JOURNAL OF RESEARCH IN INDUSTRIAL TECHNOLOGY & EDUCATIONAL STUDIES (JRITES)
Homepage: http://Journals.unizik.edu.ng/index.php/jrites
e-ISSN 3122-0436
Vol 2 Issue 3 (2026) 27-40

# Personality Traits as Correlates of Technology Education Lecturers' Use of Digital Tools for Instructional Delivery in Universities in South East Nigeria

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**Abstract:** Personality traits as correlates of technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria was investigated. Five research questions guided the study while five hypotheses were tested at 0.05 level of significance. Correlational research design was used for the study. The population for the study was made up of 92technology education lecturers of public universities in Anambra, Imo, Ebonyi, Abia and Enugu State. The population was used as the sample size for the study. Data were collected using Personality Traits Questionnaire (PTQ) and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery Questionnaire (TELUDTIDQ). PTQ and TELUDTIDQ were face-validated by three experts in the Faculty of Technology and Vocational Education, Nnamdi Azikiwe University, Awka. Reliability of PTQ and TELUDTIDQ was ascertained using Cronbach Alpha Statistic to a obtain values of 0.73 and 0.77. Data collected were analyzed using Pearson Product Moment Correlation. The findings of the study revealed among others that: a positive and significant relationship existed between extraversion trait and technology education lecturers' use of digital tools for instructional delivery in universities; a positive and significant relationship existed between agreeableness trait and technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria. It was recommended among others that University authorities should organize workshops emphasizing collaborative digital tool use. This is with a view to enhancing the use of digital tools for instructional delivery among extraverted technology education lecturers.

**Keywords:** Personality traits, Use of digital tools, Instructional delivery, Technical Education, Lecturers

## INTRODUCTION

University education is a vehicle which offers students an opportunity for social change and development. This level of education is a key to achieving complete social and economic development of any nation including Nigeria. The need for this vital aspect of education and the proliferation of university education could bring about increase in enrolment figures. University education provides opportunities for teaching, learning and research which go a long way to bring about the acquisition of knowledge and skills. In the course of university education, instructional delivery is done.

Instructional delivery embodies the art of teaching students with a view to making them understand the taught contents. Instructional delivery captures the act of assisting students to acquire knowledge and by extension solve problems (Auta, 2022; Ementa and Nwankwo, 2023). The authors added that instructional delivery is anchored on a lecturer's capacity on lecture planning, professional qualification, experience and mastery of course content. Similarly, Abraham and Milligan (2021) defined instructional delivery as the methods, strategies and approaches teaches use to facilitate learning. Within the context of the current



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study, technology education lecturers' instructional delivery ought to cover their on-the-job performance which is evidenced in their students' academic achievement in universities. Instructively, technology education lecturers' instructional delivery for modern day students who are digital natives could be made effective when enhanced with the use of digital tools.

Digital tools refer to electronic devices that can be adopted by lecturers to facilitate teaching and learning. They embody software, programmes, applications, platforms, and online or offline resources used with computers, mobile devices to complete tasks (Moorhouse and Yan, 2023). There are various digital tools that can be used by technology education lecturers to enhance their instructional delivery such as software, applications, technologies, plug-ins, add-ons or websites that are accessible via an internet connection (Dancsa, Štempeľová, Takáč and Annuš, 2023). Digital tools could be utilized by technology education lecturers to improve their instructional delivery if they possess the requisite the digital literacy. Aflalo, Zana and Huri (2018) noted that teachers' use of digital tools facilitates their transformation of instructional practices for students' effective learning. Technology education lecturers' usage of digital tools is capable of promoting students-teachers' interaction during the teaching-learning process.

Personality traits refer to one's uniqueness which distinguish an individual from another. Gana, Oluwafeyisayomi and Idowu (2020) defined personality traits as consistent dissimilarities in the behaviours and characteristics of two or more people. Contextualizing this, personality traits connote combined characteristics of technology education lecturers who intellectually, affectively and behaviourally distinguishes them from other members of staff in the school system. Personality traits entail a characteristic pattern of thinking, feeling, or behaviour that tends to be consistent over time and across relevant situations (Soto, 2018). They are those characteristics that are exhibited by the individual over time. Thus, a technology education lecturer's response to behavioural, structural and infrastructural developments in the lecture hall distinguishes them from other lecturers and members of staff.

Personality traits of technology education lecturers could have a way of contributing to their choice of digital tools for instructional delivery and assessment in line with set out goals and objectives of the programme. In sociology of education, it is apparent that schools exist for problem-solving and decision making besides their stewardship to the society (Ekannem, Ukpong, Mbon, Ukpabio, Ofem, Okoi, Omini, Inah and Amalu, 2023). Thus, it is expected that technology education lecturers bring their personality traits to bear in instructional decisions that will aid the comprehension of what is taught to the students. The five-personality model by Veloso Gouveia, de Carvalho Rodrigues Araújo, Vasconcelos de Oliveira, Pereira and Gonçalves (2021) identified the behaviour dimensions of extraversion, agreeableness, conscientiousness, neuroticism and openness.

Extraversion refers to one's ability to adapt to social situations. Extroverted individuals seek connection with the environment while exuding warmth and energy (Komarraju, Karau, and Schmeck, 2019). Highly extraverted technology education lecturers enjoy socializing with their students, are comfortable expressing themselves in group situations, and frequently exude excitement. Conversely, introverted technology education lecturers are socially reserved and rarely associate with their students. Rostyslav and Vsevolod (2024) noted that extraverted individuals tend to be socially oriented (gregarious and going) as well as surgent (dominant and ambitious) and energetic (adventurous and assertive). In universities, Kang and Kim (2020) noted that extraverted lecturers might leverage digital tools for interactive and engaging instructional delivery through online discussions and video conferencing.

Agreeableness is a personality trait that predisposes a person to be kind, sympathetic, co-operative and considerate. Gadisa (2020) referred to agreeableness as the basic emotional style of a person, who may be easygoing and friendly (at the high end of the scale) or grumpy and hard to get along with (at the low end). Technology education lecturers with such personality trait exude a high sense of courtesy in their interactions with their students. Animba (2020) asserted that individuals with the high agreeable trait are trusting and empathetic. They are co-operative which makes them accommodate their students' interest in instructional delivery process. On the contrary, technology education lecturers who score low on agreeableness find it challenging to accommodate their students' interest in the instructional delivery process and are discourteous. Relating agreeableness to digital tool use, Scherer, Sadiq and Tondeur (2019) asserted that agreeable lecturers may use digital tools to facilitate collaboration and support students' engagement.

Conscientiousness refers to variations in an individual's sense of organization and responsibility. It associates with a person's level of organization, effort, and motivation to pursue predetermined objectives (López-Núnez, Rubio-Valdehita and Díaz-Ramiro, 2022). It speaks to commitment towards the attainment of set goals. Conscientiousness is the most constant indicator of occupational success across all employment kinds (Zadok, Benoliel and Schechter, 2024). It stands to reason that technology education lecturers' effective instructional delivery can hardly be separated from the force of conscientiousness. Highly conscientious technology education lecturers lend themselves to order and structure. In addition, they work persistently to pursue their instructional goals, and are committed to fulfilling their statutory obligations. In contrast, unconscientious technology education lecturers are not daring and are at home with disorder with less motivation to deliver instructions in line with their students' needs. In connection to lecturers' use of digital tools, Scherer, Sadiq and Tondeur (2019) pointed out that conscientious lecturers may use digital tools to enhance organization and efficiency in the course of instructional delivery.

Neuroticism is the likelihood of experiencing negative emotions such as fear, anxiety, sadness, anger and guilt. Neuroticism refers to the differences in the frequency and intensity of negative emotions (Godfrey, Uwa and Akpan, 2024). Highly neurotic technology education lecturers are susceptible to anxiety, sadness, and mood swings, while emotionally stable technology education lecturers tend to remain calm and resilient, even in challenging situations. Neuroticism is typically characterized by an absence of positive psychological adjustment and emotional stability (Rostyslav and Vsevolod, 2024). Neurotic individuals do not possess psychological balance. Neurotic individuals could experience excessive or insufficient external stimulus (Hou, *et al*., 2023). Thus, technology education lecturers with a high level of neuroticism are susceptible to negative emotions such as anxiety, despair and aggression given that they tend to have preference for situations that negatively impact them. Associating neuroticism with lecturers' use of digital tools, Knag and Kim (2020) noted that lecturers with high neuroticism might experience anxiety using digital tools, potentially reducing adoption.

Openness personality trait is a unique feature of being curious and sensitive to new ideas. Openness is associated with universalism values, which include promoting tolerance and seeing everyone as equally deserving justice and equality (Courtney, 2017). Openness lends itself to the making of novel discoveries. It can best be described as an individual's willingness to try new things and be open to new experiences (Gadisa, 2020). The technology education lecturers who possess openness traits exhibit behaviour beyond the status quo by accepting innovative ways of instructional delivery. Such lecturers are generally open to learning new skills and teaching styles for effectiveness in instructional delivery. Linking

openness to lecturers' use of digital tools, Kang and Kim (2020) spotlighted that, lecturers with high openness are more likely to adopt and explore digital tools for instructional delivery. Technology education lecturers who score high on openness are quite broad-minded and modern in their outlook while those who score low on the same parameter are conservative, resistant to changes and have a traditional approach to instructional delivery which could relegate the use of digital tools to the background.

Though, personality traits and use of digital tools have been subjects of intensive and extensive researchers, there is limited localized empirical evidence on the use of personality traits to shape technology education lecturers' use of digital tools for instructional delivery in South-east Universities. Thus, it will make for research-worthiness to ascertain personality traits as correlates of technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria.

**Statement of the Problem**

Despite the positive role of digital tools in transforming teaching and learning processes, a diligent search in literature (Obi and Akudo, 2023; Onyemaechi, Okafor and Arinze, 2025) revealed a worrisome trend of poor use of digital tools among lecturers including those teaching technology education courses in universities in South-East, Nigeria. The seeming unabated use of the traditional mode of instructional delivery by technology education lecturers could be blamed on myriad of factors. Several factors such as digital self-efficacy, computer anxiety, attitude towards the use of technology, motivation to use technology, personality traits among others have been acclaimed to be responsible; the researcher sought to find out if personality traits could be one of such factors especially if it could explain why the level of adoption of digital tools varies widely among same group. This study, therefore, sought to investigate personality traits as correlates of technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria.

**Research Questions**

The following research questions guided the study:

1. What is the relationship between extraversion trait and technology education lecturer's use of digital tools for instructional delivery?
2. What is the relationship between agreeable trait and technology education lecturer's use of digital tools for instructional delivery?
3. What is the relationship between conscientious trait and technology education lecturer's use of digital tools for instructional delivery?
4. What is the relationship between neuroticism trait and technology lecturer's use of digital tools for instructional delivery?
5. What is the relationship between openness to experience trait and technology lecturer's use of digital tools for instructional delivery?

**Hypotheses**

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between extraversion trait and technology education lecturers' use of digital tools for instructional delivery.
2. There is no significant relationship between agreeable and technology education lecturers' use of digital tools for instructional delivery.
3. There is no significant relationship between conscientious trait and technology education lecturers' use of digital tools for instructional delivery.
4. There is no significant relationship between neuroticism and technology education lecturers' use of digital tools for instructional delivery.

5. There is no significant relationship between openness to experience trait and technology education lecturers' use of digital tools for instructional delivery.

## METHODS

### Research Design

The study utilized correlational research design. Accordingly, Creswell and Creswell (2018) defined correlational research design as a non-experimental quantitative research approach used to examine the statistical relationship between two or more variables as they naturally occur, without any manipulation or control by the researcher. Unlike experimental designs, which require the researcher to deliberately manipulate an independent variable under controlled conditions, correlational design involves collecting data on variables of interest exactly as they exist in real-world settings and then applying statistical procedures to determine whether, and to what extent, those variables are related to one another. Correlation design was considered suitable for this study because it enabled the researcher to determine the nature of correlation of personality traits with technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria.

### Area of the Study

The study was undertaken in South-East region, Nigeria. South East is one of the six geo-political zones in Nigeria. It is constituted by Abia, Anambra, Ebonyi, Enugu and Imo States. On the East, it is bounded by Cross-River State, Rivers State on the South, Delta State on the West (all in South-South geo-political zone) and Benue on the North (North Central geo-political zone). It prides itself as having many higher institutions viz: universities, polytechnics and mono-techniques. South-East has six universities currently offering technology education programmes. These include: University of Nigeria, Nsukka, Nnamdi Azikiwe University, Awka, Michael Okpara University of Agriculture, Umudike, Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State, Enugu State University of Science and Technology and Ebonyi State University. The justification for the use of the area for the study stems from the fact that there despite massive investment in ICT infrastructure and training by NUC and TETFund, the use of digital tools for instructional delivery among technology education lecturers in South-East Universities remains inconsistent. Existing literature has largely ignored the role of personality traits as correlates of technology adoption. Given that personality traits are relatively stable and influence behaviour, it is important to determine how traits such as openness, conscientiousness and neuroticism relate to lecturers' use of digital tools for instructional delivery in universities. Furthermore, the South-East zone, with its unique cultural, infrastructural and educational context, provides strategic setting for this investigation.

### Study Participants

The population for the study was made up of 92 technology education lecturers of public universities in Anambra, Imo, Ebonyi, Abia and Enugu State. This is according to data from the Heads of appropriate respective Departments, in Nnamdi Azkiwe University, Awka, Alvan Ikoku Federal University of Education, Owerri, Alex-Ekwueme University, Ndufu-Alike, Eboyi State, Michael Okpara University of Agriculture Umudike, Abia state. Enugu State University of Science and Technology and University of Nigeria, Nsukka. Census sampling was used in this study. According to Nworgu (2015), a census sampling is a method of data collection where information is gathered from every member of a population. Therefore, all the 92 technology education lecturers in the universities in Anambra, Imo, Ebonyi, Abia and Enugu State was used for the study. This is because, the population is of manageable size.

### Instruments for Data collection and Analysis

Two sets of questionnaires were utilized for data collection. These are Personality Traits Questionnaire (PTQ) and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery Questionnaire (TELUDTIDQ). PTQ was adapted from Personality Trait Scale (PTS) by John and Srivastava (1999) that designed the original work of big five taxonomies. The validation of PTQ and TELUDTIDQ was carried out by giving drafts of the PTQ and TELUDTIDQ together with the title, purpose of the study, research questions and hypotheses to three experts in the Department of Industrial Technology Education, all at Faculty of Technology and Vocational Education, Nnamdi Azikiwe University, Awka. They were implored to examine the PTQ and TELUDTIDQ with regard to adequacy of the items and their relevance to the research. The reliability of the PTQ and TELUDTIDQ was ascertained using Cronbach alpha method. The justification for the use of Cronbach Alpha statistics is premised on the fact that the response scale of the items are polychotomous scored. Pearson Product Moment Correlation Coefficient r was used to analyze the data relating to the research questions their corresponding hypotheses.

**RESULTS**

**Research Question 1:**

What is the relationship between extraversion trait and technology education lecturer's use of digital tools for instructional delivery?

**Table 1: Pearson r on Relationship between Extraversion Trait and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery.**

| Source of Variation | n | r | Remark |
|---|---|---|---|
| Extraversion Trait Use of Digital Tools for Instructional Delivery | 80 | 0.671 | High Positive Relationship |

Results in Table 1 show that there is a high positive relationship between extraversion on technology education lecturer's use of digital tools for instructional delivery. This is evident by the size of Pearson's Correlation Coefficient r, which is 0.671.

**Hypothesis One:**

There is no significant relationship between extraversion trait and technology education lecturers' use of digital tools for instructional delivery.

**Table 2: Test of Significance of Pearson Correlation between Extraversion Trait and technology Education Lecturers' Use of Digital Tools for Instructional Delivery**

| Source of Variation | n | r | p-value | Remark |
|---|---|---|---|---|
| Extraversion Trait Use of Digital Tools for Instructional Delivery | 80 | 0.671 | 0.00 | Sig |

Analysis in Table 2 shows that there is a positive and significant relationship between extraversion trait and technology education lecturers' use of digital tools for instructional delivery. The calculated r (0.671) has *p*-value <0.05. The null hypothesis one is therefore rejected.

**Research Question 2:**

What is the relationship between agreeable trait and technology education lecturer's use of digital tools for instructional delivery?

**Table 3: Pearson r on Relationship between Agreeable Trait and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery.**

| Source of Variation | n | r | Remark |
|---|---|---|---|
| Agreeable Trait<br>Use of Digital Tools for<br>Instructional Delivery | 80 | 0.425 | Moderate Positive<br>Relationship |

Results in Table 3 show that there is a moderate positive relationship between agreeable trait and technology education lecturer's use of digital tools for instructional delivery. This is evident by the size of Pearson's Correlation Coefficient r, which is 0.425.

**Hypothesis Two:**

There is no significant relationship between agreeable trait and technology education lecturers' use of digital tools for instructional delivery.

**Table 4: Test of Significance of Pearson Correlation between Agreeable Trait and technology Education Lecturers' Use of Digital Tools for Instructional Delivery**

| Source of Variation | n | r | p-value | Remark |
|---|---|---|---|---|
| Agreeable Trait<br>Use of Digital Tools for<br>Instructional Delivery | 80 | 0.425 | 0.01 | Sig |

Analysis in Table 4 shows that there is a positive and significant relationship between agreeable trait and technology education lecturers' use of digital tools for instructional delivery. The calculated r (0.425) has *p*-value <0.05. The null hypothesis two is therefore rejected.

**Research Question 3:**

What is the relationship between conscientious trait and technology education lecturer's use of digital tools for instructional delivery?

**Table 5: Pearson r on Relationship between Conscientious Trait and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery.**

| Source of Variation | n | r | Remark |
|---|---|---|---|
| Conscientious Trait<br>Use of Digital Tools for<br>Instructional Delivery | 80 | 0.516 | Moderate Positive<br>Relationship |

Results in Table 5 show that there is a moderate positive relationship between conscientious trait and technology education lecturer's use of digital tools for instructional delivery. This is evident by the size of Pearson's Correlation Coefficient r, which is 0.516.

**Hypothesis Three:**

There is no significant relationship between conscientious trait and technology education lecturers' use of digital tools for instructional delivery.

**Table 6: Test of Significance of Pearson Correlation between Conscientious Trait and technology Education Lecturers' Use of Digital Tools for Instructional Delivery**

| Source of Variation | n | r | p-value | Remark |
|---|---|---|---|---|
| Conscientious Trait<br>Use of Digital Tools for Instructional Delivery | 80 | 0.516 | 0.00 | Sig |

Analysis in Table 6 shows that there is a positive and significant relationship between conscientious trait and technology education lecturers' use of digital tools for instructional delivery. The calculated r (0.516) has *p*-value <0.05. The null hypothesis three is therefore rejected.

**Research Question 4:**

What is the relationship between neuroticism trait and technology education lecturer's use of digital tools for instructional delivery?

**Table 7: Pearson r on Relationship between Neuroticism Trait and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery.**

| Source of Variation | n | R | Remark |
|---|---|---|---|
| Neuroticism Trait<br>Use of Digital Tools for Instructional Delivery | 80 | 0.790 | High Negative Relationship |

Results in Table 7 show that there is a high negative relationship between neuroticism trait and technology education lecturers' use of digital tools for instructional delivery. This is evident by the size of Pearson's Correlation Coefficient r, which is -0.790.

**Hypothesis Four:**

There is no significant relationship between neuroticism trait and technology education lecturers' use of digital tools for instructional delivery.

**Table 8: Test of Significance of Pearson Correlation between Neuroticism Trait and technology Education Lecturers' Use of Digital Tools for Instructional Delivery**

| Source of Variation | n | r | p-value | Remark |
|---|---|---|---|---|
| Neuroticism Trait<br>Use of Digital Tools for Instructional Delivery | 80 | -0.790 | 0.00 | Sig |

Analysis in Table 8 shows that there is a negative and significant relationship between neuroticism trait and technology education lecturers' use of digital tools for instructional delivery. The calculated r (-0.790) has *p*-value <0.05. The null hypothesis four is therefore rejected.

**Research Question 9:**

What is the relationship between openness to experience trait and technology education lecturer's use of digital tools for instructional delivery?

**Table 9: Pearson r on Relationship between Openness to Experience Trait and Technology Education Lecturers' Use of Digital Tools for Instructional Delivery.**

| Source of Variation | n | r | Remark |
|---|---|---|---|
| Openness to Experience Trait<br>Use of Digital Tools for Instructional Delivery | 80 | 0.831 | Very High Positive Relationship |

Results in Table 9 show that there is a very high positive correlative role of openness to experience trait on technology education lecturer's use of digital tools for instructional delivery. This is evident by the size of Pearson's Correlation Coefficient r, which is 0.831.

**Hypothesis Five:**

There is no significant relationship between openness to experience trait and technology education lecturers' use of digital tools for instructional delivery.

**Table 10: Test of Significance of Pearson Correlation between Openness to Experience Trait and technology Education Lecturers' Use of Digital Tools for Instructional Delivery**

| Source of Variation | n | r | p-value | Remark |
|---|---|---|---|---|
| Openness to Experience Trait<br>Use of Digital Tools for Instructional Delivery | 80 | 0.831 | 0.00 | Sig |

Analysis in Table 10 shows that there is a negative and significant relationship between openness to experience trait and technology education lecturers' use of digital tools for instructional delivery. The calculated r (0.831) has *p*-value <0.05. The null hypothesis five is therefore rejected.

**DISCUSSION**

**Relationship between extraversion trait and technology education lecturers' use of digital tools for instructional delivery.**

The findings revealed that a positive and significant relationship between extraversion trait and technology education lecturers' use of digital tools for instructional delivery exists. This shows that the more extraverted a technology education lecturer is, the higher the tendency for them to use digital tools for instructional delivery. Apparently, extraverted technology education lecturers tend to be sociable and enthusiastic which may result in their engagement engage with digital tools for the facilitation of interaction and collaboration with students in the teaching learning process.

In line with the finding of the present study, Vaid and Harari (2021) found extraversion to be positively related to the use of online communication and online academic activities. This may be attributed to the talkative, social, and bold nature of extroverts in instructional delivery. In further agreement with the finding of the present study, Bansal and Gupta (2020) found that extraversion significantly related to work engagement and its dimensions namely vigor, dedication and absorption. Similarly, Mhlanga, Mjoli, Chamisa and Marange (2021) found that extraversion had a positive relationship with job engagement. Highly extraverted technology education lecturers enjoy socializing with their students, are comfortable expressing themselves in group situations, and frequently exude excitement. Rostyslav and

Vsevolod (2024) observed that extraverted individuals tend to be socially oriented (gregarious and going) as well as surgent (dominant and ambitious) and energetic (adventurous and assertive). In similar vein, Kang and Kim (2020) observed that extraverted lecturers might leverage digital tools for interactive and engaging instructional delivery through online discussions and video conferencing.

**Relationship between agreeable trait and technology education lecturers' use of digital tools for instructional delivery.**

The findings revealed that a positive and significant relationship between agreeable trait and technology education lecturers' use of digital tools for instructional delivery. This suggest that the more agreeable a technology education lecturer is, the greater their inclination to employ digital tools for instructional delivery. Agreeableness characterized by co-operation, empathy, and kindness likely facilitates collaboration and adaptability in using digital tools. In agreement with five-factor model, agreeableness promotes interpersonal relationships and cooperation, enabling lecturers to leverage digital tools for teaching.

Corroborating the finding of the present study, Bhagat *et al*. (2019) indicated that agreeableness strongly associated with instructional design. Similarly, Egbri and Oyemomilara (2024) found that agreeableness personality trait of business educators significantly correlated with their job performance. Highly agreeable lecturers are likely to develop positive perceptions of using technology to promote work efficiency. Technology education lecturers with agreeable personality trait exude a high sense of courtesy in their interactions with their students. Animba (2020) asserted that individuals with the high agreeable trait are trusting and empathetic. They are co-operative which makes them accommodate their students' interest in instructional delivery process. On the contrary, technology education lecturers who score low on agreeableness find it challenging to accommodate their students' interest in the instructional delivery process and are discourteous. Relating agreeableness to digital tool use, Scherer, Sadiq and Tondeur (2019) asserted that agreeable lecturers may use digital tools to facilitate collaboration and support students' engagement. Contradicting the finding of the present study, Tyokyaa, Ashwe and Igbaakaa (2023) foundthat agreeableness however did not make any significant contribution to job involvement. The afore-mentioned contradiction may not be unconnected to variations in sample characteristics.

**Relationship between conscientious trait and technology education lecturers' use of digital tools for instructional delivery.**

The findings revealed that a positive and significant relationship between conscientious trait and technology education lecturers' use of digital tools for instructional delivery. This shows that much the contribution of conscientiousness to technology education lecturers' use of digital tools for instructional delivery is considerable. In other words, the more the conscientiousness, the higher the inclination to use digital tools for instructional delivery among technology education lecturers.

This personality trait was found to be positively linked with the use of productive and utility applications, such as Facebook (academic), work-related mobile applications, and learning applications (Burtăverde *et al*., 2021). As conscientious lecturers tend to be self-disciplined, ambitious, and hardworking, they use digital tools to enhance their skills and deliver instructions. Consistent with the finding of the present study, Bansal and Gupta (2020) found that conscientiousness, and openness were significantly related to work engagement and its dimensions namely vigor, dedication. Similarly, Mhlanga, Mjoli, Chamisa and Marange (2021) found that conscientiousness had a positive relationship with job engagement. Conscientiousness is the most constant indicator of occupational success across all employment kinds (Zadok, Benoliel and Schechter, 2024). It stands to reason that technology

education lecturers' effective instructional delivery can hardly be separated from the force of conscientiousness. Highly conscientious technology education lecturers lend themselves to order and structure. In addition, they work persistently to pursue their instructional goals, and are committed to fulfilling their statutory obligations. In contrast, unconscientious technology education lecturers are not daring and are at home with disorder with less motivation to deliver instructions in line with their students' needs. In connection to lecturers' use of digital tools, Scherer, Sadiq and Tondeur (2019) pointed out that conscientious lecturers may use digital tools to enhance organization and efficiency in the course of instructional delivery.

**Relationship between neuroticism trait and technology education lecturers' use of digital tools for instructional delivery.**

The findings revealed that a negative and significant relationship between neuroticism trait and technology education lecturers' use of digital tools for instructional delivery. This aligns with the five-factor model that stipulates that neuroticism may increase tech anxiety, reducing perceived control over digital tools. A technology education lecturer dominant on neuroticism probably does not have positive attitudes towards work and may lack confidence and optimism, which should result in low tendency to use technology for instructional delivery and worse still, less focus on institutional goals.

In accordance with the finding of the present study, Camadan, Reisoglu, Ursavas and Mcilroy (2018) observed that 'neuroticism' negatively affects the behavioral intention to use various digital tools. This is a pointer to the fact that 'neuroticism' among lecturers may not promote the use of digital tools for instructional delivery. In disagreement with the finding of the present study, Fukuzaki and Iwata (2022) found that neuroticism and work engagement had negative association. In similar vein, Musa and Fasasi (2023) found that neuroticism had a significant relationship with teachers' job productivity. Highly neurotic technology education lecturers are susceptible to anxiety, sadness, and mood swings, while emotionally stable technology education lecturers tend to remain calm and resilient, even in challenging situations. Neurotic individuals could experience excessive or insufficient external stimulus (Hou, *et al*., 2023). Thus, technology education lecturers with a high level of neuroticism are susceptible to negative emotions such as anxiety, despair and aggression given that they tend to have preference for situations that negatively impact them. Associating neuroticism with lecturers' use of digital tools, Knag and Kim (2020) noted that lecturers with high neuroticism might experience anxiety using digital tools, potentially reducing adoption.

**Relationship between openness to experience trait and technology education lecturers' use of digital tools for instructional delivery.**

The findings revealed that a positive and significant relationship between openness to experience trait and technology education lecturers' use of digital tools for instructional delivery. This aligns with five-factor personality model that posits that openness promotes adaptability and interest in new technologies. This is to the extent that openness to experience, characterized by curiosity and innovativeness, likely drives digital tool exploration.

In alignment with diffusion innovation theory by Rogers (2003), open lecturers are likely adopters of digital tools. Timmermans and de Caluwé (2017) argued that 'openness' does have an essential and determining role in adopting novel technologies, such as online learning platforms, online skill development programs, online business and commerce applications, and online information portals. Furthermore, Bansal and Gupta (2020) was significantly related to work engagement and its dimensions namely vigor, dedication and absorption. Technology education lecturers who possess openness traits exhibit behaviour beyond the status quo by accepting innovative ways of instructional delivery. Such lecturers are generally open to learning new skills and teaching styles for effectiveness in instructional delivery.

Linking openness to lecturers' use of digital tools, Kang and Kim (2020) spotlighted that lecturers with high openness are more likely to adopt and explore digital tools for instructional delivery. Technology education lecturers who score high on openness are quite broad-minded and modern in their outlook while those who score low on the same parameter are conservative, resistant to changes and have a traditional approach to instructional delivery which could relegate the use of digital tools to the background. Contradicting the finding of the present study, Tyokyaa, Ashwe and Igbaakaa (2023) found that openness to experience did not make any significant contribution to job involvement. This contradiction may not be unconnected to disparities in school location and school type.

**Conclusion**

It goes without saying that technology education lecturers' use of digital tools for instructional delivery in universities in South-East can hardly be separated from their personality traits. Based on the finding of the study, it was concluded that personality traits significantly associated with technology education lecturers' use of digital tools for instructional delivery in universities in South-East, Nigeria.

**Recommendations**

1. Lectures of technology education should consciously build openness to innovation and conscientiousness in planning while attending workshops on artificial intelligence even if not mandated. This is with a view to enhancing their use of digital tools for instructional delivery.
2. Extraverted and agreeable lecturers should form communities of practice and share digital tools and reduce isolation. That way, they will promote their use of digital tools for instructional delivery.
3. Conscientious trait technology education lecturers should consciously exude diligence in the use digital tools to enhance the delivery of instructions.
4. University administrators should offer one to one tech coaching to neurotic to enhance their use of digital tools for instructional delivery.
5. University administrators should identify open to experience lecturers to lead digital tool workshops. That way, they would be armed to use digital tools for instructional delivery.

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