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Digital Interactions and Linguistic Repertoires: Evidence from English Language Teacher Trainees at Kyambogo University, Uganda

By

Simon Dumba¹, Peter Okemwa², Florence Mokeira Okari³

¹PhD student, English Education, Department of Curriculum and Instruction, University of Eldoret, Kenya: Corresponding author e-mail: smsdumba497@gmail.com

²Professor, Department of Technology Education, University of Eldoret, Kenya email: Peter.okemwa@gmail.com,

³Lecturer, Department of Curriculum and Instruction, University of Eldoret, Kenya email: okarimokeira@gmail.com

Abstract

The purpose of this article was to investigate digital interactions and linguistic repertoires among teacher trainees at Kyambogo University in Uganda. It examines how three digital interactions trainee-trainee, trainee-lecturer, and trainee-content influence the linguistic repertoires of English language teacher trainees. The contention of the article is that digital platforms have become routine components of teacher education in multilingual contexts, yet the linguistic consequences of this integration remain empirically under studied. Drawing on a convergent mixed-methods study of 150 teacher trainees and 10 ELT lecturers, the study found that trainee-content interaction was the strongest predictor of linguistic repertoire development ($\beta = 0.348$, $p < 0.001$), followed by trainee-trainee interaction ($\beta = 0.206$, $p = 0.026$). Trainee-lecturer interaction showed no significant direct effect ($\beta = 0.069$, $p = 0.393$), suggesting its influence works indirectly through task design and feedback quality. Qualitative findings showed that digital platforms implicitly favour English while marginalising local languages, pushing trainees into translanguaging practices that remain institutionally unrecognised. The article concludes that digital interactions create unequal sociolinguistic environments, with direct implications for teacher education in multilingual settings.

Keywords: Uganda, digital interactions, linguistic repertoires, teacher education, translanguaging, multilingualism, Kyambogo University

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Introduction

The integration of digital platforms into higher education has created a noticeable tension. On one hand, digital technologies have expanded access to knowledge and interaction. On the other hand, their effects on language development remain unclear (Imjai et al., 2024; Zou et al., 2025). In English language teacher education, this tension is especially acute. Teacher trainees use digital spaces extensively, yet it is still uncertain how such use changes the linguistic resources they rely on, develop, and treat as legitimate.

Digital platforms are not merely delivery tools. They also function as spaces where language is used, mixed, stretched, and sometimes contested (Curran & Jenks, 2025; Warschauer, 2020). However, most research in teacher education, particularly in African contexts, has focused on access, infrastructure, and digital competence. Important as these are, they do not fully explain what happens to language inside digital environments. There is still limited empirical work on how regular participation in digital spaces changes the linguistic repertoires of English language teacher trainees.

The concept of linguistic repertoire offers a useful analytical lens. It draws attention to the range of languages and semiotic resources people use to make meaning across different contexts (Blommaert & Backus, 2011; Busch, 2017). These repertoires are not fixed; they change over time, shaped by experience, mobility, and social position (Busch, 2021). Digital environments seem to speed up this process. Practices such as translanguaging, code-mixing, and multimodal communication are not exceptions in these spaces they are often the norm (Li Wei, 2022; Sun, 2024). What is less clear is how these practices feed into the formal preparation of English language teachers, especially in multilingual settings where language norms are already complicated.

In Uganda, this complexity is part of everyday life. English is the official language of education, but it exists alongside many local languages and growing urban varieties (Nakayiza, 2021; Ssebagala, 2019). For teacher trainees, moving between these linguistic resources is not unusual it is expected. What seems to be changing is the scale and nature of this movement, particularly through digital engagement. Trainees are increasingly exposed to different forms of English and multilingual practices outside the classroom, often through informal networks and online interactions (Erling et al., 2023). The article addresses one main research question: How do digital interactions (trainee-trainee, trainee-lecturer, and trainee-content) influence the linguistic repertoires of English language teacher trainees at Kyambogo University, Uganda? The study provides a clear analysis of which forms of digital engagement most strongly predict language development in teacher education contexts.

Statement of the Problem

Despite the growing use of digital platforms in teacher education, little is known about how different types of digital interaction shape the linguistic repertoires of English language teacher trainees in multilingual university settings. Most existing studies have treated digital engagement as a single phenomenon or have focused only on access and attitudes. This leaves a gap in understanding the relative contributions of peer interaction, lecturer interaction, and content engagement to language development. The present study addresses that gap by examining these three forms of digital interaction separately.

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Review of Related Literature

The literature review covered three areas, linguistic repertoire, digital interaction in higher education as a theoretical concept, and previous work on translanguaging, communities of practice and sociocultural theories in digital spaces.

Conceptualising Linguistic Repertoires

The concept of linguistic repertoire has shifted from early definitions as a structural inventory of language varieties (Gumperz, 1964) to current understandings as dynamic, socially constructed, and biographically accumulated resources (Blommaert & Backus, 2011; Busch, 2017). Three theoretical advances define this shift. First, repertoires are not stable competencies but fluid assemblages shaped by social experience. Blommaert and Backus (2011) argue that individuals accumulate linguistic resources through trajectories of participation, not through formal learning alone. Busch (2017) extends this by emphasising the subjective, affective dimension: how speakers experience and value their languages matters as much as their proficiency.

Second, repertoires are multimodal. They include not only named languages but also registers, genres, dialects, and semiotic resources such as images, emojis, and gestures (Kress, 2010; Jewitt, 2014). This multimodality is particularly salient in digital environments, where communication blends written text, image, sound, and video. Third, repertoires are ideological. Not all resources are equally valued. Institutional contexts schools, universities, workplaces recognise and legitimise some language varieties while marginalising others (García & Li Wei, 2014; Darvin & Norton, 2015). English, in most postcolonial contexts, occupies the legitimised position. These three features fluidity, multimodality, and ideological stratification frame my analysis of how digital platforms influence teacher trainees' linguistic repertoires

Digital interactions' Influence on Linguistic Repertoires

Research shows that digital interactions' influences the linguistic repertoires of English language teacher trainees. Digital interaction entails communicative and cognitive engagement within technology-mediated environments such as synchronous and asynchronous platforms, social media, Web 2.0 tools, virtual exchanges, and AI-supported systems that enable multimodal language use beyond conventional classrooms (O'Dowd, 2021; Wikipedia contributors, 2026). Linguistic repertoire refers to the range of linguistic resources an individual mobilises across contexts, including varieties, registers, and modes shaped by sociocultural and digital experiences (Canagarajah, 2013). Within the multiliteracies framework, digital environments expand literacy to include multimodal meaning-making, thereby reorganising language forms and functions in authentic communication (Wikipedia contributors, 2026).

Empirical studies demonstrate that digitally mediated interaction broadens pragmatic competence, intercultural awareness, and acceptance of diverse English varieties. Virtual exchanges among pre-service teachers across different countries fostered communicative autonomy and tolerance for intelligibility over native-like accuracy, though participation inequalities and anxiety were reported (Chen et al., 2025). Similarly, multimodal telecollaboration enhanced translanguaging practices and intercultural competence by enabling learners to draw flexibly on their full linguistic resources (Yeh, 2024). Asynchronous digital tools such as language-learning applications and online platforms support self-regulated learning through sustained exposure to interactive input and

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multimodal production, contributing to vocabulary growth and communicative engagement (Sundqvist & Sylvén, 2016). However, many studies focus on general proficiency gains rather than repertoire transformation among teacher trainees.

Perception-based research also shows that educators value digital strategies, including social media and messaging platforms, for language practice, although empirical links to measurable repertoire development remain limited (International Journal of Online Pedagogy & Course Design, 2023). Studies on technology integration further report positive attitudes and increased pedagogical creativity among pre-service teachers, yet often lack direct analysis of linguistic outcomes (Education and Information Technologies, 2025). Theoretically, Communities of Practice conceptualise digital participation as engagement in professional discourse communities where language norms are negotiated (Wenger-Trayner & Wenger-Trayner, 2020), while translanguaging theory explains how multilingual users strategically mobilise diverse resources to construct meaning and identity in digital spaces (García & Li, 2014; Canagarajah, 2021). Collectively, the literature affirms that digital interaction is a key mechanism through which contemporary linguistic repertoires are expanded, diversified, and recontextualised.

Trainee-Trainee Digital Interaction

Peer interaction in digital spaces supports language development through collaborative meaning-making, peer feedback, and exposure to diverse linguistic forms. O'Dowd (2021) found that virtual exchanges among pre-service teachers foster communicative autonomy and tolerance for non-native English varieties. Yeh (2024) reported that multimodal telecollaboration enhances translanguaging practices, as learners draw flexibly on their full linguistic resources.

From a Communities of Practice perspective, digital peer spaces function as communities where trainees negotiate shared linguistic norms (Wenger-Trayner & Wenger-Trayner, 2020). Buckingham (2020) observed that peer communication blends academic discourse with informal digital registers, producing hybrid repertoires that traverse institutional and everyday language practices.

However, most studies are situated in Global North contexts. Evidence from African multilingual universities is limited. Sultana and Dovchin (2021) studied social media interactions among Bangladeshi students, but similar research from East Africa remains scarce. This gap is significant because peer interaction in multilingual contexts may involve different practices such as translanguaging between English and local languages than in predominantly monolingual settings.

Trainee–Lecturer Digital Interactions’ influence

Lecturer-mediated digital interaction socialises trainees into academic discourse communities and professional language practices. Research on online feedback indicates that written and audio comments delivered through digital platforms enhance genre awareness, evaluative language use, and disciplinary discourse competence (Falloon, 2020). Within Communities of Practice, lecturers act as expert members who regulate access to legitimate participation, thereby reinforcing institutional language norms (O'Dowd et al., 2020). Sustained interaction via learning management systems has been shown to strengthen formal academic registers and pedagogical metalanguage among teacher trainees (Paetsch & Drechsel, 2021).

However, such mediation may also reproduce linguistic hierarchies by privileging standard academic English and marginalising multilingual practices (Buckingham, 2020).

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Existing research rarely examines how these dynamics reshape trainees' broader linguistic repertoires, particularly in postcolonial contexts where English carries symbolic authority. This study therefore analyses lecturer–trainee interaction as both a resource for academic language development and a site where language ideologies are negotiated.

Trainee–Content Digital Interactions' influence

Interaction with digital content recorded lectures, online texts, videos, interactive tasks constitute a third pathway for linguistic development. From a sociocultural perspective, digital materials function as mediational tools through which learners internalise disciplinary discourse (Falloon, 2020). Active engagement strategies, including annotation and synthesis, enhance vocabulary acquisition and discourse competence (Paetsch & Drechsel, 2021). Passive consumption limits language growth.

Translanguaging research demonstrates that multilingual learners often mobilise multiple languages when processing academic content, enhancing comprehension and critical engagement (García & Otheguy, 2020; Seltzer & de los Ríos, 2021). However, most digital content is designed for monolingual English users. Mukama and Andersson (2023) found that in African higher education, digital platforms increase exposure to academic English but may constrain opportunities for contextualised language use.

Key studies have shown that peer interaction online can support language development (O'Dowd, 2021; Yeh, 2024), while content engagement often provides the main source of academic language input (Falloon, 2020; Paetsch & Drechsel, 2021). However, few studies have compared the predictive strength of these interaction types within the same sample. Research from other African universities has highlighted infrastructural challenges (Adarkwah, 2021; Mtebe & Raphael, 2020), but less attention has gone to the linguistic outcomes of digital engagement. The present study builds on that work by focusing specifically on linguistic repertoires.

Methodology

The study used a convergent mixed-methods design (Creswell & Plano Clark, 2018) with quantitative priority. This design was chosen because the research question required both statistical estimation of predictive strength (quantitative) and contextualised explanation of mechanisms (qualitative). Quantitative and qualitative data were collected at the same time, analysed separately, and then integrated during interpretation. The sample included 53.3% male and 46.7% female participants, with most (64.7%) aged 30–40 years. Eleven different first languages were represented, with no single language dominating: Ateso (22.0%), Lango (22.0%), Runyakitara (14.7%), and Acholi (13.3%) were the most common. English was the first language for only 2.0% of respondents, confirming the multilingual nature of the sample.

Quantitative data were collected using a structured questionnaire with Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire measured three digital interactions: trainee–trainee (6 items), trainee–lecturer (7 items), and trainee–content (8 items). Linguistic repertoires, the dependent variable, were measured through five dimensions: academic English dominance, language proficiency, multilingualism, minimal repertoire, and language attitudes. The instrument showed acceptable reliability, with Cronbach's alpha values between 0.849 and 0.892 across constructs. Qualitative data were collected through semi-structured interviews with 10 ELT lecturers. The interviews explored lecturers' observations of how digital interactions shape trainees' language practices, the

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challenges they saw, and the institutional conditions that enable or limit multilingual digital engagement.

Quantitative data were analysed using SPSS version 25. Descriptive statistics (means, standard deviations, frequencies) were computed for all variables. Pearson correlation analysis examined bivariate relationships, and multiple linear regression identified which digital interactions independently predicted linguistic repertoires. Before regression, assumptions of normality, linearity, and absence of multicollinearity were checked. Qualitative interview data were transcribed fully and analysed using Braun and Clarke's (2021) six-phase thematic analysis: familiarisation, initial coding, theme generation, theme review, theme definition, and writing. Codes were generated inductively from the data while being informed by the theoretical framework.

Results and Discussion

We collected quantitative data from one hundred fifty (150) teacher trainees using a structured questionnaire and qualitative data from ten (10) ELT lecturers using semi-structured interviews (Appendix D). Drawing on the convergent mixed-methods design described in the methodology, we present quantitative results followed by the qualitative findings from the semi-structured interviews with ELT lecturers (N = 10) to explain and contextualise those statistical patterns. The qualitative data are not treated as a separate, parallel analysis; rather, they are woven into the discussion of each of each variable or construct to show how lecturers lived experiences and professional interpretations light the numbers. All qualitative data were collected, transcribed and thematically analysed.

All tables and figures in this section are sourced from field data collected in 2026 unless otherwise stated. Likert-scale responses are reported using the five-point scale described in Section 3.9 (1 = Strongly Disagree to 5 = Strongly Agree). Means and standard deviations are reported for all constructs. Qualitative participants are identified using codes AUD-2025 (1-10).

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Descriptive Results for Digital Interactions

Table 1 Descriptive Statistics for Trainee-Trainee Digital Interactions

Item	SD n (%)	D n (%)	N n (%)	A n (%)	SA n (%)	M	SD
I learn from reading comments posted by other trainees on online platforms	3 (2.0)	8 (5.3)	10 (6.7)	110 (73.3)	19 (12.7)	3.89	0.76
I contribute by reading and commenting on reports posted by other trainees in the course	0	7 (4.7)	9 (6.0)	112 (74.7)	22 (14.7)	3.99	0.63
Online comments and questions from my peers help me to understand concepts better	3 (2.0)	6 (4.0)	15 (10.0)	107 (71.3)	19 (12.7)	3.89	0.75
I have improved my electronic communication skills through interaction with fellow trainees online	0	3 (2.0)	15 (10.0)	93 (62.0)	39 (26.0)	4.12	0.65
Interacting with other trainees online increases my learning motivation	0	12 (8.0)	10 (6.7)	90 (60.0)	38 (25.3)	4.03	0.80
I enjoy working with classmates in collaborative online activities	0	11 (7.3)	3 (2.0)	103 (68.7)	33 (22.0)	4.05	0.73

Note. N = 150. SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, M = Mean, SD = Standard Deviation. Percentages may not sum to 100 due to rounding.

Source: Field Data, 2026

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As shown in Table 1, mean scores ranged from 3.89 to 4.12, with standard deviations between 0.63 and 0.80. Three patterns stood out. First, trainee-mediated academic engagement was widespread. High agreement on learning from trainees' online comments ($M = 3.89$) and contributing comments on peers' work ($M = 3.99$) suggested that digital spaces were actively used for academic English reading and writing, not only for social interaction. Second, peer interaction supported affective and motivational dimensions of language use. Items related to motivation ($M = 4.03$) and enjoyment of collaborative online activities ($M = 4.05$) clustered at the upper end of the scale, indicating that digital peer engagement reduced anxiety and sustained participation. Such affective conditions are known to encourage risk-taking and extended language production, both important for repertoire development (Dörnyei & Ryan, 2015). Third, digital peer interaction strengthened communicative competence. The highest mean ($M = 4.12$) was for improvement in electronic communication skills, suggesting that regular peer interaction enhanced functional academic English use across different modes

Figure 1. Distribution of trainee-trainee interaction scores ($N = 150$, $M = 4.00$, $SD = 0.506$). A normal curve is superimposed to illustrate the shape of the distribution.

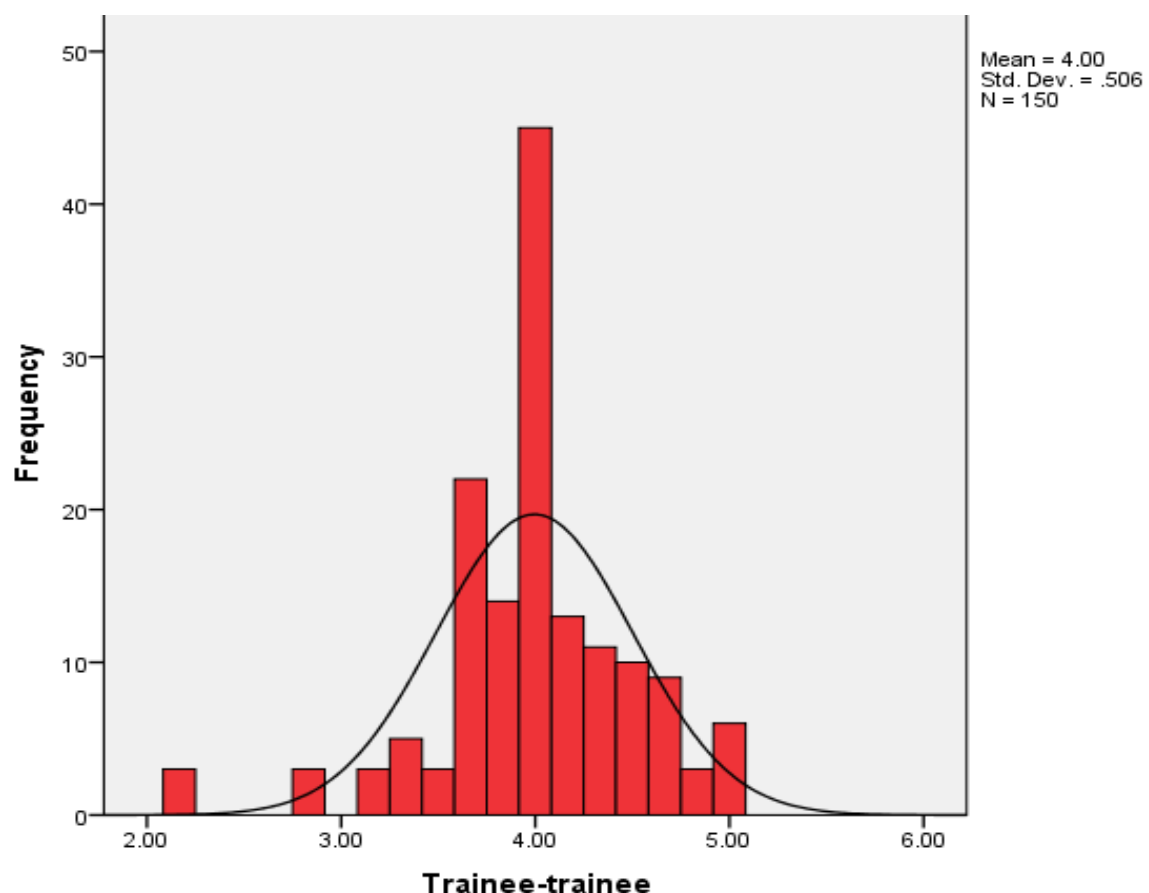


Figure 1 Histogram for Trainee-Trainee Interaction

Source: Field Data 2026

Figure 1, helps in illustrating the distribution of trainee–trainee interaction scores for a sample of one hundred fifty (150) respondents, The distribution was approximately normal

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and unimodal, with responses clustering around the central value. The mean of 4.00 indicated a high level of perceived interaction, and the small standard deviation (0.506) suggested limited variability and a high degree of consensus among trainees.

Table 2: Descriptive Statistics for Trainee-Lecturer Digital Interactions

Item	SD n (%)	D n (%)	N n (%)	A n (%)	SA n (%)	M	SD
I ask my lecturers questions during online lessons	0	8 (5.3)	13 (8.7)	100 (66.7)	29 (19.3)	4.00	0.70
I am encouraged to share my ideas during online classes	0	3 (2.0)	6 (4.0)	114 (76.0)	27 (18.0)	4.10	0.54
My lecturers are able to notice and respond to my participation during online classes	3 (2.0)	3 (2.0)	5 (3.3)	93 (62.0)	46 (30.7)	4.17	0.76
My lecturers keep me engaged and active during online lessons	3 (2.0)	10 (6.7)	6 (4.0)	87 (58.0)	44 (29.3)	4.06	0.88
My lecturers use a variety of interesting materials when teaching online	9 (6.0)	43 (28.7)	45 (30.0)	36 (24.0)	17 (11.3)	3.06	1.11
In online classes, I get to do more than just listen to the lecturers talk	11 (7.3)	16 (10.7)	39 (26.0)	66 (44.0)	18 (12.0)	3.43	1.07
My lecturer involves me in the learning process during online lessons	11 (7.3)	3 (2.0)	8 (5.3)	108 (72.0)	20 (13.3)	3.82	0.95

Note. N = 150. SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, M = Mean, SD = Standard Deviation. Percentages may not sum to 100 due to rounding.

Source: Field Data 2026

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As shown in Table 2, mean scores ranged from 3.06 to 4.17, with more variability than in trainee-trainee interaction. Three patterns were evident. First, interactional access to lecturers was strong. High means for asking questions ($M = 4.00$), sharing ideas ($M = 4.10$), and lecturers noticing participation ($M = 4.17$) suggested that digital platforms lowered traditional barriers to teacher access. Second, feedback emerged as a strong interactional affordance. Items related to lecturer responsiveness and engagement recorded high agreement. Third, pedagogical design was uneven. The lower mean for use of varied materials ($M = 3.06$) and moderate agreement that trainees did more than listen ($M = 3.43$) indicated that online pedagogy remained partly transmissive.

Figure 2. Distribution of trainee-lecturer interaction scores ($N = 150$, $M = 3.81$, $SD = 0.650$). A normal curve is superimposed to illustrate the shape of the distribution.

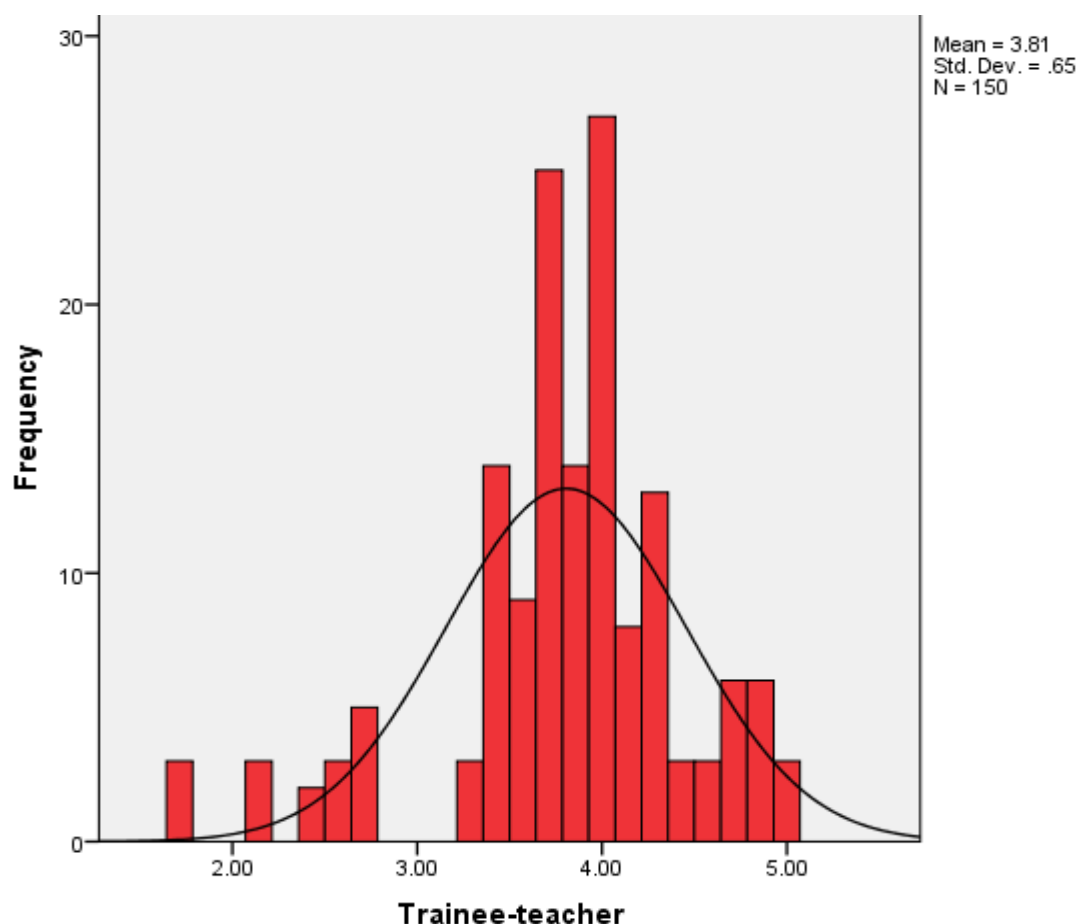


Figure 2: Histogram for trainee- Lecturer Interactions

Source: Field data, 2026

Figure 2 shows a unimodal pattern, with most observations clustering between 3.5 and 4.2, indicating moderately high levels of perceived lecturer interaction.

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Table 3: Descriptive Statistics for Trainee-Content Digital Interactions

Item	SD n (%)	D n (%)	N n (%)	A n (%)	SA n (%)	M	SD
The learning management system is simple and easy for me to access content	3 (2.0)	25 (16.7)	53 (35.3)	60 (40.0)	9 (6.0)	3.31	0.89
I can easily search and access course materials in the university online system	9 (6.0)	17 (11.3)	28 (18.7)	83 (55.3)	13 (8.7)	3.49	1.01
The university online system provides clear instructions that help me use it effectively	3 (2.0)	14 (9.3)	46 (30.7)	74 (49.3)	13 (8.7)	3.53	0.86
I can quickly find course information within the system	6 (4.0)	14 (9.3)	28 (18.7)	84 (56.0)	18 (12.0)	3.63	0.95
The system supports my participation in interactive and group activities	6 (4.0)	14 (9.3)	41 (27.3)	77 (51.3)	12 (8.0)	3.50	0.92
The interface of the learning system is well-organised and adaptable to my needs	6 (4.0)	19 (12.7)	37 (24.7)	74 (49.3)	14 (9.3)	3.47	0.97
I am comfortable using web-based applications for my course preparation	6 (4.0)	30 (20.0)	47 (31.3)	58 (38.7)	9 (6.0)	3.23	0.97
Access course materials in the university online system	6 (4.0)	16 (10.7)	29 (19.3)	90 (60.0)	9 (6.0)	3.53	0.91

Note. N = 150. SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree, M = Mean, SD = Standard Deviation. Percentages may not sum to 100 due to rounding.

Source: Field data 2026

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As shown in Table 3, mean scores ranged from 3.23 to 3.63. Three points stood out. First, accessibility was generally adequate but not seamless. Items related to finding information and accessing materials scored higher ($M \approx 3.5$ – 3.6), while comfort with web-based applications was lower ($M = 3.23$). Second, content interaction supported active engagement: agreement that systems supported interactive and group activities ($M = 3.50$) indicated that content was not only consumed but also used as a basis for communicative tasks. Third, variability ($SD = 0.86$ – 1.01) suggested uneven experiences rather than polarised attitudes. Distribution of trainee-content interaction scores ($N = 150$, $M = 3.46$, $SD = 0.736$). A normal curve is superimposed to illustrate the shape of the distribution.

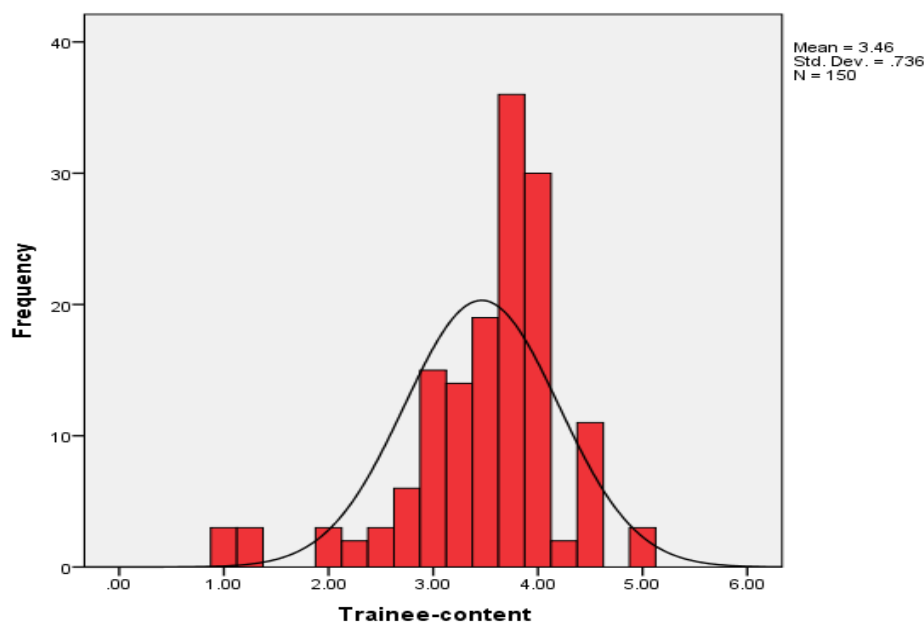


Figure 3: Histogram for trainee-content interaction

Source: Field data, 2026

Figure 3 shows a near-normal distribution with most responses between 3.0 and 4.0, indicating commonly positive perceptions of content with moderate variability.

Correlation Analysis

Table 4: Correlation Matrix Among Digital Interactions and Linguistic Repertoires

Variable	1	2	3	4
1. Linguistic Repertoires	—			
2. Trainee-trainee interaction	.427	—		
3. Trainee-lecturer interaction	.265	.469	—	
4. Trainee-content interaction	.480	.545	.289	—

Note. $N = 150$. $p < .01$ (2-tailed).

Source: Field data 2026

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The three digital interactions correlated positively and significantly with linguistic repertoires. Trainee-content interaction showed the strongest correlation ($r = 0.480$, $p < 0.001$), followed by trainee-trainee interaction ($r = 0.427$, $p < 0.001$). Trainee-lecturer interaction, while still significant, showed the weakest correlation ($r = 0.265$, $p = 0.001$). Inter-correlations among digital interactions ranged from 0.289 to 0.545, showing that these forms of digital engagement were mutually reinforcing rather than independent.

Regression Analysis

To determine which digital interactions independently predicted linguistic repertoires, multiple linear regression was conducted (Table 6).

Table 5: Multiple Linear Regression of Linguistic Repertoires on Digital Interactions

Predictor	β	t	p
Trainee-trainee interaction	.206	2.24	.026
Trainee-lecturer interaction	.069	0.86	.393
Trainee-content interaction	.348	3.86	.000

Note. N = 150. Dependent variable: Linguistic Repertoires. $R^2 = .273$, Adjusted $R^2 = .258$, $F(3, 146) = 18.279$, $p < .001$.

Source: Field data 2026

The model was statistically significant ($F = 18.279$, $p < 0.001$) and explained 27.3% of the variance in linguistic repertoires. Trainee-content interaction emerged as the strongest predictor ($\beta = 0.348$, $p < 0.001$), followed by trainee-trainee interaction ($\beta = 0.206$, $p = 0.026$). Trainee-lecturer interaction did not reach statistical significance ($\beta = 0.069$, $p = 0.393$).

Qualitative Findings

Three themes emerged from the analysis of lecturer interviews.

Theme 1: Extended peer interaction as linguistic scaffolding

Lecturers reported that digital platforms enabled continuous peer engagement outside classroom hours. One lecturer explained that platforms such as Google Classroom, WhatsApp, and the university's learning management system allowed students to interact, discuss, and share resources beyond scheduled class time (AUD-2025-6). Another described how this peer scaffolding supported language development, noting that trainees co-wrote essays, commented on each other's work, and learned from corrections, which improved their grammar, vocabulary, and writing skills (AUD-2025-6).

However, one lecturer raised a caution about over-reliance on artificial intelligence: "Sometimes I find that they're relying too much on the phone or AI. They are not developing their own language because the AI does the thinking for them" (AUD-2025-2).

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Theme 2: Lecturer influence operates indirectly through feedback design

Despite the non-significant quantitative finding for trainee-lecturer interaction, lecturers described their influence as indirect but meaningful. One explained that by recording audio feedback or writing comments on student work, he could help trainees understand their mistakes and learn correct language use more effectively (AUD-2025-10). Another noted the affective benefit of private digital feedback, explaining that it reduced anxiety and allowed her to help students correct mistakes more effectively than in public classroom settings (AUD-2025-9).

Theme 3: Institutional invisibility of translanguaging practices

Lecturers reported that while trainees engaged in translanguaging in informal digital spaces, these practices remained institutionally unrecognised. One lecturer observed that in student-created WhatsApp groups, trainees constantly code-switched, explaining concepts in local languages before producing final answers in English but that this process remained invisible to lecturers, who saw only the final English product (AUD-2025-7).

Another lecturer acknowledged the absence of institutional recognition:

The university says we should support multilingualism. But the LMS is in English. The assignments must be in English. The feedback is in English. There is no space for Luganda or Runyakitara. So, students learn that their languages do not belong in digital learning (AUD-2025-10).

Integration of Findings

Table 6: Integration Matrix for the Key Findings

Finding	Quantitative Result	Qualitative Result	Integration Type
Trainee-content interaction	Strongest predictor ($\beta = .348, p < .001$)	Confirmed as primary source of input	Convergence
Trainee-trainee interaction	Significant predictor ($\beta = .206, p = .026$)	Described as scaffolding and peer feedback	Convergence
Trainee-lecturer interaction	Non-significant predictor ($\beta = .069, p = .393$)	Described as indirect (feedback design)	Expansion

Source: Field data 2026

The qualitative data did not contradict the quantitative findings but explained them. The convergence expansion matrix showed that quantitative results identified trainee-content interaction as the strongest predictor, followed by trainee-trainee interaction, while trainee-lecturer interaction was non-significant. Qualitative findings confirmed the first two as key input and scaffolding mechanisms, but expanded on the third non-significant result as indirect through feedback design.

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Discussion

Trainee-Content Interaction as the Strongest Predictor

The finding that trainee-content interaction emerged as the strongest predictor of linguistic repertoire development aligns with Sociocultural Theory, which positions cultural tools as mediators of cognitive development (Vygotsky, 1978; Lantolf et al., 2020). Digital content—videos, slides, online texts, discussion forums—functions as such a tool. Through regular engagement with content, trainees internalise academic English registers, disciplinary vocabulary, and discourse conventions. While previous studies have documented the importance of content engagement for language learning (Falloon, 2020; Paetsch & Drechsel, 2021), few have quantified its relative contribution compared to other interaction types in teacher education contexts. The present study shows that content interaction is not merely important—it was the most powerful predictor among the three digital interactions examined. The qualitative data supported this interpretation. Lecturers reported that trainees who actively engaged with content annotating, questioning, synthesizing showed greater linguistic awareness than those who consumed passively. This distinction between active and passive engagement matters.

Trainee-Trainee Interaction as a Significant Predictor

The significant contribution of trainee-trainee interaction supports Communities of Practice theory, where learning occurs through participation in shared practices (Wenger-Trayner & Wenger-Trayner, 2020). Digital peer interaction creates virtual communities where trainees negotiate meaning, provide scaffolding, and co-construct knowledge. This finding is consistent with recent studies on peer interaction in digital environments. O'Dowd (2021) found that virtual exchanges among pre-service teachers foster communicative autonomy and tolerance for non-native English varieties. Yeh (2024) reported that multimodal telecollaboration enhances translanguaging practices, as learners draw flexibly on their full linguistic resources. However, the caution raised by one lecturer about AI over-reliance qualifies this finding: peer interaction supports language development only when trainees engage authentically rather than handing cognitive work to automated tools. This caveat has not been sufficiently addressed in the existing literature and points to an emerging challenge for digitally-mediated teacher education.

The Non-Significant Finding for Trainee-Lecturer Interaction

The finding that trainee-lecturer interaction did not independently predict linguistic repertoire development may appear counterintuitive. However, this does not mean lecturers are unimportant. Rather, it suggests that lecturer influence is indirect, working through task design, feedback quality, and content curation rather than through the frequency of direct interaction. This interpretation is supported by the qualitative data. Lecturers described their role as designing collaborative tasks, providing audio feedback, and creating safe spaces for practice. These activities are captured in the trainee-content and trainee-trainee variables lecturers shape the conditions under which peer and content interactions occur. From a Sociocultural perspective, lecturers act as designers of mediational tools rather than as direct mediators in every interaction (Lantolf et al., 2020). The non-significant finding also reflects the reality of digital learning environments in resource-constrained contexts. Under such conditions, direct lecturer-trainee interaction may be less frequent or less sustained than in well-resourced settings, reducing its measurable effect on repertoire development.

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The Invisibility of Translanguaging in Formal Digital Spaces

The qualitative finding that digital platforms implicitly favour English while marginalising local languages has important theoretical and pedagogical implications. From a translanguaging perspective, trainees are not lacking multilingual competence they are strategically using their full repertoires in informal spaces while suppressing them in formal, assessed interactions (García & Li Wei, 2014; Li Wei, 2022). This finding challenges the assumption in some translanguaging literature that translanguaging is always and everywhere a resource for learning (Cenoz & Gorter, 2021). When translanguaging is pushed into unassessed, invisible spaces, its pedagogical potential remains unrealised. The study therefore suggests the need to distinguish between descriptive translanguaging what multilinguals do naturally and pedagogically framed translanguaging what is deliberately designed, recognised, and assessed. The institutional removal of local languages from digital learning environments has consequences for teacher education. If English teachers are trained on platforms that erase linguistic diversity, they cannot be expected to value or accommodate multilingual practices in their own classrooms. This finding carries particular weight for multilingual African contexts, where the gap between institutional language policy and classroom practice remains persistent (Makoe & McKinney, 2020).

Conclusion

This study examined how digital interactions influence the linguistic repertoires of English language teacher trainees at Kyambogo University, Uganda. Three main conclusions emerge; First, not all digital interactions shape linguistic repertoires equally. Trainee-content interaction was the strongest predictor, followed by trainee-trainee interaction. Trainee-lecturer interaction, while positively correlated, did not independently predict repertoire development, suggesting its influence works indirectly through task design and feedback quality. Second, digital platforms function as ideologically charged environments that implicitly favour English while marginalising local languages. Trainees respond with covert translanguaging in informal peer spaces, but these practices remain institutionally invisible and unassessed. Third, the findings show that Sociocultural Theory, Communities of Practice, and Translanguaging Theory are not competing but complementary. Sociocultural theory explains the mechanism of mediation, CoP explains the location of participation, and translanguaging explains the substance of language use. No single framework could adequately account for all findings.

Recommendations

The conclusions lead to several recommendations for practice. Curriculum designers should prioritise pedagogically structured content interaction that promotes active engagement rather than passive consumption. Peer collaboration should be deliberately built into digital learning activities, with explicit guidance on authentic engagement that does not rely on AI substitution. Lecturers should be supported in designing feedback and tasks that use, rather than suppress, trainees' multilingual resources. Institutional digital platforms and assessment practices should be reviewed to recognise translanguaging as a legitimate academic practice rather than as a deviation from standard English.

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