
Effect of Practical Mentoring on Students' Academic Development: A Case Study of Students' Industrial Work Experience Scheme in Nigeria

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ABSTRACT: *This study sets to examine the influence of students' industrial training on their academic performance. Thus, the surveys of sixty students of National Diploma Program in Department of Architectural Technology, Rufus Giwa Polytechnic, Owo, Ondo State in Nigeria, were conducted to investigate possible effects of their acquired industrial training on their academic performance. The findings show that students' mentoring via industrial training developed students' understanding of their chosen profession and improve their knowledge in carrying out the practical aspect of their work.*

KEYWORDS: - industrial training, polytechnic, mentoring, practical, development.

INTRODUCTION

Mentoring history dates back to Greece ancient period [Barondess, 1994, Klinik et al. 2005, Rieu, 1946]. It is adjudged to profits developmental cohesiveness in organization life [Kram, 1985]. Student mentoring is an important aspect of students' development that is required to achieve basic skill for nation building. Research on undergraduate has reinstated the significance of mentoring as positive and basic knowledge acquirement towards students' empowerment (Seymour et al, 2009; Marianna Berinšterová., 2020). The knowledge that abides in industrial mentoring of students cannot be substantiated via class learning. Therefore, mentoring has been proven to improve human intellectual curiosity, logical reasoning and practical performance (Baver and Bannet, 2003). That is why training and monitoring is being embraced in art, technology, commercial and industrial development. It is crucial to the study of science, art, humanity and technology profession. Zydney et al (2002) opined that a successful training on every field of study which ranges from Humanity, Art, Science Medicine and Engineering Technology required adequate mentoring and training. Taking a student in normal class lecture, it is not adequate in positioning student at better advantage in chosen profession, particularly in those fields of studies that require practicing or industrial work.

However, education toward industrialization is eminent in human and community development. Mentoring entails attaching students to an individual who eases transition and prompt adaptation via relationship that encompasses visiting, counseling and guiding. Savickas (2007) and Beerman et al (2007) assert that mentoring can be regarded as social relationship. It involves social milieu

among individual of divers attribute. Thus, research had equally demanded for a clear division of mentoring to comprise coaching, sponsorship, opportunities and exposure for students to overcome future careers challenges (Tenenbaum, Crosby and Gliner 2001., Van Dam et al., 2018). It's imperative to state that students mentoring success cannot be accomplished without good mentor. A mentor is a trainer (Raposa, E. B. et. at 2019), as training equipped employee. Eniayewu (2013) define mentoring as a systemic means of developing behavior of employee to effectively increase the organization goal. However, he classifies training into the following class:

Employee orientation on the job training, apprenticeship training, and vestibule training. Numerous advantages of the mentoring relationship usefulness exhibited and found in areas of human social-emotional growth, academic and vocational development (Van Dam et al., 2018).The mentoring focused in this study is centered on the internship training met for the polytechnic students in the field of engineering, environmental and other Technology oriented courses in National Diploma Programs. This programs was called Student Industrial Work Experience Scheme (SIWES).

Internship is the practical training undergo by professional students in firm related to their field of study after the students had spent sometimes or duration in the classroom, it enables students to experience the practical aspect of their chosen profession in practice. Internship is necessary in professional field particularly in architecture profession, thus experience had shown that the philosophy of design taught in classrooms do not encompass the comprehensiveness of the needed skill exercise in the actual practice (Agbo et al 2004). As such, the needed skills of effective architectural training cannot be achieved fully in the classroom alone. Therefore, the earlier introduction of practical skill to the students in the internship programs will help bake the trainees in having better understanding of their profession and its practice.

This study was geared to examine the effect of mentoring as applicable in the Nigeria polytechnic education at National Diploma level and we considered five selected variables that ranged from the following:

- i. Students' decency and obedience
- ii. Students' understanding of professional terms
- iii. Students' commitment to theory work
- iv. Students' effectiveness in computer usage.
- v. Students' interest in their professional careers as factors in accessing student internship in relation to their academic performance

Therefore, the following hypotheses were raised:

- HI.** Students' practical mentoring positively influence their understanding of professional terms
- HII.** Students' practical mentoring positively influence their interest in their profession
- HIII.** Students' practical mentoring positively influence their decency and obedience
- HIIV.** Students' practical mentoring positively influence their effectiveness in computer usage
- H5.** Student practical mentoring positively influence their commitment in theory work.

RESEARCH METHOD

In the course of addressing this study goal via questionnaires, we examined sixty (60) students of Architectural Technology Department of Rufus Giwa Polytechnic, second year (NDII) National Diploma Program that had successfully undergone industrial training (SIWES). The program was an internship for mentoring students on the practical aspect of their profession and to serve as a link between the theory and practical. Thus, the questionnaires were designed to collect the students' perceptions in relation to practical mentoring and students' performance.

DATA ANALYSIS AND FINDING

Statistical tests were conducted; the EFA was done to check the sample reliability of its variables. Cronbach's Alpha of 0.74 was set as a benchmark as it ranged from approximately (0.690) to (0.901) (George et al, 2007).

Value of the KMO was generated to prove the variable number adequacy while the correlation coefficient derived in other to check the validity of the variable in the study model. The variable applied were as followed as symbolized, student understanding of the professional terms (A), Student interest in their profession career (B) Students obedience and decency (C), Students effectiveness in computer usage (D) Student commitment in theory works (E), five independent variables of students' academic performance. Having good KMO value high enough to suggest the variable number adequacy, about 33% (adjustable R-square value) of the variable in the dependable variable could be predicted from the independent variable (See Table 1.0) having multiple correlation coefficient of 0.600_(a) implying that the model can explain the student academic performance (George et al, 2007).

Table 1.0: Regression significant R² and AR²

Model	R	R Square	Adjusted R-square	Std error of estimate	Sig
1	0.604	0.344	0.313	0.614	
Regression		-	-	-	0.000 _(a)

Predictor: (constant) A, B, C, D and E, Dependable variable: (SPM) student practical mentoring.
Source: authors

Table 2.0

Variable	Mean	Std dev	Cronbach Alpha	Coefficient of correlation				
				A	B	C	D	E
SAP	3.46	0.841	0.784	0.04	0.02	0.20	0.03	0.15
A	2.54	1.601	0.776	-	-	-	-	-
B	2.81	1.222	0.804	0.82 ^x	-	-	-	-
C	2.78	0.900	0.861	0.51 ^{xx}	0.64 ^x	-	-	-
D	2.59	1.214	0.742	0.63 ^x	0.60 ^{xx}	0.41 ^{xx}	-	-
E	2.60	1.421	0.816	0.81 ^{xx}	0.87 ^{xx}	0.52 ^{xx}	0.71 ^x	-

SAP: Students Academic Performance

Source: authors 2016

Table 3.0 summary of model results

Hypothesis	Hypothesized	Sig	Result
H1	Student practical mentoring positively influence student understanding of professional terms.	0.01	supported
H2	Student practical mentoring positively their interest in the profession	0.04	Supported
H3	Student practical mentoring positively influence decency and obedience	0.00	supported
H4	Student practical mentoring positively influence student effectiveness in computer usage	0.00	Supported
H5	Student practical mentoring positively influence their commitment to theory work	0.57	Not supported

Source: Authors 2016

DISCUSSION

The high correlation between the independent variable recorded. This ranged from 0.41-0.87 as reflected in Table 2.0 with high significance level. It show that the constructs was useful to explain the student academic performance (SAP). Students' academic performance exhibited an Alpha value of 0.784 that support the reliability of the overall model. This was complemented by high Alpha value reflected in the five variables. The variables had the mean scores that ranged from 2.54-2.81 (Table 2.0).

The significances of students mentoring variables was in relation to the students' academic performance which reflected that; students' understanding of the professional terms was having significance of 0.01 in relation to the students' practical mentoring, this implied that students mentoring had positive influence on students' academic performance (Table 3.0). Students' interest in their professional careers exhibited 0.04 significant value in relation to the students practical

mentoring which implied that students practical mentoring positively influenced students' academic performance.

Meanwhile, students' obedience/decency, and students' effectiveness in computer usage both exhibited 0.00 significant value in relation to students practical mentoring. This value represented good supportive level of both variables in relation to students practical mentoring. Therefore, the aforementioned variables positively influenced students' practical mentoring.

However, in Table 3.0, student's commitments in theory work had significant value of 0.57 in relation to students practical mentoring. This implied that student's commitment in theory work as one of the students' academic performance variables did not positively influenced by students' practical mentoring.

CONCLUSION AND LIMITATIONS

This study established that when students engaged in the practical mentoring as internship in the course of their study, the students developed keen interest in their discipline. For instance, the students would be exposed to reality that was involved in their profession, meeting successful senior professional colleagues, as such, developed more interest in the profession. Moreover, the students that underwent practical mentoring consistently familiarized with the useful terms in their profession since terms were mostly applied as a communication link in the field work by professionals and laymen. Therefore, students with practical mentoring would exhibit better knowledge of their profession terms ahead their counterpart that did not acquire practical mentoring.

Concerning obedience and decency, as a result of the discipline involved in professional practice offices and firm that seemed more strict than in the tertiary institution, the obedience and decency of the students would be improved via practical mentoring of students in professional firms. In architectural profession, most firm had long embarked on computer for design and presentation, as such, students were practically mentored, and had high advantage of been familiar with the use of various computer design software and application as reflected in this study analysis in (Table 3.0). Thus, this study did not affirm students' practical mentoring of having positive influenced on students' theory work. This has shown that the theory aspect of learning might not be a major factor of student internship training.

However, this study shown that students' practical mentoring helped to reconcile the theory learned in the classroom with field work. Therefore, to effectively balance the dichotomy between the theory and practical, there should be a continuous partnership of learning in the classroom and internship of professional training in architectural firm via students' practical mentoring as affirmed in this study. This study had some shortcomings such as consideration of limited respondents, as it considered only single department in the study institution without recourse to allied professions and institutions across the country. Hence, we suggest that further research

should be encouraged in this area to encompass various levels of institutional school across Nigeria.

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