as the ‘t’ test result reveals that as shown in Table 1, there is a significant difference between male and female students with regard to the dimension of behavior patterns of solution-oriented behavior pattern. In gender, the male students are significantly higher than the female student teachers with regards to solution oriented behavior pattern. The male might be thought over a situation or an event and searching different solutions for them and carry on things until he finishes the work. Further, the t-test result as shown in Table 2, reveals that there is no significant difference between the arts group student teacher and science group student teachers with regard to the dimension of behavior patterns of solution-oriented behavior pattern. The results of the study indicated that the science group student teachers are higher in their solution oriented behavior pattern than the arts group student teachers. The science group student teachers think analytically and find the unexpected solutions for different situations without thinking about the results.

6.3 Prescriptive Behavior Pattern

Prescriptive means to prescribe in the sense that a hypothesis is logically generated so that behavior can be advised individually or generated globally (Simmons, 2011). Prescriptive behavior in the sense that one can assert them from one’s armchair in advance of looking at the world (Palmer, 2008). The ‘t’ test result reveals that as presented in Table 1, there is no significant difference between the function of gender and subject stream. While comparing the mean scores of the prescriptive behavior pattern, the female students are higher in their prescriptive behavior pattern than the male students. It entails that the female students are more punctual in nature and they want everyone should be punctual based on the specific rules and taboo. Furthermore, analyzing the subject stream, the science group student teachers is higher than the arts group student teachers with regard to prescriptive behavior pattern. Generally, science students are following the rules and regulations in the classroom and laboratories, they want to be punished for breaking the rules and also they cannot change their decisions easily.

6.4 Student Teachers’ Achievement of Psychology

The teaching of psychology in initial teacher preparation has been mainly theoretical and excluded from the preparation for classroom teaching (Francis, 1996). Educational psychology seeks to better understand how people learn, why people learn, how the process of development occurs, how individual differences affect learning and development and how various learning outcomes can be measured accurately, as well as to clarify the basic purposes of education (Snowman, 1997). The findings of the present study as shown in Table 3 indicate that the female student teachers are higher in their achievement of the psychological foundations of learning and development than the male student teachers. Factually, the female student teachers take up their academic activities seriously than the male. This may be the reason that the postgraduate diploma in teaching program female student teachers is habitual doing the teaching and learning activities with more caution and also care about their own behavior. On the other hand, the
findings of this study with regard to the subject stream, the science group student teachers are higher in their achievement of the psychological foundations of learning and development than the arts group student teachers. For the study, researchers found that the science group student teachers' psychological approach in classroom teaching as for growth and development of their own adolescent period: physical, emotional, moral, social and intellectual development, theories of learning, and motivation.

6.5 Influence of Behavior Patterns on Student Achievement of Psychological Foundations of Learning and Development

Based on the research results, it was concluded that the correlation between the behavior patterns and student achievement of the psychological foundations of learning development has no significance. In other words, there is no significant relationship between behavior patterns and student achievement of the psychological foundations of learning and development of student teachers of Postgraduate Diploma in Teaching (PGDT) program. The PGDT student teachers who have analyzed the program is most significant to their professional development. Factors such as behavior patterns like planner behavior pattern, solution oriented behavior pattern, prescriptive behavior pattern, and student achievement of psychology that are influenced by the quality of the positive relationship between the teacher educators and student teachers links with each other. Positive relationship improves the student teachers' behavior patterns and motivation to learn as well as their academic achievement. Thus, consistent with the hypothesis, student teachers of PGDT program were the most influential to the behavior patterns, as expected. Moreover, the student teachers perceived professional importance of PGDT program and achievement of the psychological foundations of learning and development.

Conclusion

The findings of the current research indicated that the behavior pattern has no significant influence on student achievement of the psychological foundations of learning and development. This study has also looked at the certain types of behavior patterns, such as planner behavior, solution-oriented behavior, and prescriptive behavior pattern have no significant towards the subject stream and student achievement of the psychological foundations of learning and development. In particular, this research work addresses on the potential role of psychological variables, such as planner behavior, solution-oriented behavior, and prescriptive behavior pattern in explaining how students' behavior patterns are determined in the achievement of the psychological foundations in the higher education context.

References


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