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# Sandwich Mode of Learning: A Just-In-Time Intervention for Making Education Accessible

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**Abstract:** - The purpose of the current study was to identify the perception of Sandwich students on the recognition of the Sandwich programmes, employability of Sandwich graduates and the prospects of the Sandwich programmes. The researchers used descriptive survey as the research design. The questionnaire was planted online on respondents' WhatsApp platform to collect data on the variables. In all, 220 students were used in the study. At the end of the study, the researchers found that the Sandwich mode of learning has become an integral part of tertiary education. Second, there seem to be some level of discrimination against Sandwich graduates as compared to graduates from the regular mode. Third, the prospects of Sandwich programmes run in institutions, to a greater extent, will be determined by the recognition of the school as well as the ability of its graduates to get employment. The implication for practice is discussed.

**Keywords:** Sandwich Students, Recognition, Employability, Prospects, Sandwich Programme

## I. INTRODUCTION

The concept of distance learning is derived from the correspondence classes at many higher institutions in Europe in the early twentieth century in which both learners and teacher were separated based on the course design (Guthrie, 2009). At that time, many distance learning programmes used traditional mails as a means of communication between students and teachers. As the time progresses with the advancement of technology, some forms of technology have been incorporated into many educational settings such as email, video and audio clips (Erichsen & Bolliger, 2011). The advent of the internet brought convenience and accessibility to higher education with the distribution of online multimedia, granting learners and practitioners an unprecedented outlook pertaining to how learning is formed in a virtual world (Broome, Halstead, Pesut, Rawl, & Boland, 2011). In terms of how distance learning is defined, Albion (2006) describes it as a teaching setting in which a variety of technologies are employed for the increased interaction. Carnevale (2007) defines it as a consequence of teacher and student separation using technology in an educational setting for convenience and freedom. Taylor (2008) defines it as a combination of the latest technology including live and recorded audio or video computer technologies for the purpose of communicating in a synchronous or asynchronous fashion.

In the past few decades, the emergence of online learning programmes can be witnessed in higher education

due to the advancement of computer technologies. The prevalence of the internet also makes it possible for students around the world to have access to a plethora of resources based on computer networks and audio as well as video streaming systems (Lee & Nguyen, 2007). The growth of such learning methods through computers also brings more business opportunities as Taylor (2008) posits, more people from all walks of life could have access to higher education in a more cost-effective manner. Many higher institutions around the world have since started to offer more distance learning courses online for a wider population without the constraints of time and distance nowadays (Broome et al., 2011). Based on such a construct, it is possible for the institutions to keep the cost low during recruitment of teachers as the enrolment of students' increases for the same learning outcomes.

## *Prospects of Distance and Sandwich Education*

One of the most promising trends for the development of modern education is distance and sandwich education particularly, on the basis of modern information technologies (Mohammed, 2017). Distance and sandwich education meet all the requirements of the new educational paradigm of the information society which guarantees lifelong learning of the citizenry (Mohammed, 2017). Indeed, the increasing demand of quality education in contemporary society, the reduction of overall cost and study flexibility, together with the availability of powerful telecommunication and computer systems distance and sandwich education have become the toast of all public and private universities in Ghana (Agyemang, 2020). A large population of students in tertiary institutions increasingly encourage the decentralization of educational institutions. This decentralized idea has been applauded by major stakeholders in order to justify their educational existence economically.

One way of satisfying these requirements is to utilize distance and sandwich education (Mohammed, 2017). Researchers point out that distance and sandwich education is one of the trends in the development of information technology in education which can be as efficient as learning in traditional classrooms (Osadchyi, & Osadcha, 2015; Sysioeva, & Osadcha, 2019). Indeed, distance and sandwich education can be a significant approach to responding to the growing pluralism of learner backgrounds, characteristics, or unusual learning needs that may require or benefit from specialized training (Simonson, Smaldino, & Zvacek Eds., 2014)

Africa as a continent has made considerable use of distance education to extend access to formal education, even though majority of tertiary institutions have been hampered by lack of finance and manpower. Studies in countries such as Nigeria, Kenya and South Africa establish that success of distance and sandwich education rest on the provision of adequate technological resources.

As pointed out by Alfred (2014) computers and internet access create opportunities for both the students and teachers. In addition, video technologies, such as camera, cassette recorder (VCR) and discs which are widely used now are an advantage to the teaching and learning process in open education. Kaufman, Watkins and Guerra, (2001) suggest the framework for strategic planning, needs assessments and decisions making to achieve success in distance education Strategic alliance should be developed with conventional institutions, including libraries; media services, computer services, and include input of business/industry representatives, community leaders and potential students (Willis, 1998). Adequate technical support should be provided, because of the vital link of technology in course delivery and support services for students.

According to Nage-Sibande, and Morolong (2018), the success and recognition of distance and sandwich education is constrained and hampered by problems such as prejudices, lack of allocated resources, deficiencies in the planning, implementation and monitoring stages. They posit that most universities lack a comprehensive policy regarding distance and sandwich education. To them, these tertiary institutions do not allocate sufficient funding for the development of appropriate systems, and do not pay attention to the development of information and communication infrastructure. Another promising area of the future of distance and sandwich education is when universities make provisions for women in the formal sector. Many of these women find it impossible to enroll in regular programmes offered at the universities due to their domestic responsibilities. They can however, get quality education through distance and sandwich education (Nage-Sibande, & Morolong, 2018).

#### *Perception of Distance and Sandwich Education*

The differences in opinions on the organization and of operation of distance and sandwich education among the students from the various tertiary institutions in Ghana have been a subject of public discussion for quite some time now (Agyemang, 2020). Indeed, general students' perception and opinions on operation and organisation of distance and sandwich education from the various tertiary institutions suggest that things are better (Simpson, 2018; Ukwueze, 2016). This in no way suggest that organisation and operation is not without problems and blemishes. Obviously, fewer percentage of students have the impression that the programme is not good at all (Simpson, 2018). Aransi (2019) opines that some students have either positive or negative

attitude towards the system. In his study on the attitudes of higher education faculty, establish a moderately positive attitude about distance and sandwich learning in general, but moderately negative attitudes about their own use of it. He goes on to say that the situation is in place due to so many factors including the quality of its organisational and operational difficulties.

Also, on the issue of instructors and the organizers of the programme, Dibiase (2000) posits that most students think that universities sometimes hire less skilled, and cheaper workers to teach the technologically prepackaged courses. Instructors are not always convinced that administration is behind distance learning. The rewards are not always there for the good distance-learning instructor. Indeed, most distance and sandwich students perceive that is the quality of reading materials and constant sources of educative information is key to their academic success. Palloff and Pratt (2000) remind us that "technology does not teach students; effective teachers do" (pg. 4). They make the point that the issue is not technology itself, but how it is used in the design and delivery of courses. Too often instructors do not design their lessons to take advantage of the technology presented and this affects the quality of the instruction. Students' ability to read and understand study materials is crucial to their success in their educational pursuit in any academic setting.

Students' perception on the credibility and acceptance of their certificates have being raised several times when it comes to the distance and sandwich programmes. Most distance and sandwich students have the impression that their certificates lack the needed credibility as compared to the certificates of regular students. In fact, an area of great concern to students is the accreditation for the distance education programmes. According to Rudhumbu (2018), acquiring accreditation to run distance education is a major problem for the institutions and this has been a frustration for the school authorities as it takes them long periods and cumbersome procedures before they finally get it. It is a source of worry when the learners gather that their institution is not accredited and this gives them some psychological frustration and insecurity.

#### *Suitability and Employability of Distance and Sandwich Students*

The increase in the number of tertiary institutions and the number of graduates in past few decades has been a worldwide phenomenon, and with attendant number of undergraduates applicants also widening (Akalu, 2016). Despite the increment in the enrollment at higher education institutions, statistics shows that employment rates are lower among fresh graduates (Mok, 2016). Detailed reports also suggest differences in employment rate across field of study. As employability has been highlighted as the main factor motivating the youth and other non-traditional students to achieve higher education attainment (Kettell, 2020). Aransi (2019) in a study to investigate the effectiveness and

employability of Sandwich degree programme in Nigerian universities shows that a high percentage of sandwich graduates and their bosses agreed that Sandwich degree programme promotes teachers' effectiveness and enhances their chances of being employed in schools and the larger corporate world. Afe (1990) in a similar study reveals that Sandwich products performed better after their graduation and also displayed sense of maturity in terms of job performances and experiences. Also, Borisade (2006) finds that Sandwich degree programme is a programme that encourages continuous academic and professional growth of teachers and which has also helped to improve the level of teachers' productivities and competencies. Indeed, the finding of this study further reveals that sandwich graduates bring a significant improvement to the use of instructional materials in schools.

According to Oluwayemi (2002), Sandwich programme enhances instructional delivery, broadens teachers' knowledge and model teachers for optimum performance. Undoubtedly, Sandwich degree programme has helped to improve the level of competencies and productivities of teachers since its establishment. Adesina (2001) observes a high efficiency and improvement in approaches, techniques, knowledge and skills of teachers who updated their knowledge through Sandwich degree programme. To Borishade (2006), products of Sandwich showed a change in attitude to work and improvement in their interpersonal relationship after their experiences in Sandwich programme and has been recognized as one of the useful modes of continuous education. Erichsen and Bolliger (2011) and Carnevale's (2007) in their respective studies on the acceptability establish that Sandwich graduates have low degree when it comes to obtaining employment in corporations and academia. The distinct bias, according to them, could be found to exist due to its structure and course design compared to the traditional face-to-face mode.

## II. METHODOLOGY

The purpose of the study was to identify the perception of sandwich students in one of the public universities of Ghana on the nature of the sandwich programme they have enrolled in. Based on the purpose, the researchers used survey research design to solicit the views of these students. In all, the total enrollment of the sandwich students in the three different programmes offered by the university was 435. Out of this number, 220 responded to an online survey that was sent to all sandwich students on campus through their programme WhatsApp platforms.

The instrument for data collection was a questionnaire. The instrument was designed by the researchers. It had two sections. The first section was on demographics (gender, age, and employment status). The second section, which was a ten-item on a five-point Likert scale from strongly disagree (1) to strongly agree (5), centred on how the students see sandwich programmes in the

university. The questions centred on the acceptability of sandwich mode of learning, recognition of the programme, readiness to recommend to others, among others.

The students answered the questionnaire online. The link to the questionnaire was placed on the students' WhatsApp platform in the second semester of the 2018/2019 academic year. All the sandwich students from the three programmes offered on campus were given the opportunity to be part of the study by visiting the class WhatsApp platform and clicking on the link to answer the questionnaire online. Prior to the administration of the questionnaire, the researchers informed all students on their various WhatsApp platforms the purpose of the study and how to respond to the questionnaire on their phones. At the end of the two-week period allowed for responding to the questionnaire, 232 students representing (53%) took part in the study. Screening and preparation of the data reduced the number to 220 and was entered into the SPSS 22.0 version for analysis. The online approach was used to give equal chance to all the Sandwich students as it is required when doing a simple random sampling.

## III. DEMOGRAPHICS

The purpose of the current study was to identify the perception of sandwich students in one of the public universities of Ghana on the nature of the sandwich programme. This section centres on the data that were obtained from the respondents on the demographics. The first data obtained from the students were on gender. The sandwich students were made up of 126 males (57.3%) and 94 females (42.7%). From the data, the number of female students in the programme was encouraging since the number of females is higher than one would expect in a regular mode of the setting. Table 1 shows details on gender of respondents.

**Table 1.** Gender of respondents

Gender	Frequency	Percentages
Male	126	57.3
Female	94	42.7
<b>Total</b>	<b>220</b>	<b>100</b>

(Field data, 2019)

The researchers obtained data on the age of the sandwich students. To make the analysis easy for the researchers, the age variable was divided into three groups as 19-30 years, 31-36 years, and 37 and above. Based on the data collected, the mean age was 33.5 with a standard deviation of 6.6 years. From this finding, the sandwich students were more likely to be in their early thirties to the middle thirties. To buttress this observation, the ages from 31-36 had the highest number of frequency (81 respondents) with the percentage of 36.8. In spite of being the smallest in terms of the number of years. The Table 2 has details on the age of the respondents.

**Table 2.** Age of the Respondents

Age	Frequency	Percentages
19-30	74	33.6
31-36	81	36.8
37 and Above	65	29.5
Total	220	100

(Field data, 2019)

The researchers also collected data on the employment status of the respondents. The reason for this data was to have some knowledge on the calibre of students who enroll in the sandwich programme. The data collected indicated that more than three times of the respondents were gainfully employed whereas 52 respondents, representing 23.6 % did not have work to do. The result seems to imply that majority of people who are already working are more comfortable with the sandwich programme than those who are unemployed.

**Table 3.** Employment Status of Respondents

Gender	Frequency	Percentages
Employed (1)	168	76.4
Unemployed (2)	52	23.6
Total	220	100

(Field data, 2019)

**Research Question 1:** to what extent is the sandwich programme recognised in Ghana?

To answer this research question, three items on the questionnaire sought to solicit data for analysis. The questions were *Sandwich is a recognized learning mode in Ghana*, *Many students are willing to enroll in Sandwich programmes*, and *I feel proud to be enrolled in the sandwich mode*. After running the descriptive statistics in SPSS, there was a mean scores of 4.43 (SD = 1.104), 4.10 (SD = 1.265), and 4.42 (SD = 1.095) 5 respectively. From this findings, it seemed to suggest that Sandwich students were more likely to agree to strongly agree that the sandwich programme has become acceptable to the people than before.

Findings from this present study are consistent with a plethora of studies (Osadchyi, & Osadcha, 2015; Sysoieva, & Osadcha, 2019). For instance, Agyemang, (2020) stresses that the increasing demand of quality education in contemporary society, the reduction of overall cost and study flexibility, together with the availability of powerful telecommunication and computer systems make distance and sandwich education the toast of all public and private universities in Ghana. Mohammed (2017) also posits that distance and sandwich education meet all the requirements of the new educational paradigm of the information society which guarantees lifelong learning of the citizenry. The results of this study are however differ in the views espoused by Nage-Sibande, and Morolong (2018). To them, the success and recognition of distance and

sandwich education is constrained and hampered by problems such as prejudices, lack of allocated resources, deficiencies in the planning, implementation and monitoring stages. They posit that most universities lack a comprehensive policy regarding distance and sandwich education.

**Research Question 2:** what are the chances of sandwich graduates being employed after the programme?

The aim of many students is to get good employment at the end of their various programmes. Likewise, the researchers wanted to know the job prospects of the sandwich students as compared to the students who have graduated from the regular mode. To answer this research question, two items (*Employers would not prefer full-time graduates to sandwich graduates* and *I am more likely to get a job after graduation*) on the questionnaire sought to get data on it. The descriptive analysis indicated that the mean scores for the two items were 2.76 (SD = 1.593) and 4.26 (SD = 1.163) respectively. The finding seemed to suggest that the Sandwich students were optimistic of finding a job after graduation. However, they seemed to disagree with the statement that there would not be any discrimination between students from the regular mode as against students from the sandwich mode.

Findings from this current study uphold views expressed by a number of researchers such as Kettell, (2020), Aransi (2019), and Afe (1990). A case in point, Aransi (2019) in a study to investigate the effectiveness and employability of Sandwich degree programme in Nigerian Universities shows that a high percentage of Sandwich graduates and their bosses agreed that sandwich degree programme promotes teachers effectiveness and enhance their chances of being employed in schools and the larger corporate world. Also, Afe (1990) in a similar reveal that Sandwich products or graduates performed better after their graduation and also display sense of maturity in terms of job performances and experiences. Again, Borishade (2006) posits that Sandwich graduates showed a change in attitude to work and improvement in their interpersonal relationship and are seen as suitable candidates for employment. Notwithstanding this, findings from this study contradict the findings of Erichsen and Bolliger (2011) and Carnevale's (2007). They in their respective studies on the acceptability establish that Sandwich graduates have low degree when it comes to obtaining employment in corporations and academia.

**Research Question 3:** what is the prospect of sandwich programme in Ghana?

The sandwich mode of learning has become an integral part of the learning modes in the country. It has become the norm for almost all the private universities and university colleges to run such programmes in the country. The question the researchers wanted to answer was the extent to which the sandwich programmes was sustainable. To test this, two items (*Many students are willing to enroll in Sandwich programmes on the questionnaire* and *I will recommend to a friend or close relative to enroll in sandwich*

mode) sought response on that. The findings indicated a mean scores of 3.28 (SD = 1.554) and 4.03 (SD = 1.261).

The findings from our study share similar views with research works including that of Akalu (2016), Oluwayemi (2002), and Adesina (2001). According to Oluwayemi (2002), sandwich degree programme has helped to improve the level of competencies and productivities of teachers since its establishment. Adesina (2001) also observes a high efficiency and improvement in approaches, techniques, knowledge and skills of teachers who updated their knowledge through Sandwich degree programme. Again, Borishade (2006) finds that sandwich degree programme is a programme that encourages continuous academic and professional growth of teachers and which has also helped to improve the level of teachers' productivities and competencies.

*Research Question 4:* is there any correlation among age, recognition of sandwich programmes, and employability of sandwich graduates and prospect of the sandwich programme?

To answer this research question, the researchers ran a Pearson product moment correlation to identify any relationship among the four variables. The results indicated that there was no statistically significant relationship between age and any of the other three variables (recognition, employability and prospect). However, there were positive strong significant relationships among recognition, employability and prospect variables. The results seemed to imply that there was a close connection among the three variables. The more the sandwich programmes gain recognition, the more their graduates become employable and the better prospects of the programme and the less recognition of the sandwich programme, the least number of graduates would get a job and the less chances of their prospect. Details of the statistics are presented in Table 4.

**Table 4.** Pearson Correlation among Age, Recognition, Employability and Prospect variables

		Age	COMPUTE Employ_Variab	COMPUTE Recog_Variable	COMPUTE Prospect_Varia
Age	Pearson Correlation	1	.129	.003	-.033
	Sig. (2-tailed)		.058	.963	.631
	N	220	216	219	218
COMPUTE Employ_Variable	Pearson Correlation	.129	1	.457**	.399**
	Sig. (2-tailed)	.058		.000	.000
	N	216	216	216	215
COMPUTE Recog_Variable	Pearson Correlation	.003	.457**	1	.774**
	Sig. (2-tailed)	.963	.000		.000
	N	219	216	219	218
COMPUTE Prospect_Variable	Pearson Correlation	-.033	.399**	.774**	1
	Sig. (2-tailed)	.631	.000	.000	
	N	218	215	218	218

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Findings from this current study uphold views expressed by Borishade (2006). According to him, sandwich programme is achieving the necessary recognition and the needed prospect. In fact, Borishade (2006) says that sandwich education is virtually realizing all its stated objectives such as encouraging continuous academic growth of serving teachers, improve their productivities and competencies, gaining recognition, and prospect, and that the products of Sandwich programme were found not to be different from the quality and product of the full time regular degree programme in terms of employment.

*Research Question 5:* to what extent do age of students, employability and recognition of the sandwich programme predict prospect of the sandwich programme?

The researchers wanted to know the extent to which the age of the respondents, their perceived employability and perceived recognition of the sandwich programme predict the prospect of the programme. To answer this research question, a multiple regression statistical test with the three variables was run in SPSS. The results indicated  $F(1, 220) = 108.138, p = .000$ . The adjusted r square indicated a 60% of the variability in the dependent variable accounted for by the dependent variables. Based on the coefficient table, only the recognition variable was statistically significant and a one point increase in the recognition variable was more likely to have 0.737 increase in the prospect variable.

The findings of this current study is consistent with that of Borishade (2006). He posits that products of Sandwich showed a change in attitude to work and improvement in their

interpersonal relationship after their experiences in Sandwich programme and has been recognized as one of the useful modes of continue education. Oluwayemi (2002) also emphasizes that Sandwich degree programme has helped to improve the level of competencies and productivities of teachers and since its establishment it has received greater public recognition.

#### IV. IMPLICATIONS FOR PRACTICE

1. That the Sandwich mode of learning has gradually become an acceptable route of learning that requires managers of tertiary institutions to put in place various interventions to improve the quality of the teaching and learning to make their graduates equally competent if not better than graduates from the regular mode.
2. There is the need for serious education on the fact that the Sandwich learning mode has come to stay and the propensity of more graduates coming out in the years to come. This level of consciousness is needed on the job market so that employers will embrace the Sandwich graduates as equally competent for the world of work.
3. Based on the findings of the study, there is the need for institutions that are running Sandwich programmes to be mindful of how come out with different learning interventions for their students in order to improve the prospects of attracting more students as enrollment becomes competitive.
4. From this current study, majority of Sandwich students were already employed. This seems to imply that many of the Sandwich programmes could be tailored towards practical on-the-job instruction to help the students improve upon their competencies as employees.

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