

ROLE OF ACADEMIC LEADERS IN CREATING INCLUSIVE ENVIRONMENT THROUGH TECHNOLOGICAL INTEGRATION FOR STUDENTS WITH DISABILITIES: THE CASE OF AMBO UNIVERSITY

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Abstract

The primary aim of this study is to examine how academic leaders may foster an inclusive environment for students with disabilities by integrating technology. The researcher used an explanatory mixed-methods design to achieve the stated goal. Thirty-two students with disabilities, 62 teachers, and 32 academic leaders took part in the study. Two instruments were used by the researcher to gather data: an interview with academic leaders only and a questionnaire for instructors, students with disabilities, and academic leaders. In summary, there was a (-0.408) association between academic leaders and SwDs, and a (0.253) link between teachers and SwDs. Furthermore, the multiple regression result ($P = 0.053$) shown that SwDs' technology usage is not significantly predicted by the three variables of academic leaders' traits: inclusive leadership and vision; inclusive support, management, and operations; and social, legal, and ethical issues. The qualitative inquiry also revealed that a variety of factors, including plan implementation issues, low SwD enrollment rates, cooperation amongst relevant entities, and policy enforcement, contribute to the low level of technology integration. It is advised that the entire university community recognize the issues with teaching and learning caused by SwDs and collaborate to find technological solutions.

Key Words: *Academic leaders, Inclusive environment, Students with Disabilities, Technological integration.*

Background of the Study

The education landscape is changing rapidly and at the same time resources are reducing. At such times of change, often the most vulnerable children, young people and families are at the highest risk of poorer educational and life outcomes (Olaleye & Olusa, 2021). Education is a significant factor in the development of any country as it makes for upward mobility. Similarly, inclusive higher education is a way to defend the educational rights of university SwDs (Zhang et al., 2018). Globally, Article 26 of the Convention on the Rights of Persons with disabilities (CRPD) States Parties shall take effective and appropriate measures, including through peer support, to enable persons with disabilities (PWDs) to attain and maintain maximum independence, full physical, mental, social and vocational ability, and full inclusion and participation in all aspects of life.

Additionally, CRPD states in Article 24 Section 2 (a-e) makes provision for inclusive education which can help to strengthen the role of academic advisers and ensure that all learners achieve educational success (MacKay, 2006).

Students with Disabilities remain underrepresented in getting access to tertiary education. Higher education (HE) is committed in providing inclusive campus environment for special need students (Zaki & Ismail, 2021). Currently, there are several issues faced by HE administration in providing inclusive campus. Studies that systematically review the literature on issues and challenge in providing inclusive campus for special needs students remain insufficient (Zaki & Ismail, 2021). Although inclusive higher education is a path to protect the educational rights of university students with disabilities (Zhang et al., 2018).

Further, the issue of creating inclusive environment through technology integration for students with disability is one of the most overlooked areas in many settings. By mentioning this, the researcher wants to depict that most of previous research were giving weight to other factors such as enabling inclusiveness through sport participation (Darcy et al., 2017); inclusion through work and productivity (Lysaght et al., 2017); inclusion through preventing mobility barriers (Sherman & Sherman, 2013) that contribute to creating an inclusive environment. But in this research, the researcher is focused on solely analyzing the extent of technological integration in the process of creating an inclusive environment for SwDs in Ambo University.

Specific Objective

More specifically, this study deals with the following specific objects:

1. To determine the extent to which academic leaders are integrating technology with the aim of creating an inclusive education for students with disabilities
2. To determine the extent to which students with disabilities are using integrated technology for their teaching and learning processes.
3. To identify the reason behind the low provision of technology integration with the aim of creating an inclusive education.

Research Design

In order to address the objective of this study, the researcher has used an explanatory mixed-methods design (quan qual). Since data collection occurs sequentially and the qualitative data is collected in a supportive role, standards of quantitative rigor are emphasized as being of utmost importance, and then confirming qualitative data fills in any conceptual gaps (Kimmons, 2022). Mixed-methods research involves collecting and integrating quantitative and qualitative data in a single project and therefore may result in a more comprehensive understanding of the phenomenon under investigation (Leavy, 2017).

Population

The total population of this study is 596 which is comprised of 117 leaders which are both academic and administrative; 444 lecturers and also 35 students with disabilities. The reason behind choosing such population is because all are highly related to objectives of this research and the researcher can extract valuable information from those populations.

By using Taro Yamane (1967) formula the researcher has identified the sample size of the study which is illustrated as follows:

From the result above, the study's sample size from the two types of populations namely academic leaders and teachers of Ambo University is 234 from the total population of 561 which is the lower number of participants to gain 95% of confident interval. And by using comprehensive sampling method the researcher included all 35 students with disabilities that are found in Ambo University.

Sample and Sampling Technique

By using comprehensive sampling method all 35 students with disabilities are included. And from the total sample size of 234, by using stratified random sampling method the researcher has selected 49 academic leaders and 185 teachers. As for the qualitative investigation the researcher has purposively identified 5 academic leaders to answer the interview.

To determine the sample size for both academic leaders and teachers the researcher used the following formula.
$$n_k = \left(\frac{n}{N} \right) N_k$$

Data Gathering Instruments

Questionnaires and interview have been used as an instrument for data gathering. The data gathering instruments (questionnaires) have been adapted from other researches and (interview) has been developed by the researchers.

Data Analysis Procedures

In order to provide meaningful information for the study, three questionnaires from the research that investigate the role of academic leaders in integrating technology have been analyzed quantitatively. In analyzing the data gathered through the questionnaire, both descriptive statistics and inferential statistics have been used. The data from the interview has been analyzed qualitatively. While analyzing qualitative data, the researcher went through organizing the data, transcribing the data, coding and organizing themes, representing the data, and finally forming an interpretation of the data (Creswell & Poth, 2018).

Validity and Reliability

Although the notion of validity and reliability in research is very complicated and hard to achieve, the researcher have given much attention in order to make sure the validity and reliability of this research to be more tangible.

For making the validity of this research accurate the researcher has adopted the research questions and reviewed them with the advisor and other experts. And from the feedback given, the researcher has made some amendments to those questions. Moreover, the adopted data gathering instrument contained important variables that appropriately measure the desired aspect.

Table 1. Reliability Measurement.

No	Variables	Total No of participants	No of Items.	Cronbach's α
1.	Inclusive leadership and vision	32	5	0.894
2.	Inclusive learning and teaching	32	6	0.914
3.	Inclusive support, management and operations	32	8	0.896
4.	Social, legal and ethical issues	32	4	0.883
5.	Academic Leaders	32	23	0.957
6.	Teachers	62	11	0.889
7.	Students with disabilities	31	19	0.885

The reliability coefficients for the above seven kinds of variables are almost acceptable. As depicted in the table, when we see the Cronbach alpha's column, the points are all above 0.8, which is a desired level. This kind of result from analyzing the reliability of the measurements can lead the researcher to rely on the consecutive findings.

Cronbach α (internal consistency) reliability coefficients have been used for checking the reliability of coefficients that were conducted previously. All the variables that have been used to measure the academic leaders (inclusive leadership and vision; inclusive learning and teaching; inclusive support, management, and operations; and social, legal, and ethical issues), teachers' provision, and students usage of disabilities were checked using Cronbach's alpha, and the results were above expected and good. The following table shows the reliability coefficients for each of the measurements mentioned above.

Quantitative Analysis

Descriptive Statistics

Descriptive statistics for the variables such as mean and standard deviation have been elaborated by the following table.

Table 2. Descriptive Statistics.

No.	Variables	N	$\bar{x}$	SD
1.	Inclusive leadership and vision	32	2.7688	.95729
2.	Inclusive learning and teaching	32	2.4583	1.08261
3.	Inclusive support, management and operations	32	2.7656	.88772
4.	Social, legal and ethical issues	32	2.9688	.98936
5.	Academic Leaders	32	2.7404	.85553
6.	Teachers	62	2.8842	.84308
7.	Students with Disabilities	31	2.5586	.67040

As the table shows, the mean and standard deviation of the above variables are outlined and depict some important differences between them. For instance, the mean score of inclusive learning and teaching (2.4583) is lower than the rest of the variables. On the other hand, the mean score of social, legal, and ethical issues (2.9688) is higher than the rest of the variables.

And also, the standard deviation column gives some insights about the consistency of the items being measured. For example, the score obtained from inclusive learning and teaching is less consistent compared to the rest of the variables. And the score obtained from students with disabilities is more consistent when we compare it to the rest of the variables.

Correlation Results

Before performing a correlation analysis, it is a good idea to generate a scatter-plot. This enables researchers to check for violations of the assumptions of linearity and homoscedasticity (Julia, 2010). And as suggested, the researcher generated a scatter-plot for both measurements, i.e., academic leaders and teachers' relationships with SwDs, in the appendices section.

The table below depicts about the correlation of all the variables with the measurement used for students with disabilities. To find out the extent of how technology is integrated in Ambo University the researcher pointed out some variables for academic leaders, teachers and students with disabilities. Then the researcher correlated the results of those variables with the result of students with disabilities.

Table 3. Correlation result.

No.	Variables	1.	2.	3.	4.	5.	6.	7.
1.	ILV	1						
2.	ILT	.627**	1					
3.	ISMO	-.648**	.726**	1				
4.	SLEI	.595**	.714**	.798**	1			
5.	AL	.818**	.887**	.901**	.889**	1		
6.	T	-.286	-.314	-.318	-.369*	-.369*	1	
7.	SwDs	-.403*	-.186	-.391*	-.469**	-.408*	.253	1

Inclusive leadership and vision (ILV), Inclusive learning and teaching (ILT), inclusive support, management and operations (ISMO), Social, legal and ethical issues (SLEI), Academic leaders (AL), Teachers(T) and students with disabilities (SwDs). n=125.

The relationship between inclusive leadership and vision and SwDs was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a

moderate, negative correlation between the two variables ($r = -0.403$, $P < .05$, $df = n_1 + n_2 + n_3 - 3 = 122$), with high scores of inclusive leadership and vision associated with lower scores of SwDs.

Multiple Regression

A multiple regression was calculated predicting SwDs scores based on the three variables listed in the table below. The overall regression equation was not statistically significant ($F(3, 27) = 2.909$, $p > .05$) with an R^2 of 0.244. Individually, it was found that inclusive leadership and vision did not significantly predict the SwDs scores ($P = 0.363$). the same goes for inclusive support, management & operations ($P = 0.847$). Moreover, Social, legal and ethical issues did not statistically predictive of SwDs scores ($P = 0.180$).

Table 4. Multiple Regression Results.

No	Predictors	B	SE _B	B	t	p
	Constant	3.610	.389		9.277	.000
1	Inclusive leadership and vision	-.142	.154	-.206	-.924	.363
2	Inclusive support, management and operations	.043	.224	.058	.194	.847
3	Social, legal and ethical issues	-.262	.191	-.393	-1.375	.180

Note: $R^2 = 0.244$, Adjusted $R^2 = 0.160$, $F(3, 27) = 2.909$, $P = 0.053$.

Dependent variable: Students with Disabilities

Qualitative Analysis

In this section, the results of the study were interpreted and discussed based on the thematic areas found after analyzing the interview. The qualitative questions were concerned with identifying the reason behind the low technological integration found at Ambo University and ultimately finding out about the roles of academic leaders in the integration process.

There are five academic leaders who participated in the interview process. The thematic areas found from analyzing the five respondents are discussed. Following these, the analyzed research questions are discussed.

Results and Discussions

Initially, this research did the quantitative part as suggested by the method of research (explanatory mixed-methods design). From which descriptive statistics come first, followed by inferential statistics. Finally, after finalizing the quantitative part of the research, the researchers inaugurated the qualitative section of the research.

Summary

In the above few sections, the researcher tries to present the results and discuss the findings in relation to the reviewed literature. The first question was about finding out the extent of technological integration for creating an inclusive environment that is created by academic leaders. The correlation results suggest that the answer to the first question was that there is almost a “low extent” of technological integration at Ambo University. And also, the finding was similar for the second question, which was about identifying the extent of students with disabilities technology usage at Ambo University.

Moreover, the multiple regression result proved that the three variables of academic leaders’ traits, namely: inclusive leadership and vision; inclusive support, management, and operations; and social, legal, and ethical issues, are not significant predictors of SwDs usage of technology. In this sense, academic leaders seem to have missed their key role in the course of developing an inclusive higher education by including all three standards for integrating technology.

The third research question was investigating the reasons behind the low technological integration at Ambo University. There are five academic leaders who participated in the interview process. And it was found that there are many reasons that account for the low technology integration, such as problems with implementing the plan, the low enrollment rate of SwDs themselves, collaboration between concerned bodies, and the enforcement of policies.

Conclusions

Based on the indicated findings, the following conclusions were drawn: Generally, there is a low extent of technological integration at Ambo University that is created by academic leaders and teachers. This conclusion resulted from the academic leaders and SwDs correlation scores being negatively correlated ($r = -0.408$). The score indicates that the more academic leaders claim they have integrated technology, the less SwDs use technological integration at Ambo University. And also, the teachers correlation with SwDs empowers the above conclusion because the result of the correlation was low ($r = 0.253$).

And also, academic leaders are reluctant to view technological integration from the dimensions of inclusive leadership and vision; inclusive support, management, and operations; and social, legal, and ethical issues. This point of view is drawn from the regression result of ($P = 0.053$), which implies that these three traits are not significant predictors of SwDs usage of technology.

The third theme was about the collaboration between concerned bodies, which is the backbone for technological integration to come into effect. If there is no collaboration and no working together, there could be no effective work. The fourth theme is about the enforcement of policies. We all know that there are many policies that are outlined about everything, including issues concerning SwDs, but without their enforcement, there will still be no effect from proclaiming policies. And

finally, the researcher also outlined other causes that may intensify the low extent of technological integration. There is a shortage of facilities, such as electricity issues; the inaccessibility of the technology itself; a lack of personnel who are well aware of those technologies; and a shortage of resources.

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