

Factors influencing agricultural students' academic performance at the University of Abuja, Nigeria

**Salihu Musa Achagwa¹, Samson Olayemi Sennuga^{1*}, Osho-Lagunju Bankole¹
and Alabuja Funso Omolayo²**

¹Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, University of Abuja, FCT, PMB. 117, Abuja, Nigeria.

²Department of Agricultural Economics, Faculty of Agriculture, University of Abuja, FCT, PMB. 117, Abuja, Nigeria.

*Corresponding author. Email: dr.yemisennuga@yahoo.co.uk

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ABSTRACT: The main objective of this study is to examine the factors affecting the academic performance of agricultural students at the University of Abuja Nigeria. Data were collected by the use of structured questionnaires, interviews and focus group discussions. The population of this study comprises all active registered agricultural students faculty of agriculture across levels and departments from 100 levels to PhD except 400 level students that were on industrial training. Convenience, purposive and simple random sampling techniques were used to collect data. Yaro Yamani formula was used to calculate the sample size (284). Descriptive statistic was used to analyze all the objectives. 53.8% of the respondents are female while 46.2% are male. 48.4% of the students have an age range between 21-30 years. 49.6% of the respondent has a household size of 1-5. 84% of the respondents are undergraduate students. 55.5% of the respondents have monthly school allowances/ income of 10,000-50,000. This study found that uncomfortable learning environments, family background, difficulties in understanding the subject of agriculture, teachers students ratio, information overload, performance pressure, unhealthy lifestyle, gadgets distractions, loss of interest and wrong reading practice, over-confidence, poor teaching skills, exams phobia, inadequate power/electricity supply, inadequate hostel accommodation, unequipped laboratories, poor diet, poor class attendance, financial problems, wrong mindset, procrastination, poor time management/ laziness and lack of preparation are the factors militating against excellent academic performance of the students in the study area with a mean score of 2 and above. The following recommendations were made. A more conducive learning and working environment should be provided for both students and lecturers in the faculty. Instructional materials as well as well-equipped laboratories should be provided for the faculty. Finally, the students should be sensitized on the importance of being hard-working, focused and determined in the pursuit of their studies.

Keywords: Academic performance, agricultural students, University of Abuja.

INTRODUCTION

Academic performance is a short- or long-term achievement of the educational goals of a student, a teacher or an institution (Stasolla *et al.*, 2021). According to Sakshi (2021), academic excellence is the capacity to do well, succeed, and/or excel in academic pursuits. Academic success has been associated with attaining high grades and outstanding performance, but it goes beyond just getting good scores. Furthermore, Harrison (2021)

opined that academic performance is the extent to the achievement of students and teachers' educational goals measured by assignments, tests and examinations. Mautushi (2022) posited that academic achievement provides a sense of accomplishment, helps someone to get into a good college, leads to better job opportunities, develops important life skills, higher earnings, develops a love for learning, better health, strong work ethic, improve

the self-confidence, attain a sense of satisfaction and accomplishment. Academic excellence provides individuals with the capacity to be sustainable in jobs, health insurance, and confident about income. It makes individuals more active, helpful and healthy, safer from illegal activities (UKEssays, 2018). Factors that affect the academic performance of students include parents' education level, income, teacher's knowledge of the subject, truancy of the students, meal provision, availability of textbooks; libraries, instructional materials, and environment (Brew *et al.*, 2021).

Students from poor family backgrounds have limited time and resources to study because of child labour. They are put under slavery work and have limited time to study. Some have to work and feed their parents. In developing countries, there are several families who are not capable of feeding twice daily despite working throughout the day (Oduwole *et al.*, 2022). Children at a young age are engaged in menial jobs to survive. Little money gained together with the scanty financial provision by the government is not capable of funding their children's education resulting in low academic achievements (Brew *et al.*, 2021). An unhealthy lifestyle, studying till late at night, and getting inadequate hours of sleep, affects the ability of the student to learn, retain and think. A healthy lifestyle is crucial to performing well in academics or any other field. Maintaining a balanced diet, along with adequate hours of sleep, and study breaks are very important to sustain or improve an academic record. Distractions by gadgets, new habits, too much viewing of television, and bad peer group and friends can affect the performance of students negatively (Egbojuku *et al.*, 2021). Information overload tires out the mind and reduces the ability of the students to think thus reducing the academic performance of the student drastically (Heena, 2022).

The ability of a student to complete a task is known as performance. The performance could result in either a positive or negative. A positive result indicates that the student performs excellently, but on the other hand, if it is negative, it indicates woeful performance. The performance of students is an outcome of a rigorous evaluation through examination or other assessment methods such as tests, and presentation of papers amongst others (Oluwafemi *et al.*, 2020; Sennuga *et al.*, 2021). Since the establishment of the Faculty of Agriculture, University of Abuja, there have been records of successes and failures of examination that cut across all levels. So many undergraduate students have transferred from the faculty of agriculture to others faculties. Others decided to withdraw completely from the school. Some have failed and carryover their courses. Some postgraduate students have failed to continue with their program. While others students are having academic issues others are doing excellently well in their academic performance. What could have been responsible for the successes and the failure of these students is what informs

the purpose of this study. This study intends to find out factors militating against the academic performance of students of the Faculty of Agriculture, University of Abuja, Nigeria as well as factors that influence their academic excellence. Hence, the specific objectives were to:

1. describe the socio-economic characteristics of the students;
2. investigate factors militating against the excellent academic performance of the students in the study area;
3. analyze the positive factors that influenced the excellent academic performance of some of the students in the study area;
4. proffer workable solutions to the problems affecting the efficient academic performance of the respondents in the study area.

LITERATURE REVIEW

Concept of academic performance

According to Goodman *et al.* (2011), evidence was found that students' intrinsic and extrinsic motivation influenced the amount of effort they exerted in trying to achieve their desired academic performance outcome. Asikhia (2010) highlighted the causes of poor academic performance can be attributed to students' low retention, parental factors, association with wrong peers, poor achievement motivation, lack of teacher's use of verbal reinforcement strategy and the likes.

According to Harrison (2021), one of the obstacles faced by students who must leave their family and hometown to continue their studies is adjusting to living away from home and family, building new relationships with peer groups both inside and outside of college, and changing their lifestyle owing to increased freedom. These modifications do not always have positive results. Living far from family has a number of negative effects, including missing home and feeling nostalgic, unhealthy friendships, abusing freedom, and wasting time. Although cell phones are widely used and there is evidence that they may have negative effects on some people's health, surprisingly little is known regarding the relationships between problematic smartphone use and student academic performance in university settings.

Theoretical framework

Behaviorism theory

The foundation of behaviourism is the notion that knowledge is external to the learner and independent of them. A behaviourist views the learner as a blank slate who needs to be given the material to be learned. Learning happens as a result of these interactions because new

associations are formed. When the presented stimulus modifies behaviour, learning has occurred. The work of Pavlov is an illustration of this that is not instructional. In his well-known "salivating dog" experiment, Pavlov demonstrated that a stimulus—in this case, ringing a bell each time he fed the dog—would eventually cause the dog to begin salivating. The dog learned that hearing the bell ring was a sign that it would soon be fed, so whenever the bell sounded, it began to salivate (Becton, 2022).

Cognitivism theory

As opposed to behaviourism, which focuses on how students simply react to stimuli, cognitivism emphasizes how students process the information they are given. Although there is still evidence of behaviour change, it is due to thinking and information processing. Wolfgang Kohler applied Gestalt psychology to the development of cognitive ideas in Germany at the beginning of the 20th century. Gestalt essentially translates to something being organized in a way that is seen as greater than the sum of its parts in English. Cognitivism has given rise to many evidence-based education theories, including cognitive load theory, schema theory and dual coding theory as well as being the basis for retrieval practice. According to cognitivism theory, learning happens when a pupil reorganizes knowledge by either coming up with new explanations or changing existing ones. Instead of only being seen as a change in behaviour, this is perceived as a change in knowledge and is retained in memory. The majority of cognitive learning theories are credited to Jean Piaget (Becton, 2022).

Constructivism

Constructivism is founded on the idea that we create new knowledge based on our own experiences and prior knowledge. As a result, each learner's experience with learning is different. Students modify their conceptual frameworks by either considering earlier theories or clearing up misconceptions. Constructivist teaching methods work best when students have a foundation of past knowledge. The spiral curriculum created by Bruner is a superb illustration of constructivism in action. Because results cannot always be predicted as students build their own knowledge bases, teachers should check for any misunderstandings and should be cleared up (Becton, 2022). However, Walberg (1981) as cited in Neumann *et al.* (2012) highlighted three different learning theories as follows:

Transformative learning theory: This theory is particularly relevant to adult learners. It posits that new information can essentially change our worldviews when our life experiences and knowledge are paired with critical reflection.

Social learning theory: This theory incorporates some of the tacit tenets of peer pressure. Specifically, students observe other students and model their own behaviour accordingly. Sometimes it is to emulate peers; other times it is to distinguish themselves from peers. Harnessing the power of this theory involves getting students' attention, focusing on how students can retain information, identifying when it is appropriate to reproduce a previous behaviour, and determining students' motivation.

Experiential learning theory: There are plenty of clichés and parables about teaching someone something by doing it, although it was not until the early 1980s that it became an official learning theory. This approach emphasizes both learning about something and experiencing it so that students can apply knowledge in real-world situations.

Robert Mills Gagné conditions of learning theory

His examination of learning objectives and how various classes of objectives call for various types of instruction. These are what he dubbed his "five conditions of learning," and they are all related to the cognitive, emotional, and psychomotor domains. Gagné's 9 Levels of learning. Gagné believed that learning would occur when pupils advanced through nine stages of learning and that any teaching session should comprise a series of events through all nine levels in order to fulfil his five requirements of learning. The theory posits that activating the nine levels of learning would result in learning:

1. Inform students of the objective.
2. Stimulate recall of prior learning.
3. Present the content.
4. Provide learning guidance.
5. Elicit performance (practice).
6. Provide feedback.
7. Assess performance.
8. Enhance retention and transfer to the job.
9. Enhancing retention and transfer (Becton, 2002).

Adult learning theory

Malcolm Knowles proposed that adults learn differently than do children and used the term "andragogy" to describe his philosophy of "the art and science of teaching adults". Find below highlights, andragogy stood in stark contrast to pedagogy, the traditional approach favoured in education at the time (Herod, 2012).

Pedagogy (teacher-centered): Learners are dependent, learners are externally motivated (e.g., by rewards, competition, etc.). The learning environment is formal and characterized by competitiveness and value judgments.

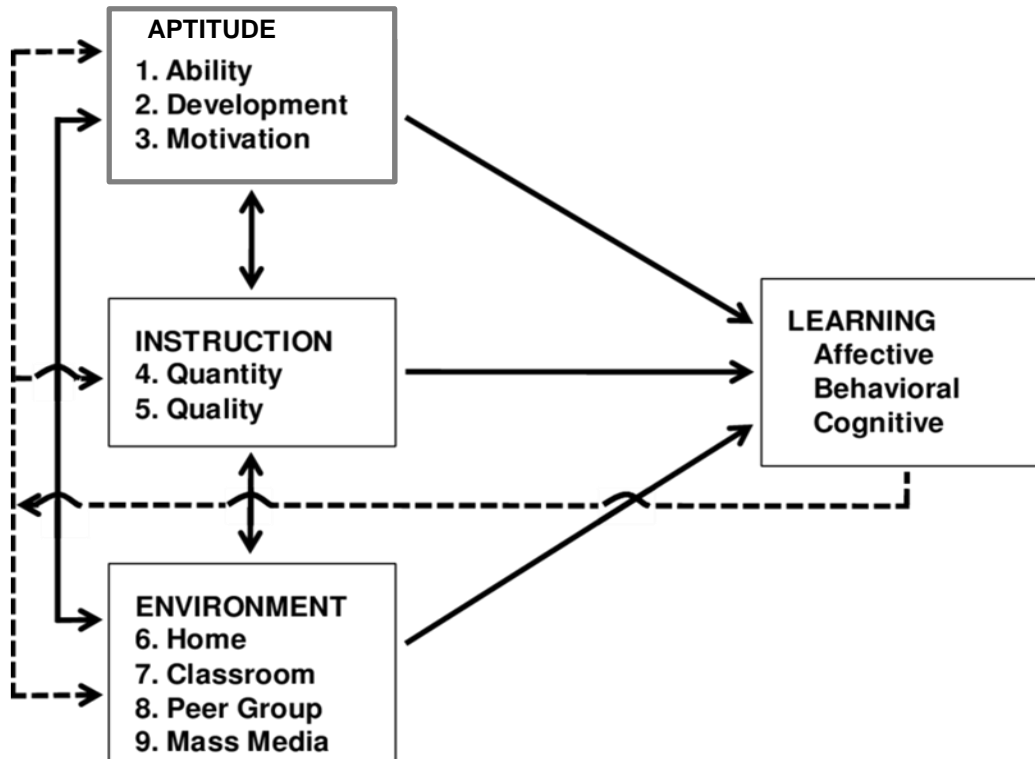


Figure 1. Conceptual framework: Walberg's (1981) model of educational productivity (Fraser et al. 1987, p.158).

Planning and assessment are conducted by the teacher. Teaching is characterized by transmittal techniques (e.g., lectures, assigned readings). Evaluation is accomplished mainly by external methods (e.g., grades, tests & quizzes) (Herod, 2012).

Andragogy (learner-centered): Learners are independent, self-directed. Learners are intrinsically motivated (i.e., interested in learning for learning's sake). The learning environment is more informal and characterized by equality/mutual respect, and cooperation. Planning and assessment is a collaborative affair (i.e., teacher and students). Teaching is characterized by inquiry projects, experimentation, and independent study. Evaluation is characterized by self-assessment (Herod, 2012).

Conceptual framework

The conceptual framework of the study is shown in Figure 1.

MATERIALS AND METHODS

This study was conducted at the University of Abuja Nigeria. The University of Abuja was established on January 1st, 1988 out of the need to provide an institution

of higher learning within Abuja, the new Federal Capital, whose objectives will be in stride with the ideals that informed the conception of the city. The matriculation of pioneer students of the University in 1990 marked the beginning of its academic work in its mini campus, Gwagwalada. In the same year, the university was allocated an expanse of land covering over 11,824 hectares along Abuja-Airport Road for the development of its main campus. While the development of structures continued to grow on the main campus of the university, it has continued to run its regular programmes in the mini campus and its distance learning programmes in Area 3 Garki. To the glory of God, most of the university's faculties and the centre for distance learning have now relocated to the permanent site of the university, which is located less than ten minutes' drive from the Nnamdi Azikwe International Airport.

The university provides educational opportunities to all persons without distinction of race, gender, or political convictions, thus it is regarded as the University for National Unity, located in the centre of unity. The University of Abuja has abundant potential because of its favoured location in the heart of the country. The faculty of agriculture has six departments; the Department of Agricultural Extension and Rural Sociology, the Department of Agricultural Economics, the Department of Crop Science, the Department of Soil Science, the Department of Crop Protection, and the Department of

Animal Science.

Abuja was created in 1976 and carved out from Niger, old Kwara, and old plateau state. It is bordered by four states namely Niger to the West and North West, Nasarawa to the East, Kogi to the South, and Kaduna to the North (Abdul Malik *et al.*, 2013). It has six Area Councils, namely, Abaji, Abuja Municipal, Bwari, Gwagwalada, Kuje, and Kwali. It has the status of a State but is headed by a Minister of the Federal Republic of Nigeria. Abuja covers an area of 713 km² (Anjorin *et al.*, 2013). Abuja is located between latitude 8° 25' and 9° 25' North of the equator and longitude 6° 45' and 7° 45' East of the Greenwich Meridian (Ajah and Nnamdi, 2013). Abuja has two distinct climatic seasons (rainy and dry seasons). It is favourable for the production of crops in both the northern and southern parts of the country. It records the highest temperature and greatest diurnal ranges during the dry season months, when the maximum temperature ranges between 30.41°C and 35.1°C during the rainy season, on the other hand, the maximum temperature ranges between 25.8°C and 30.2°C (Balogun, 2001). According to the National Bureau of Statistics (2013), the population of FCT is 2,039,936. The major occupation of the farming population is crop production (Abdulmalik *et al.*, 2013). Other occupations such as livestock rearing, agro-processing, fishing, hunting, and marketing also thrive well as secondary occupations. According to NBS (2013), the population of FCT is 2,039,936. The Gwari constitute the largest farm families (53.8%), followed by the Bassa and Gede which represent 16.4% and 6.6% respectively. Other tribes are Ganagana, Igbira and Koto which made up the remaining tribe respectively.

Data collection

Data were collected by the use of structured questionnaires, interviews and focus group discussions. The population of this study comprises all active registered agricultural students faculty of agriculture across levels and departments from 100 levels to PhD except 400 level students that were currently in industrial training. The departments are: Agricultural Extension and Rural Sociology, Agricultural Economics, Soil Science, Crop Science, Animal Science and Crop Protection. At the time of carrying out this study the total population of active and registered students in the faculty of agriculture university of Abuja was 983 (Dean, Faculty of Agriculture and Head of Departments, 2023). Using Yaro formula, the sample size was calculated to be 284 as shown below.

$$\text{Sample size} = \frac{N}{1 + N(e * e)}$$

n = corrected sample size, N = population size, e = Margin of error (MoE), e = 0.05 based on the research condition.

Substituting these values into the formula: N = 983 and e = 5% = 0.05.

$$\text{Sample size} = \frac{983}{1 + 983(0.05 * 0.05)}$$

The sample size for the study is 284

Dividing 284 by 6 levels except for 400 levels that were on industrial training we have a sample size of 47 for each level. The sampling procedure for the study is purposive, convenient and simple random sampling techniques.

Data analysis

Objectives 1-4 were analyzed using descriptive statistics such as frequency and percentage.

RESULTS AND DISCUSSION

Socio economic characteristics of the respondents

The result in Table 1 revealed that most (53.8%) of the respondents were female while the remaining 46.2% were male. It also revealed that 83.1% of the students were not married, while 12.5% were married. The average age of the respondents was 23.42 years, and the average household size is 21.31 years. Table 1 further revealed that most (84.0%) of the respondents were undergraduates, while the rest were undergoing postgraduate diplomas, masters or doctorate degrees. The result further showed that the average monthly income or allowance of the students was ₦41622.58. This finding is in collaboration with Asikhia (2010) who revealed that regular monthly allowance will improve academic performance of students and allow the students to concentrate.

Factors militating against excellent academic performance of the students in the study area

The result for the factors militating against the excellent student's academic performance of the students in the Faculty of Agriculture, University of Abuja, as presented in Table 2 revealed that the factor which negatively affects the performance of the students the most is uncomfortable learning environment or overcrowding of students with a mean score of 3.42. This is in line with the findings of Shah and Inamullah (2012) who found that overcrowding classes could have a direct impact on students learning. According to them, overcrowding puts pressure on the teachers leading to poor academic performance among the students. Also, the result showed that unequipped laboratories and financial problems on the part of the students had mean scores of 3.32 each. Other factors with high negative effect on the performance of the students include: inadequate hostel accommodation (3.21), poor preparation on the part of the students (3.21), inadequate power supply (3.20), procrastination (3.20), poor time management skills (3.20), lack of instructional materials

Table 1. Socio-economic characteristics of the respondents.

Socio economic variables	Frequency	Percent (%)	Mean
Gender			
Male	135	46.2	
Female	157	53.8	
Age (years)			
20 and less	105	39.9	
21-30	131	48.4	23.42
30 and above	28	10.7	
Marital status			
Married	37	12.5	
Not married	245	83.1	
Household size			
1-5	112	49.6	
6-10	97	42.9	5.92
11 and above	17	7.5	
Educational Level			
Undergraduate	237	84.0	
Postgraduate diploma	2	.7	
Masters	30	10.6	
Ph. D	13	4.6	
Income			
10000 and less	48	31.0	
11000-50000	86	55.5	41622.58
51000 and above	21	13.5	

Field data analysis, 2023.

(3.14), poor diet (3.09), wrong mindset (3.04), wrong reading practice (3.02), teacher-student ratio (3.00) and student's loss of interest in subject (3.00). Meanwhile, the result revealed that while overconfidence from the student (2.76), difficulties in understanding agriculture (2.63) and family background (2.58) all had mean scores higher than 2.50 which the mid-point of the Likert scale, they had the least negative effects on the academic performance of the students in the Faculty of Agriculture, University of Abuja.

Positive factors that influenced excellent academic performance of some of the students in the study area

Table 3 shows the result of the positive factors that influenced the excellent performance of students in the faculty. The result showed that hard work, determination and a positive mindset had the greatest influence on the academic performance of the students, with a mean score of 3.72. Picton *et al.* (2018) opined that students who put more effort and determination into their studies are usually more successful than those who do not. The results also

revealed that interest in the subject (3.59), qualified and well-trained lecturers (3.57), well-planned reading practice (3.57), comfortable learning environment (3.55) and regular class attendance all had a very high impact on the excellent academic performance of the students. The result further revealed that while decisiveness (3.38), adequate hostel accommodation (3.27) and avoidance of social media distraction (3.27) all had mean scores higher than 2.5 which is the mid-point of the Likert scale, had the least impact on the excellent academic performance of the students among the factors considered for the study.

Proffer workable solutions to the problems affecting the efficient academic performance of the respondents in the study area

As presented in Table 4 is the result of the workable solutions to the problems militating against the efficient academic performance of the students in the Faculty of Agriculture, University of Abuja. The study revealed that a comfortable learning environment had the highest mean

Table 2. Factors militating against excellent academic performance of the students in the study area.

Statement	Mean score	Decision
Uncomfortable learning environment/overcrowdings	3.42	Accepted
Family background	2.58	Accepted
Difficulties in understanding agriculture	2.63	Accepted
Teachers students ratio	3.00	Accepted
Information overload	2.96	Accepted
Performance pressure	2.98	Accepted
Unhealthy life style	2.90	Accepted
Distracted mind by gadgets	2.96	Accepted
Loss of interest in the subject	3.00	Accepted
Wrong reading practice	3.02	Accepted
Over confidence	2.76	Accepted
Lack instructional materials	3.14	Accepted
Poor teaching skill of teachers	2.92	Accepted
Exams phobia	2.95	Accepted
Inadequate power supply	3.20	Accepted
Inadequate hostel accommodation	3.21	Accepted
Unequipped laboratories	3.32	Accepted
Poor diet	3.09	Accepted
Poor class attendance	2.97	Accepted
Financial problems	3.32	Accepted
Wrong mindset	3.04	Accepted
Procrastination	3.20	Accepted
Lack of good time management of / laziness	3.20	Accepted
Lack of preparation	3.21	Accepted

Field data analysis, 2023.

Table 3. Positive factors that influenced excellent academic performance of some of the students in the study area.

Statement	Mean score	Decision
Hard work, determination and positive mind set	3.72	Accepted
Comfortable learning environment	3.55	Accepted
Interest in the subject	3.59	Accepted
Qualified and well trained lecturers	3.57	Accepted
Adequate hostel accommodation	3.27	Accepted
Adequate number of lecturers/ students	3.42	Accepted
Time management	3.47	Accepted
Well planned reading practice	3.57	Accepted
Adequate power supply	3.41	Accepted
Good diet	3.45	Accepted
Regular class attendance	3.52	Accepted
Adequate financial support	3.45	Accepted
Well-equipped laboratories	3.45	Accepted
Avoidance of bad friends	3.42	Accepted
Decisiveness	3.38	Accepted
Avoidance of social media distraction	3.27	Accepted
Doing assignment regularly	3.49	Accepted

Field data analysis, 2023.

Table 4. Proffer workable solutions to the problems affecting the efficient academic performance of the respondents in the study area.

Statement	Mean score	Decision
Comfortable learning environment	3.68	Accepted
Healthy life style	3.51	Accepted
Training and retraining of lecturers	3.55	Accepted
Employment of more teachers	3.45	Accepted
Intrinsic motivation	3.47	Accepted
Meeting ASUU's demand	3.41	Accepted
Good reading practice	3.64	Accepted
Availability of instructional materials	3.64	Accepted
Provision of adequate lecture theaters	3.66	Accepted
adequate power supply	3.58	Accepted
adequate hostel accommodation	3.56	Accepted
equipped laboratories	3.62	Accepted
Regular class attendance	3.58	Accepted
Adequate exams preparations	3.61	Accepted
Good time management	3.59	Accepted
Adequate parental and financial support	3.59	Accepted
Development of interest in the subject	3.56	Accepted
Adequate security for staff and students	3.55	Accepted

Field data analysis, 2023.

score (3.68) among the proffered solutions. In a bid to improve the academic performance of the students, a comfortable learning environment should be provided for them, as this will help them stay focused on their studies and also ensure that the lecturers are not under too much stress as they discharge their duties. Other workable solutions include the provision of adequate lecture theatres (3.66), availability of instructional materials (3.64), good reading practice on the part of the students (3.64), equipped laboratories (3.62), adequate exams preparations (3.61), good time management (3.59), adequate parental and financial support (3.59), adequate power supply (3.58), and regular class attendance (3.58), among others. This finding is in association with Brew *et al.* (2021) who stated that several factors contributes to student's academic achievement.

Conclusion and Recommendation

The main objective of the study is to assess factors affecting the academic performance of agricultural students at the university of Abuja Nigeria. Based on the results obtained from the study, the following conclusions were reached. There are more female students than males in the faculty and most of them were not married while the majority of the students were in their early twenties. The factor which negatively affects the performance of the students the most is the uncomfortable learning environment and overcrowding of students; while hard work, determination and a positive mindset had the

greatest influence on the academic performance of the students. Based on the findings, the following recommendations were made.

1. A more conducive learning and working environment should be provided for both students and lecturers in the faculty, as this will reduce stress and increase the productivity of the students.
2. Also, instructional materials as well as well-equipped laboratories should be provided for the faculty. This will ensure that both the students and lecturers are equipped with the right tools they require to perform optimally.
3. Finally, the students should be sensitized on the importance of being hard-working, focused and determined in the pursuit of their studies.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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