

## Self-Efficacy and Learning Outcomes among Office Technology and Management Students: Toward Attaining Sustainable Development Goal

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### ABSTRACT

Achieving required learning outcomes in learners is critical to attaining the sustainable development goal (SDG) of quality education as it reflects evidences of comprehension and skill acquisitions that result in change in behaviour. High level of learning outcomes in Office Technology and Management (OTM) assures quality education that is important for production of high-quality man power who will effectively manage offices of both public and private organisations for sustainable development. This study investigated influence of self-efficacy on learning outcomes among OTM students in public polytechnics, Southwest, Nigeria. Proportionate stratified sampling technique was used to select 341 students. A 42-item questionnaire adapted from literature was used for data collection and data analysis was based on 334 valid responses using regression analysis and t-test for independent sample in SPSS version 23. All hypotheses were tested at 0.05 level of significance. The study found that self-efficacy has positive significant influence on cognitive and psychomotor learning outcomes. It was concluded that high level learning outcomes necessary for achieving quality education can be influenced by high self-efficacy in the students. The study recommended that OTM students and lecturers should redirect efforts towards boosting students' self-efficacy level for consequential boosts in attainment of very high level of learning outcomes required for professional competence towards achieving the sustainable development goal.

**Keywords:** Self-efficacy, Learning outcomes, Office Technology and Management, Sustainable development goal

### INTRODUCTION

Shift to sustainable development in education has occurred in a couple of years ago, specifically in less than a decade (Kopnina, 2020). This shift led to the development of seventeen Sustainable Development Goals (SDGs) by the United Nations. The seventeen Sustainable Development Goals include: No poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, and affordable and clean energy, among others (Kroll, Warchold & Pradhan, 2019). Provision of quality education (SDG 4) essentially emphasise socio-economic priorities in teaching and learning for future usefulness. Quality education proposes that learners should acquire the required knowledge and skills for promoting sustainable development. The quality and success of any educational programme, therefore is determined by the quality of its products, the students, which borders on the quality of learning outcomes expressed through knowledge, skill and competence demonstrated by these students. Learning outcome is thus critical to attaining the SDG of quality education as it reflects evidences of comprehension and skill acquisitions that result in change in behaviour.

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Achieving high level of learning outcomes in educational programmes, especially Office Technology and Management (OTM), assures quality education that is important for production of high-quality man power who will effectively manage offices of both public and private organisations for sustainable development. Literature have shown that many countries all over the world, including Nigeria are placing high premium on ensuring that their higher educational programmes achieve desired learning outcomes in the learners (Li *et al.*, 2020; Dias & Soares, 2017; Tadesse & Edo, 2020; Winstone *et al.*, 2022). In countries such as Portugal, Ethiopia, and UK, achieving learning outcomes in students of higher education was considered a common challenge. It seems some higher educational programmes in Nigeria, especially OTM is being faced with the challenge of achieving required learning outcomes in the students which is reflected in the quality of graduates injected into the society on yearly basis. The roles of Office Technology and Management programme, an academic programme designed to replace old Secretarial Studies in the polytechnics in Nigeria, in developing students' skills, knowledge and competence that will lead to sustainable development cannot be under-estimated.

As stated in the literature, learning outcomes have three dimensions; cognitive (knowledge), affective (attitude) and psychomotor (skills) (Amini, *et al.*, 2019). Measures of learning outcomes thus include expression of knowledge acquired (cognitive), demonstration of competence/skill (psychomotor), and change in learners' attitude (affective), as a result of specific learning experiences (Ruiz-Jiménez *et al.*, 2022). OTM students are expected to comfortably demonstrate very high (95%) practical skills and competence in professional courses like shorthand and keyboarding, which are related to the capabilities of physical, practical and psychomotor skills in the psychomotor learning domain (NBTE, 2004).

Although these learning outcomes are expected from the OTM students, it however, appears that there are certain problems relating to OTM students' expression of relevant knowledge and professional competencies. Many Office Technology and Management students appear to be displaying lack of interest and motivation towards achieving academic excellence and professional competence through avoidance behaviour. Preliminary investigations showed that some students in OTM programme seem to be avoiding classes, and those who attend mostly seem not to be participating well in class discourse. Indifferent attitudes of the students towards the value and worth of office management profession affect class engagement and suggest emotional biases which may negatively impact their learning capabilities.

Similarly, many of these OTM students in public polytechnics in the South-west, Nigeria seem to lack expected level of professional competencies as being demonstrated through their inability to professionally operate modern office equipment to produce different types of office documents to meet with professional standards. This indicates deficiency in attainment of required learning outcomes. Although the literature revealed three measures of learning outcomes, this study adopted expression of knowledge (cognitive outcomes) and expression of practical skills (psychomotor outcomes), because accurate measurement of level of learners' attitudes (affective outcome) in this type of study might be far reaching.

A number of factors were shown in the literature to be influencing learning outcomes among higher education students. In the literature, it has been extensively determined how students' engagement, self-esteem and self-motivation influence learning outcomes among students of higher education (Tadesse & Edo, 2020; Castro, 2019; Ikhsan, *et al.*, 2019). Few studies investigated gender as one of grouped personal characteristics considered to be an input factor associated with learning outcomes of students in addition to age (York *et al.*, 2015). There is the collective and common belief that learning outcomes can vary based on gender and that women/ladies seem to work less hard than men. It was also believed that

there is generally a considerable variation in academic achievements of male and female students, and most times in favour of males (Siddiq & Roherer, 2019; Reilly *et al.*, 2019).

Studies abound on influence of academic self-efficacy on learning outcomes and academic performance of higher education students such as medical students, physics students, and teacher education students, among others (Hayat *et al.*, 2020; Kustyarini, 2020; Kalender *et al.*, 2020; Rorimpandey & Midun, 2021). Guo, *et al.* (2019) investigated the effect of students' interest and self-efficacy on learning outcomes among students in a public, urban university in Midwest region of the United States. The study found students' academic self-efficacy to have statistically significant effect on knowledge (cognitive) aspect of learning outcomes. Also, study by Norhikmah, *et al.* (2021) measured impact of self-efficacy of computer-skills on learning outcomes in mathematics. The experimental study conducted amidst 64 junior high school students in Makassar, reported near perfect correlation between self-efficacy and learning outcomes with  $r=0.815$ . Study on effect of cooperative learning and self-efficacy on learning outcomes found that self-efficacy was significantly and positively related to skill acquisitions, psychomotor learning outcomes. The study conducted by Chen *et al.* (2022) reported that academic self-efficacy has mediating effect on the relationship between past and present learning experiences on students' learning outcomes. The study was conducted amidst 634 university students in northern Taiwan. It was, however noted that most of these studies were carried out among varying levels of students at varieties of nations, other than Nigeria. Literature is thus relatively scarce on how self-efficacy can influence learning outcomes of Office Technology and Management students in public polytechnics, in Southwest, Nigeria.

The main concern of this study is, therefore, to investigate the influence of self-efficacy on attaining cognitive (knowledge) and psychomotor (skills) learning outcomes among Office Technology and Management students in public polytechnics in Southwest, Nigeria. It is assumed that strong and high level self-efficacy would positively and significantly influence attainment of learning outcomes indicated in expression of knowledge and practical skills among the office management polytechnic students. Based on the above, the study proposed to test the following null hypotheses:

H<sub>01</sub>: Self-efficacy will not have significant positive influence on cognitive learning outcomes among OTM students in public polytechnics, in Southwest, Nigeria;

H<sub>02</sub>: Self-efficacy will not have significant positive influence on psychomotor learning outcomes among OTM students in public polytechnics, in Southwest, Nigeria;

H<sub>03</sub>: There will be no significant difference in the level of learning outcomes of OTM students in public polytechnics based on gender.

## METHODOLOGY

The study is a descriptive quantitative research design that adopted survey method. The population of the study consisted of 2,327 OTM students across ten public polytechnics offering OTM in Southwest, Nigeria. Proportionate stratified sampling technique was used to select 341 student that participated in the study. Questionnaire with 42 items divided into three sections was used for data collection. Section A contained 4 items on demographic information such as age, sex and educational level; Section B contained 18 items adapted from Revised Learning Indicators Scales (Frymier & Houser, 1999) measuring cognitive and psychomotor learning outcomes; while section C contained 20 items adapted from Academic Self-Efficacy Scale (ASES-FJHS) by Dullas (2018) measuring self-efficacy. All items were structured on 4-point Likert design from 4 (Very high level) to 1 (Very low level). Internal consistency of sections B and C of the measurements were ensured by reliability coefficient which yielded Cronbach's alpha of 0.921 and 0.780 respectively. The 341 copies of the instrument were administered by trained research assistants and data analysis was based on

334 valid responses using regression analysis and t-test for independent sample using SPSS version 23. All hypotheses were tested at 0.05 level of significance.

**RESULTS AND DISCUSSION**

The results in Table 1 revealed  $R^2$  of .494 showing that self-efficacy will account for 49.4% variation in cognitive learning outcomes in the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed self-efficacy has very high positive correlation with cognitive learning outcome with  $R=.703$ . The value of  $p<0.05$  (.000) indicated that the influence of self-efficacy on cognitive learning outcomes of OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis that there will be no significant influence of self-efficacy on cognitive learning outcomes of OTM students in public polytechnics in South-west is not accepted.

**Table 1: Summary of regression analysis on influence of self-efficacy on cognitive learning outcomes among OTM students**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.650	.119		5.479	.000
Self-Efficacy	.761	.042	.703	17.997	.000
R= .703 ; $R^2 = .494$ ; Adjusted $R^2 = .492$ ; $P<0.05$ (Significant)					
Dependent Variable: Cognitive learning outcomes					

This study found that self-efficacy has a significant positive effect on learning outcomes of the OTM students. This finding is supported by Guo *et al.* (2019) who reported that academic self-efficacy has statistically significant effect of knowledge, which is cognitive aspect of learning outcomes. The higher the self-efficacy, the higher the level of learning outcomes attained. Thus, to achieve required learning outcomes in Office Technology and Management students in the polytechnics, students’ self-efficacy must be on the boost. Attaining required learning outcomes guarantees quality of the educational programme leading to achieving sustainable development goal 4.

The result in Table 2 showed  $R^2$  of .524 showing that self-efficacy will account for 52.4% variation in psychomotor learning outcomes among the Office Technology and Management students in public polytechnics in South-west, Nigeria. The table also showed  $R=.724$  revealing a high positive correlation between self-efficacy and psychomotor learning outcomes. The result showed  $p<0.05$  (.000) indicating that the influence of self-efficacy on psychomotor learning outcomes among OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis which states that there will be no significant influence of self-efficacy on psychomotor learning outcomes of OTM students in public polytechnics in South-west is not accepted.

**Table 2: Summary of regression analysis on influence of self-efficacy on psychomotor learning outcomes among OTM students**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.550	.115		4.768	.000
Self-Efficacy	.786	.041	.724	19.100	.000
R= .724 ; $R^2 = .524$ ; Adjusted $R^2 = .522$ ; $P<0.05$ (Significant)					
Dependent Variable: Psychomotor learning outcomes					

This study found that self-efficacy has significant direct effect on psychomotor learning outcomes. The finding is similar to Ryan *et al.* (2000) and Chen *et al.* (2022), who reported positive significant influence of academic self-efficacy on learning engagement and skills acquisition. The finding, however, unlike Chen *et al.* (2022) found a direct impact of self-efficacy on skills acquisition, psychomotor learning outcomes.

Results presented in Table 3 indicated a t-cal of .777 for cognitive learning outcomes and t-cal of 1.326 for psychomotor learning outcomes. These values are smaller than the critical t-value of 1.96. Also, the table showed p-values of .438 and .186 which are greater than the 0.05 significant level indicating no significant gender difference in the levels of cognitive and psychomotor learning outcomes of the OTM students.

**Table 3: Independent sample t-test of difference in levels of cognitive and psychomotor learning outcomes based on gender**

	Group	N	$\bar{X}$	SD	df	t-cal	t-crit	Sig.	Remarks
Cognitive LO	Female	209	2.7311	.49297	332	.777	1.96	.438	Not Sig.
	Male	125	2.7796	.62853					
Psychomotor LO	Female	209	2.6878	.51570		1.326	.186	Not Sig.	
	Male	125	2.7700	.51570					

Note:  $p > 0.05$  (Not significant)

The finding of no significant difference in the levels of learning outcomes of OTM students based on gender contradicts findings of some earlier studies that showed considerable variations in academic achievements and learning outcomes of male and female students in favour of males (Siddiq & Roherer, 2019; Reilly *et al.*, 2019). The finding implies that gender, contrary to some previous assertions, do not influence learning outcomes and academic achievement especially in OTM students.

### CONCLUSION AND RECOMMENDATIONS

The study has determined the influence of self-efficacy on learning outcomes of OTM students in public polytechnics in Southwest, Nigeria. From the findings, it could be concluded that, attaining the Sustainable Development Goal 4, quality education, require attaining high level of learning outcomes in learners. Based on the findings of the study it could be concluded that the higher the level of students' self-efficacy, the higher the level of learning outcomes. In order to achieve SDG 4, high level of learning outcomes must be achieved in learners which will be highly influence by the students' self-efficacy. The study, therefore, recommended that:

1. Office Technology and Management students and lecturers should redirect efforts towards boosting students' self-efficacy level in order to experience boosts in attainment of very high level of learning outcomes required for professional competence towards achieving sustainable development goal.
2. Policy makers for Office Technology and Management programme in Nigeria, National Board for Technical Education, should be aware of the influence of students' self-efficacy on learning outcomes and make appropriate decisions and policies that will enhance the level of students' self-efficacy and drive the educational programme towards achieving sustainable development goal 4.

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