




## Research Article

# Students' Approaches to Learning the New B. Ed. Programme in Ghana: Evidence from Colleges of Education within Mampong Municipality

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**Abstract:** This paper explores the use of surface and deep learning strategies of students in two Colleges of Education within Mampong Municipality: St. Monica's College (Single-Sex College-Female) and Mampong Technical College (Single-Sex College-Male) who were enrolled to read a Four-Year Bachelor of Education programme. Drawing on Biggs et al.'s Revised Study Questionnaire (2001), the study investigates whether student-teachers adopt a predominantly surface or deep learning approach to their studies for the New B. Ed. programme introduced into the Colleges of Education. From February to April 2021, we employed a quantitative cross-sectional design. A self-administered questionnaire was used to collect data from 332 participants (level 200 and 300) who were enrolled to study the four-year B. Ed. programme which was introduced in 2018. One-way analysis of variance (ANOVA) and t-tests were used to examine participants' age, sex and level of study in correlation with their learning approaches (Deep or Surface). A significant difference in the Deep learning approach was found between males and females in both schools ( $p = 0.47$ ). However, there was no significant difference between age, level and learning approach. Their responses were analysed using descriptive statistics. Findings suggest that student-teachers appear to adopt deep learning strategies in their studies at Colleges of Education and that this approach to learning was used regardless of the discipline in which they were enrolled.

**Keywords:** students' approach, learning, colleges of education, Ashanti

## 1. Introduction

The approaches to students' learning have been extensively studied over decades which is not a new conversation (Biggs, 1970, 1978, 1987; Entwistle, 1970; Marton & Saljo, 1976; Dansereau, 1978; Gardener, 1992; Kolb, 1984, 2012; Case & Marshall, 2009; Cano & Berbén, 2009). The term "learning approaches" is used to connote what learners do when involving in the learning process, and their deep passion to engage in a particular way of learning tasks (Diseth, 2003; Uiboleht et al., 2018). According to Biggs (1987) and Diseth (2003), approaches to learning are the preferred manner in which students deal with learning tasks. Students' approaches to learning may either promote or hinder their

academic progress (Brown et al., 2015; Richardson et al., 2012; Lublin, 2003). Several studies have been conducted over the years to determine the learning approaches that specific groups of students adopt, and the factors in the various groups that motivate their learning approaches (Chonkar et al., 2018; Beattie, 1997). The definition of learning approaches involved two main elements: the deep learning approach (DLA) and the surface learning approach (SLA). A consistent finding is that learning is an endless journey and that one stops learning when she or he is dead and that approaches to learning are determined by motivational factors (intrinsic and extrinsic) (Beattie, 1997; Leiva-Brondo et al., 2020). Also, the learning environment, the content, the duration of the programme and the teaching strategies employed by teachers can influence students to adopt a particular learning approach. The process of learning can be categorized into three variables: presage, process and product (PPP). Biggs et al. (2001) posits that these variables are highly interrelated system which form a synergy for better comprehension of the process of learning. The presage variables (PV) are the prior experiences learners bring into the learning environment which is being propelled by both intrinsic and extrinsic factors. Intrinsic factors are the personal desires or deep passion learners naturally exhibit which are demonstrable by visible attributes in the learning outcome such as committed or not, dedicated or undedicated among others. Extrinsic factors, on the other hand, refer to the learning environment in which the student finds him/herself in and the factors that may influence the learner's decisions are the learning load, teaching methods and forms of assessment (Beattie et al., 1997; Alkadhi, 2008; Alt & Boniel-Nissim, 2018). Several pieces of research have indicated that the learning environment alone can compel a student to adopt a Deep Learning Approach (DLA) or Surface Learning Approach SLA (Bonsaksen et al., 2017; Desierto et al., 2018; Ellis & Bliuc, 2019; Uiboleht et al., 2018; Beattie et al., 1997; Biggs et al., 2001; Ames et al., 1992; Ramsden et al., 1997, 2003, 2008; Alom et al., 2018; Delgado et al., 2018).

Learning as a process may be influenced by motivational factors (intrinsic or extrinsic or both) (Beattie et al., 1997; Ryan et al., 2020; Lucchetti & Lucchetti, 2018). With DLA, students are engaged in meaningful learning where learners can think critically and independently and interpret information that has a lasting impact on them while SLA seeks to merely recall basic facts and the main aim is for learners to excel in a test or an examination (Hyytinen et al., 2018; Hamilton & O'Dwyer, 2018; Lindblom-Ylänne et al., 2019; Rolleston et al., 2019; Stokes et al., 2020). DLAs are more focused on knowledge transformation whereas SLA mainly on knowledge reproduction. With the surface approach to learning, students use strategies such as memorisation to finish their academic tasks, pass their studies, and are thus "focused on reproducing" knowledge (University of Oxford, 2017).

The fundamental distinction is that the SLA often relies on performing well in assessment. This does not lead to the proper development of learners' skills and competencies in the content of the subject being taught; the prime focus is just excelling in an examination or a test. On the other hand, in DLA, students delve deep into the content being taught and they are able to interpret the material presented to them to make their own meanings and judgment. This kind of in-depth analysis of the subject matter by students is a clear manifestation of their deep passion and burning desire to obtain knowledge to solve personal and societal problems. With DLA, performance in assessments is considered a secondary matter (Mensah et al., 2019; Nieminen et al., 2019; Peng et al., 2019; Owusu et al., 2019; University of Oxford, 2017; Mosca et al., 2015; Byrne et al., 2010; Biggs et al., 2001; Biggs & Tang, 2007; Ramsden et al., 1997, 2003, 2008; Entwistle, 2000, 2003). Student Approach to Learning (SAL) plays a key role; therefore, teaching should be seen as the process of providing guidance and direction to learners.

The New Curriculum (four-year Bachelor of Education) programme was the first of its kind introduced to the Colleges of Education in Ghana in 2018 when all Colleges of Education that were previously running certificates and diploma in education programmes have been phased out. The main focus of the New Curriculum is to train professional teachers with the needed pedagogical content knowledge and skills for them to be able to create and share knowledge with young children in primary and junior high schools in Ghana. The New B. Ed. centered on good teaching which influences students to take a deep approach, while poor teaching in the widest sense can pressure students to take a surface approach. These views and observations are in consonance with modern preferences for learner-led and peer-assistive pedagogical strategies (University of Cape Coast Training Manual, 2018). Students' teachers have been empowered to think critically and solve problems independently while lecturers play a facilitating role. With the New B. Ed. programme, the traditional methods of teaching and assessment have been discarded, because they are no longer helpful in training teachers in the 21<sup>st</sup> century. This study was carried out for course lecturers to assess how learners approach their studies in the New B. Ed. programme. The study will serve as a guide to course lecturers, coordinators

and professional manual writers to appreciate how students are coping with the new content, workload and the learning environment and to ascertain whether course lecturers in the Colleges of Education are applying the appropriate pedagogies in teaching as well as students applying the appropriate learning strategies in their studies.

Also, an in-depth analysis will be shed on the learning approaches that may inform fair judgment on the appropriateness of the B. Ed. programme structure, content and pedagogical strategies employed by course lecturers in the Colleges of Education in Ghana.

## 2. Objective of the study

The main objective of the study was to examine which learning approaches (DLA or SLA) were adopted by second-year and third-year students in the new B. Ed. Programme in the Colleges of Education in Ghana.

## 3. Hypothesis

Ho: There will be no significant difference between sex (male and female) and learning approaches.

Ho: There will be no significant difference between level of study and learning approaches.

Ho: There will be no significant difference between age and learning approaches.

## 4. Methods and materials

This study employed the quantitative cross-sectional research design. The study was conducted at St. Monica's College of Education (Single-Sex College female) and Mampong Technical College of Education (Single-Sex College male) in Mampong Municipality in Ashanti Region, Ghana. The participants for the study were regular students enrolled in the four-year Bachelor of Education programme full-time. The four-year Bachelor of Education programme was the first of its kind being introduced in the Colleges of Education in Ghana in 2018 to replace the then Diploma in Basic Education (DBE) programme. The first batch of the B. Ed. programme (current level 300 and the second batch, level 200) was invited to participate in the study. The participants who were willing to participate in the survey were included after they had agreed to sign the consent form. Those who were not willing and did not sign the consent form were excluded from the study. This study used the ROASOFT (<https://www.Calculator.net/>) sampling calculator with a 95% confidence level resulting in 332 participants from both schools (Mampong Technical College of Education and St. Monica's College of Education register). The researchers employed the probability sampling approach (Method of Chance) to choose 332 respondents. The researchers assigned a unique identity to every learner from level 200 to 300 in both schools. The numbers assigned to each participant were derived from the registry with unique identities generated from an automatic random number programme. The researchers organised an orientation programme on the purpose of the research, benefits, risks and anonymity of the participants were discussed during break times in both schools before the actual commencement of the research work. Again, participants were given the opportunity to ask questions for clarification and informed consent forms were signed by each participant. The prepared questionnaires were self-administered to participants to collect the data. Data collection commenced from February to April, 2021 when all schools in Ghana have resumed after one year lockdown due to the Covid-19 outbreak. The questionnaires were administered by the researchers in person to each participant during break time. The study used Bigg's Revised two-factor Process Study Questionnaire (R-SPQ-2F) (Biggs et al., 2001; Pérez-de-Castro, 2020; Ali & Rizvi, 2019). The items on the Likert scale which were 5 under Biggs' R-SPQ-2F were modified a bit to suit the context of this study to be four main items or options (Strongly Agree = 4, Agree = 3, Disagree = 2 & Strongly Disagree = 1). The questionnaire was specifically designed as a sensitive tool to identify students' approaches to learning. The questionnaire also contains a sub-scale that makes room for data interpretation in order to make identification of factors that influence students learning approach. The motive subscale is adopted to indicate the intrinsic factors that entice students to choose either a DLA or an SLA, and the strategy subscale to identify the extrinsic factors of the learning environment that motivate students in the teaching and learning process (Biggs et al., 2001). This questionnaire assesses deep and surface

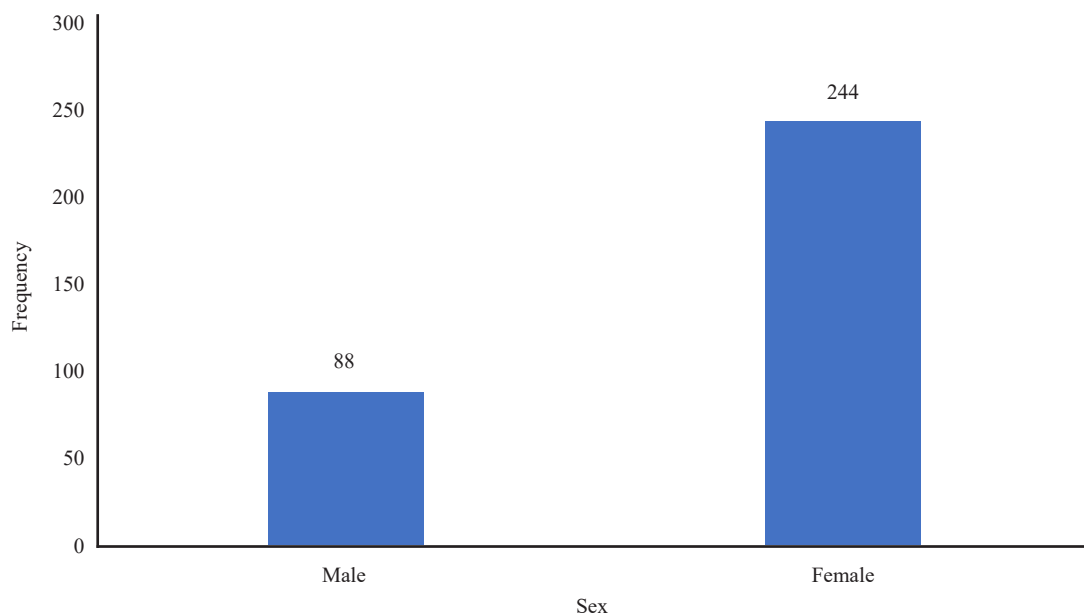
approaches using 20 items. The questionnaires were pilot-tested at St. Monica’s College of Education by three experts (an assessment officer, a subject-leader in Measurement and Evaluation, and an Educational Psychology expert all in Education Department). The three experts have all agreed that the 20 items were suitable and deemed applicable for the research problem. Twenty study items were tried out with twenty students to ascertain the validness of the research tool. The reliability test yielded an alpha coefficient of 0.85. A one-way analysis of variance (ANOVA) was used to test the differences among participants’ age groups and learning approaches (SLA or DLA). Again, the researchers employed an independent t-test to ascertain if there were differences between participants’ sex and learning approaches and also levels (Level 200 and Level 300) and learning approaches. All factual investigations were performed utilising Statistical Package for the Social Sciences version 25 (SPSS V.25). All values were set to a 0.05 level of significance.

## 5. Results

Out of the 332 respondents, the majority (244) constituting 73.5 percent were females while 26.5 percent were males. In terms of the gender, females were more than males. This is also illustrated in the Figure 1 below.

**Table 1.** Sex of respondents

Sex	Frequency	Percentage (%)
Male	88	26.5
Female	244	73.5
Total	332	100.0

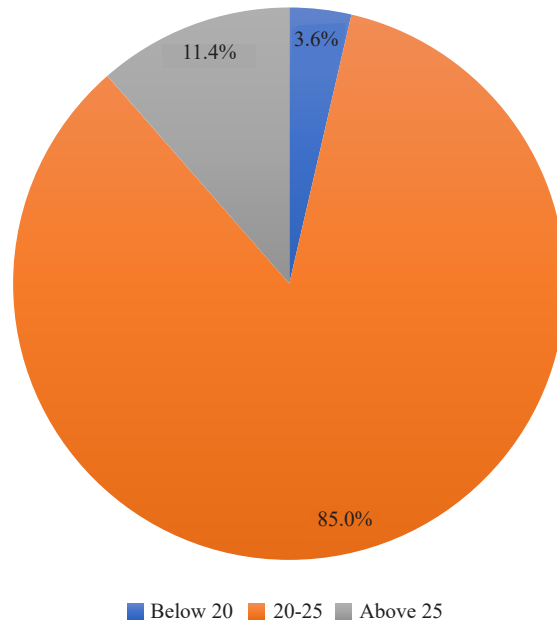


**Figure 1.** Sex of respondents

The majority of the participants (282) representing 85.0% aged 20-25 while 12 representing 3.6% was below 20 years took part in the study. This is further illustrated in the Figure 2 below.

**Table 2.** Age of respondents

Age	Frequency	Percentage (%)
below 20	12	3.6
20-25	282	85.0
above 25	38	11.4
Total	332	100.0



**Figure 2.** Age of respondents

Out of the 332 participants, level 200 students (192) representing 57.8% participated in the study while level 300 (140) constituting 42.2% took part in the study. This is shown in figure 3 below:

**Table 3.** Level of respondents

Level	Frequency	Percentage (%)
200	192	57.8
300	140	42.2
Total	332	100.0

Table 4 presents the findings of the single-direction examination of fluctuation (ANOVA) and t-test examining differences in participants' deep and surface learning scores and age groups. The single-direction ANOVA uncovered that there were no genuinely huge contrasts across age groups and learning approaches of students in both schools.

A significant difference was noted between sex (male and female) and the learning approaches of participants when

the independent t-test was employed.

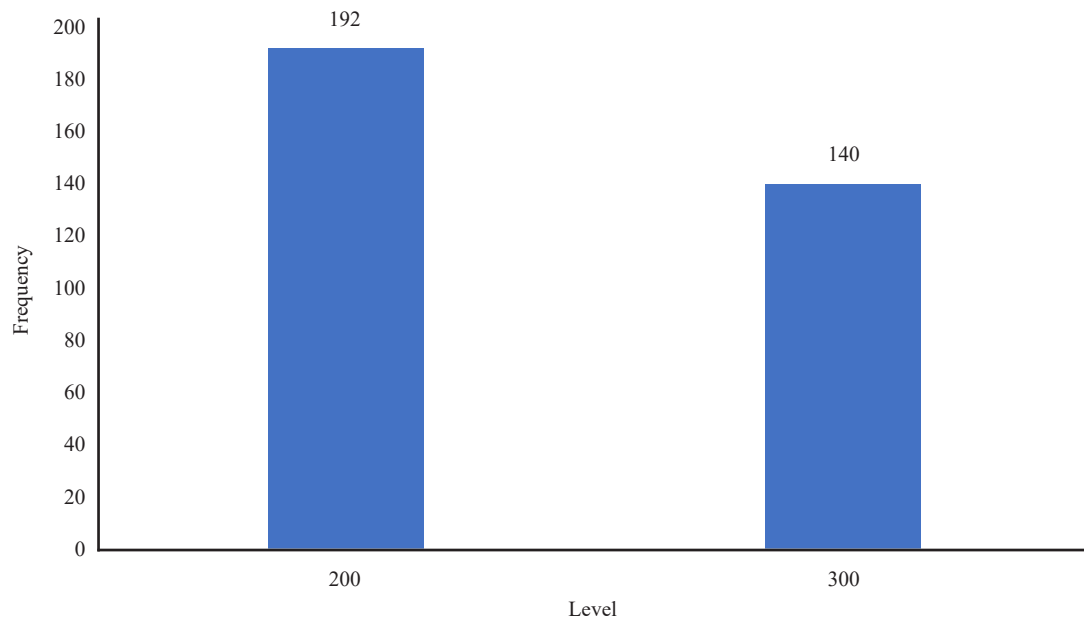


Figure 3. Level of respondents

Table 4. Difference between learning approach scores and respondents' Characteristics (N = 332)

Variable	Frequency	Mean	SD	Test value	Df	p	Interpretation
Age							
Below 20	12(3.6)	2.942	0.174	f (2.879)	2	0.058	Not significant
20-25	282(85.0)	2.891	0.388				
Above 25	38(11.4)	2.740	0.344				
Sex							
Male	88(26.5)	2.944	0.473	t (1.997)	330	0.047	Significant
Female	244(73.5)	2.850	0.338				
Level							
200	192 (57.8)	2.938	0.399	t (3.585)	330	0.501	Not significant
300	140 (42.2)	2.789	0.334				

Field survey, (2021)

Lastly, the independent t-test was again tested to explore participants' levels (level 200 and level 300) and learning approaches. It was revealed that there were no statistically significant differences between levels and learning approaches of students in both schools.

### 5.1 Discussion

The findings of this study have shown that Colleges of Education students who were enrolled to study a four-year

Bachelor of Education programme for the first time used both deep and surface learning approaches. The results of this study on the learning strategies used by College students appear to both support and contradict existing literature on deep and surface learning approaches. The findings support Wang's (2013) finding that the learning approach adopted by students does not depend on the discipline in which they are studying. On the other hand, the findings from this study contradict other research which has found that undergraduate students tend to adopt a surface approach to learning (Brown et al., 2015; Turner & Baskerville, 2013; Donnison & Penn-Edwards, 2012; Laird et al., 2008; Entwistle & Peterson, 2004). Thus, it seems amazing as to why the majority of students, who are undergraduates, demonstrate knowledge of and belief in their use of strategies for a deep learning approach in the face of literature that would suggest otherwise. The majority of the students adopted the deep learning approaches rather than the surface approach. The students engaged in deep learning because of the passion they possess in understanding the courses they study, teaching strategies adopted by course lecturers and how they translate the knowledge to solve personal and societal problems. Teaching must involve reflective decision making which is developed through deep learning so they can create and share knowledge with their learners when they complete their studies. Several studies have been reported where few differences in learning approaches between undergraduates and other specialism like nursing education. Studies revealed that age played a crucial role in participants' choice of a particular learning approach (Tove et al., 2018).

The investigation uncovered a critical distinction in the participants' sex (male/female) and learning approaches. Some studies have found that females were more likely than males to engage in surface learning than their male counterparts (Adela et al., 2020; Mahmud & Nur, 2019). Alluding to sex, female understudies scored fundamentally higher in their inclination towards all learning styles than their male friends which is the reason the primary theory by which it was expected that there was no huge distinction in learning style inclination dependent on sex was upheld. We, therefore, rejected the null hypothesis (1). These findings are in consonance with research by Lai (2001) who found that male and female students differ significantly in their approach to learning. While others studies claimed that sex and how students study have no particular pattern (Cetin, 2016), other researchers saw a significant difference between age and learning approaches. These authors highlighted that older learners tilt towards a deep learning approach than younger students because the older students are more superior in exhibiting their experiences which is important to meet their intellectual advancement (Yonker, 2011; Alsayed et al., 2021). However, in other studies, the age and learning approach played no important contrast in students learning (Gerritsen-van Leeuwenkamp et al., 2019). This study revealed that students' age has no influence over their learning approaches as the majority of them appeared to adopt a deep learning approach. Similarly, Venkatesan's (2015) study revealed a difference in students' preferred learning styles that changes with time. With Hypotheses (2) and (3) we do not reject the null hypotheses because there was no statistically significant relationship between levels and learning approaches and age and learning approaches. Students may tend to change their approach to learning as they climb the academic ladder because they will like to be autonomous and self-directed in whatever they do in school and relate it to the real world.

## **5.2 Conclusion**

College students use the DLA in their studies though a handful of them also use the Surface approach. Both learning approaches are important and valuable in Teacher Education. There was no statistically significant difference between age and learning approach, levels (level 200 and level 300) and learning approach. However, significant differences existed between sex (male and female) and the learning approach. Colleges authority should create a conducive environment for students to develop better the DLA which involves in-depth analysis, problem-solving and critical thinking.

## **5.3 Policy implications**

Course lecturers in the Colleges of Education in Ghana must all embrace and shift their mode of instruction where lecturers were considered as the custodian of knowledge to being facilitators of students learning. When lecturers employ student-centered approaches such as cooperative learning, project method, fishbowl, jigsaw puzzles, experiential learning strategies among others, will go a long way to motivate student-teachers to adopt a deep learning approach. Also, the mode of assessment of students should be based on the learning needs of students. The focus of assessment (assessment for, assessment of and assessment as) should be rigidly enforced to ensure that student-teachers grab the



needed pedagogical skills and competencies as 21<sup>st</sup> century teachers. More so, while the educational success of the students can be attributed to the facilitator's rich experiences and competencies, the need to integrate a deep approach in diverse characteristics of students should be considered and supported. The success in achieving the New B. Ed. programme goals heavily relied on the rapport among lecturer-student and student-student relationships. Finally, the findings from this study will be forwarded to the University of Cape Coast, College of Education Studies for proper review of the courses offered at the Colleges of Education and so they can retrain College lecturers on student-centered pedagogies for them to encourage student-teachers to adopt deep learning approaches.

## Conflict of interest

The authors declare no competing financial interest.

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