

Shaping Creative Identity: The Impact of Digital Visual Archives and Library Resources in Cross-Cultural Learning

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Abstract

As global interconnectivity and technological sophistication continue to grow, understanding diverse cultures becomes essential for effective collaboration and the pursuit of shared objectives. Contemporary library systems and digital archival platforms offer learners continuous access to a broad spectrum of educational resources, irrespective of time or location. This study explores the influence of digital visual archives and library databases on the development of creative identity among English-speaking learners engaged in intercultural educational programmes. A total of 236 students, all proficient in English and representing various cultural backgrounds, participated in the investigation. While all respondents possessed basic computer literacy, their familiarity with digital library systems varied. A mixed-methods approach was employed, incorporating video recordings to capture the participants' information retrieval activities. Task performance was evaluated using innovative assessment criteria, and students' perceptions and emotional responses during the

learning process were collected through group interviews. Data analysis was carried out using IBM SPSS version 26.0, applying descriptive statistics and chi-square tests to identify variations in task outcomes and browsing behaviours. The analysis revealed a predominant reliance on the English language and indicated significantly higher success rates in tasks selected by the participants themselves compared to those assigned externally ($p < 0.05$). Furthermore, students expressed heightened levels of motivation, confidence, and creativity when engaging with culturally specific visual archives. These outcomes underscore the potential of culturally tailored digital library resources to deepen intercultural comprehension and inspire creative thought.

Keywords: Digital Visual Archives, Library Resources, Cross-Cultural Learning, Creative Identity, Visual Literacy.

Introduction

Education is increasingly conceptualised within a global context, primarily due to the transformative effects of digital technologies on cultural interaction (Fischer et al., 2020). The emergence of digital visual archives and contemporary library infrastructures has significantly expanded the availability of cross-cultural educational opportunities. These digital tools enable learners to engage with a diverse range of cultural expressions, narratives, and presentations (Bovcon, 2021). Such access is especially valuable in multicultural learning environments, where students are exposed to both familiar and unfamiliar visual modes of thought and practice. This exposure contributes to meaningful

cognitive shifts and fosters enhanced empathy towards diverse cultural experiences (Zort et al., 2023).

Creative identity, which refers to an individual's evolving understanding of themselves as a creative agent, is notably shaped by interactions with culturally diverse content. In the digital era, learners benefit from nearly unrestricted opportunities to explore how various cultures construct meaning through creative expression across multiple art forms, styles, and interpretations. This engagement is often made possible through curated digital visual archives (González-Zamar et al., 2020). Public and academic institutions have responded by enacting policy reforms aimed at broadening access to cultural heritage, thereby supporting the democratisation of knowledge (Ahadiyyah et al., 2024). In parallel, libraries have undergone substantial transformation, embracing digital services, online exhibitions, and multimedia collections designed to provide personalised, inquiry-driven learning experiences (Lomachinska et al., 2024).

The landscape of cross-cultural education has evolved from traditional, in-person interactions to digital, transnational collaborations that facilitate intercultural reflection and dialogue. Within this context, visual materials from online repositories serve a vital mediating function. They enable learners to engage with cultural symbols, artworks, and historical records in their original contexts (Siregar, 2024). The integration of such visual content in intercultural learning environments promotes critical thinking and grants learners a degree of autonomy in navigating multicultural scenarios (Al-Zadjali, 2024). Previous studies indicate that when visual content is combined with structured collaborative activities, students become more adept at identifying cultural stereotypes and feel more empowered to construct their own cultural identities (Liew et al., 2021). Moreover, the availability of digital tools in educational libraries encourages collaborative learning, multilingual engagement, and multimodal interaction, all of which contribute to the cultivation of creative identity within diverse classroom settings (Chateau et al., 2025). Given the increasing importance of digital literacy, the use of digital library resources supports the reinterpretation and dissemination of cultural narratives (Ye, 2024). Acknowledging the transformative impact of digital archives and library systems on creative identity is essential for effectively planning, designing, implementing, and assessing cross-cultural educational initiatives grounded in creativity.

An additional aspect to consider is the importance of digital equity and access, which ensures that all students, irrespective of their socioeconomic background or geographic location, can benefit from digital archival content. Addressing digital disparities can help marginalised groups engage with cultural archives and library services, thereby contributing to the development of their creative identities (Frank et al., 2021). The integration of artificial intelligence and machine learning within digital archives now enables the delivery of content that aligns with users' cultural and creative preferences. This personalised approach encourages deeper reflection on individual creative styles (Rahmanova, 2025). Inclusion plays a fundamental role in fostering global citizenship and mutual respect in diverse educational contexts. Collaborative, interactive projects that utilise digital archives and library platforms offer learners the opportunity to co-create cultural content and share distinct perspectives. These practices enhance the application of social learning theories and position creativity as a socially embedded process (Velhinho and Almeida, 2023). Deliberately designed collaborative experiences also facilitate the acquisition of effective communication skills and intercultural competencies that are increasingly vital in interconnected societies.

Objective of the Research

This study investigates the impact of digital visual archives and library resources on the development of creative identity among English-speaking students engaged in cross-cultural educational settings. Employing a mixed-methods research design, the study examines students' information-seeking behaviours and assesses how access to culturally significant digital content enhances their confidence, engagement, and creative productivity. The central objective is to demonstrate how digital library platforms contribute to culturally informed educational experiences and help integrate technological access with meaningful cultural learning. The specific aims of the research are:

- To implement a mixed-methods framework for evaluating the use of digital archives in creative and cross-cultural learning environments.
- To measure success rates across different types of learning tasks, revealing superior outcomes in open-ended, student-directed activities.
- To emphasise the significance of culturally

pertinent resources in fostering students' creative autonomy and motivation.

- To examine behavioural trends in digital browsing through real-time screen-capture analysis.
- To establish statistically significant relationships between task format (self-directed versus assigned) and performance levels.

The structure of the paper is organised as follows: Section 2 presents the literature review; Section 3 outlines the research methodology; Section 4 reports and discusses the findings; and Section 5 provides the conclusion.

Literature Review

Numerous studies have underscored the influence of digital technologies in fostering cultural and creative learning. Selfa-Sastre et al. (2022) highlighted that digital tools integrated into language education promote collaborative creativity by supporting co-creative thinking, interactivity, and problem-solving skills. These tools equip students to manage complex global challenges by facilitating enriched, digitally mediated learning environments. Similarly, Podara et al. (2021) explored how interactive documentaries contribute to narrating cultural heritage, particularly in terms of sustainability and audience engagement. A case study from Greece demonstrated that maintaining user engagement depends on adaptive storytelling, transmedia strategies, and content that resonates culturally, thus enabling meaningful and enduring heritage preservation via digital platforms.

Sridevi et al. (2024) noted the predominance of English within digital library systems, which offers both expanded access to global knowledge and challenges related to inclusivity. While English broadens entry points to information, it simultaneously marginalises non-English speakers. These communication encounters, whether in educational or social settings, underline the need for linguistic diversity to ensure comprehensive and culturally representative digital learning experiences. In another context, Afiah et al. (2025) investigated arts and cultural education in Indonesian schools abroad, revealing that digital media tools such as virtual classrooms and multimedia applications support cultural understanding and creativity. Nonetheless, challenges persist, including infrastructural limitations, disparities in digital access, and insufficient training for educators, indicating a need for more systematic integration.

Buragohain et al. (2024) illustrated the potential of metaverse technologies in the preservation of both tangible and intangible cultural heritage. Their research introduced immersive environments and virtual reconstructions as mechanisms for enhancing global accessibility and engagement with cultural materials. The study outlined best practices while acknowledging the associated challenges, thereby proposing innovative approaches for protecting heritage assets in the digital era. Shonfeld et al. (2021) proposed a conceptual framework that links digital tools, intercultural competence, and educational systems to student development. Their model emphasised the importance of robust infrastructure and digital literacy to support effective participation in intercultural education and lifelong learning.

Alsaleh (2024) addressed the dual nature of digital technologies in cultural transformation, showing that although they enable global connectivity, creative collaboration, and cultural dissemination, they also risk fostering cultural uniformity and widening digital divides. The research emphasised the need for inclusive and ethically guided digital strategies to protect cultural diversity while promoting innovation and equity. Oladokun et al. (2024) examined the application of immersive technologies such as the Metaverse, augmented reality (AR), and virtual reality (VR) in cultural heritage preservation. These technologies enable dynamic engagement with cultural artefacts, though issues surrounding ethics, privacy, and digital rights persist. The authors advocated for collaborative development among communities, institutions, and technology stakeholders to ensure sustainable and respectful digital conservation globally.

Kotis et al. (2020) introduced a novel framework facilitating the co-creation of media-rich, location-based cultural narratives. The approach employed a mobile platform to enable participatory storytelling using semantic data, tested with refugees and migrants in a museum context. This initiative aimed to foster social cohesion and inclusivity through the Shared Experiences Ecosystem (SEE), leveraging intelligent digital systems. Giannini and Bowen (2023) examined the transformation of museums' roles and identities in response to increased online heritage sharing and digital adaptations prompted by the pandemic. Their findings revealed a shift towards community engagement and expressive freedom, with digital identity becoming integral to the global representation of heritage, inclusion, and cultural discourse.

Jaillant and Caputo (2022) analysed the complexities of managing born-digital archival collections, especially in light of privacy concerns, copyright issues, and technical limitations. The study noted that artificial intelligence, particularly machine learning, could assist in enhancing accessibility by automating sensitivity reviews. However, both benefits and limitations of AI application in this context were acknowledged. Ibrus and Ojamaa (2020) explored the influence of digital archives on cultural power dynamics and discursive freedom. They investigated how the material and algorithmic dimensions of archives shape cultural communication processes, drawing on Juri Lotman's semiotic theories to examine the emergence of new cultural forms.

Odumosu (2020) considered the ethical dimensions of digitally reproducing historical images of enslaved and colonised individuals. Focusing on a photograph of an Afro-Caribbean child, the study critiqued how institutions address historical violence, advocating for an ethics of care through reparative art practices. It also called for a re-evaluation of metadata as a tool for ethical representation. Fan and Wang (2020) assessed the evolution of museums from analogue institutions to digitally engaged entities, arguing for a redefinition of their roles in fostering constructive digitisation and the critical management of cultural knowledge. Their research suggested strategic applications of digital communication technologies to enhance museum accessibility and knowledge reuse.

This literature review affirms that digital visual archives and library systems play a crucial role in enhancing cultural learning and nurturing creative

identity among students. Access to a diverse range of cultural resources enriches student experiences, particularly as digital transformation reshapes educational environments. Studies consistently indicate that these resources not only equalise access but also stimulate cognitive, emotional, and creative development. Integrating visual storytelling into academic settings allows students to gain a multidimensional understanding of foreign cultures. It is evident that the considered and ethical use of digital visual archives is essential for fostering cultural appreciation and self-exploration among learners. Ongoing research continues to validate the significant educational impact of these resources in producing knowledgeable, original, and globally conscious individuals.

Research Design

This study adopted a mixed-methods approach by integrating both qualitative and quantitative research techniques to investigate student engagement with digital visual archives within cross-cultural learning settings. Quantitative data were obtained through an online survey and the analysis of performance outcomes, while qualitative insights were derived from structured group interviews. The research design encompassed several components, including participant demographics, variations in task formats, survey instruments, experiential data collection methods, and procedures for statistical analysis. An overview of the research sequence is presented in Figure 1, illustrating the progression from task assignment and participant recruitment to the subsequent phases of data gathering and analytical evaluation.

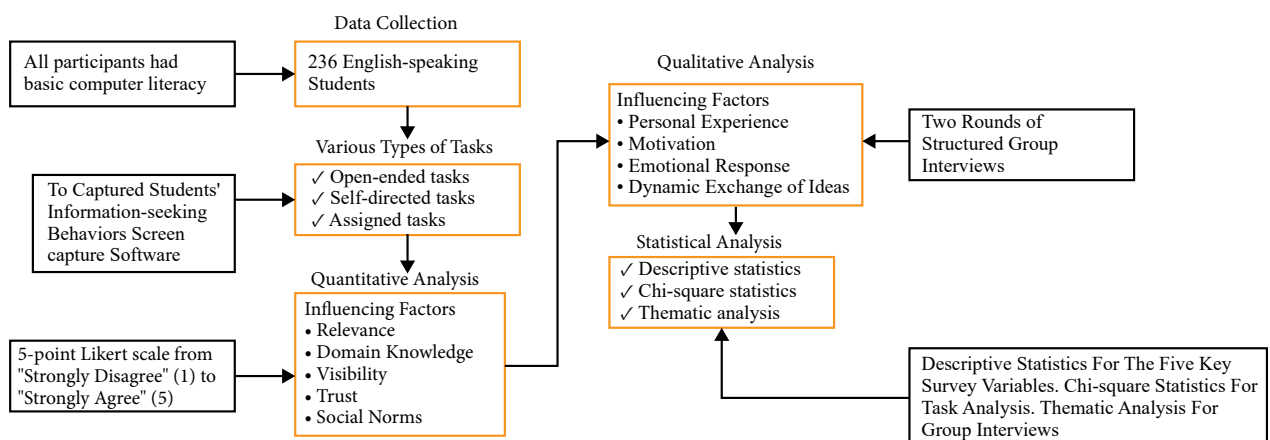


Figure 1: Research Design and Process Flow.

Demographic Details

A total of 236 English-speaking university students majoring in English participated in this study. All participants possessed fundamental computer literacy and represented a range of cultural backgrounds. Nonetheless, their familiarity with digital

library platforms differed significantly. Demographic data were collected across several variables, including age, gender, year of study, average duration of digital library use, and academic specialisation. This demographic profiling offered valuable context for interpreting their digital information-seeking behaviours and is presented in Table 1.

Table 1: Demographic Profile of Participants (N=236).

Variable	Categories	Frequency (n)	Percentage (%)
Age Group	18–20	92	39.0%
	21–23	108	45.8%
	24 and Above	36	15.2%
Gender	Male	106	44.9%
	Female	130	55.1%
Academic Year	Year 1	58	24.6%
	Year 2	62	26.3%
	Year 3	61	25.8%
	Year 4	55	23.3%
Avg. Time Spent on Digital Libraries	<1 Hour/Week	81	34.3%
	1–3 Hours/Week	103	43.6%
	>3 Hours/Week	52	22.0%
Familiarity with Digital Archives	None/Limited	69	29.2%
	Moderate	98	41.5%
	Advanced/Experienced	69	29.2%

Various Types of Tasks

To assess students' information-seeking behaviours and their creative engagement with digital visual archives, six distinct search tasks were assigned to the participants. These tasks were classified into three categories: open-ended, self-directed, and assigned. Each category was constructed to represent varying degrees of autonomy, structural guidance, and creative latitude.

- Open-ended tasks promoted exploratory behaviour without predetermined outcomes.

These comprised:

Task 1: Navigate a digital visual archive and select any visual or multimedia item that stimulates creativity in writing or artistic expression.

Task 2: Investigate visual or multimedia materials from a culture unfamiliar to the participant and compose a brief reflection on how this encounter affects their understanding of storytelling, narrative techniques, or artistic styles.

- Self-directed tasks provided participants with general goals but permitted them to determine their own methods. Examples include:

Task 3: Identify visual materials related to traditional attire or symbolic artefacts from two distinct cultures.

Compare their meanings and discuss how these cultural symbols might enhance literary or artistic narratives.

Task 4: Use a digital archive to gather visuals representing the theme of 'identity' across at least two cultural contexts. Explain how these images could inspire character development or thematic elements in creative writing.

- Assigned tasks were more prescriptive, including detailed instructions and defined expected results. These consisted of:

Task 5: Locate and summarise two archival sources related to 20th-century African American art or literary movements. Discuss their cultural and historical importance.

Task 6: Using the library's visual archives, identify three Renaissance artworks and describe their cultural context as well as their influence on European literature or philosophy.

Success and Failure Criteria: A task was deemed "successful" when the participant completed it by selecting appropriate and contextually relevant visual content, adhered to the instructions, and supplied a reflective or analytical response. Conversely, tasks were classified as "unsuccessful" if the submission was incomplete, irrelevant, or lacked critical engagement with the visual materials.

Throughout these tasks, students' information-seeking behaviours were recorded using screen-capture software, which tracked their search paths and interactions with digital archives in real time. This enabled analysis of their navigation routes, browsing habits, time allocation, and accuracy in completing tasks.

Quantitative Analysis and Influencing Factors

The quantitative phase of the study utilised an online survey to investigate variables influencing students' use of digital visual archives and library resources within cross-cultural learning settings. The survey comprised ten statements organised around five key variables: Relevance, Domain Knowledge, Visibility, Trust, and Social Norms. Participants rated their agreement on a five-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), offering a comprehensive insight into their perspectives and attitudes.

- Relevance denotes the extent to which students perceive digital materials as meaningful and beneficial to their academic and creative

endeavours, enabling the utilisation of content aligned with their cultural and educational interests.

- Domain Knowledge pertains to the student's pre-existing understanding and expertise concerning the subject matter or cultural context presented in the archives, affecting their ability to interpret and apply the resources appropriately.
- Visibility relates to the ease with which students can locate and access digital archives, including the user-friendliness of search tools and the prominence of resources within the library system.
- Trust refers to the degree of confidence students have in the quality, credibility, and authenticity of digital content, impacting their reliance on such materials during learning.
- Social Norms encompass the influence of social factors such as peer behaviour, instructor recommendations, and broader social or cultural encouragements that affect students' motivation and habitual engagement with digital visual archives.

Table 2 provides a detailed summary of the questionnaire's structure used to assess these dimensions.

Table 2: Survey Questionnaire for Influencing Factors on Engagement with Digital Visual Archives.

Variable	Questions
Relevance	1. Digital visual materials are relevant to academic needs.
	2. Archives support creative and coursework-related tasks.
Domain Knowledge	3. Cultural contexts presented in the archives are familiar.
	4. Existing subject knowledge aids in understanding archive content.
Visibility	5. Digital materials are easy to locate within the library system.
	6. Search tools are intuitive and accessible.
Trust	7. Archive content is credible and reliable.
	8. Materials appear authentic and of high academic quality.
Social Norms	9. Peers actively engage with visual archives for learning.
	10. The use of digital archives is encouraged by instructors and the curriculum.

Qualitative Insights from Structured Group Interviews

To obtain a more nuanced understanding of students' subjective experiences, two rounds of structured group interviews were conducted with selected participants. Each session aimed to capture students' emotional, cognitive, and creative engagement with digital visual archives within the context of cross-cultural learning tasks. The qualitative investigation focused on four principal variables: Personal Experience, Motivation, Emotional Response, and Dynamic Exchange of Ideas.

Round 1, lasting 30 minutes, took place following the initial set of search tasks. It explored

students' personal experiences and motivation by inviting participants to describe how they navigated the digital archives, identify the types of materials they found most meaningful, and explain the factors that encouraged them to continue exploring specific topics or cultural themes.

Round 2, also 30 minutes in duration, was conducted after all tasks had been completed. This session concentrated on emotional responses and the dynamic exchange of ideas. Participants discussed their emotional reactions to the materials such as feelings of curiosity, inspiration, frustration, or connection and reflected on how peer interactions influenced their understanding and creative interpretations.

- Personal Experience captured participants' direct accounts of interacting with digital resources, including perceptions of usability and the discovery of culturally significant content.
- Motivation referred to both intrinsic and extrinsic factors that prompted students to engage beyond the minimum requirements and delve more deeply into the archives.
- Emotional Response encompassed the range of feelings elicited through engagement with visual and cultural content, which often contributed to the development of their creative identity.
- Dynamic Exchange of Ideas emphasised peer collaboration and how the sharing of perspectives within group discussions enriched the overall learning experience.

Statistical Analysis

The dataset was meticulously processed utilizing IBM SPSS version 26.0, ensuring precision and consistency in analysing the research timelines. The examination comprised both descriptive statistical measures and inferential techniques, notably the chi-square test, which facilitated a comprehensive overview alongside a detailed investigation of participant responses and behavioural patterns. Concurrently, qualitative insights derived from the structured group interviews were analysed through thematic analysis to identify prevailing themes and patterns.

Descriptive Statistics: Computed to provide a summary of participants' responses to the quantitative survey across the primary variables:

Mean (μ): The average score for each variable was determined using Equation 1, where represents each individual response and N denotes the total number of participants.

$$\mu = \frac{1}{N} \sum_{i=1}^N x_i \quad (1)$$

Standard Deviation (σ): Equation (2) was used to calculate the variability or dispersion of responses around the mean.

$$\sigma = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (x_i - \mu)^2} \quad (2)$$

This measure offered valuable insight into the consistency of participants' perceptions and attitudes regarding the use of digital visual archives and library resources. Furthermore, the descriptive statistics included analyses of skewness and kurtosis, which

aided in identifying overall patterns of engagement and behavioural tendencies among the participants.

Chi-Square Statistics: To investigate variations in task performance and browsing behaviours across different groups, chi-square tests were employed to evaluate the significance of relationships between categorical variables, including task type and success rates.

$$\chi^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \quad (3)$$

χ^2 : The chi-square statistic measures the extent to which observed data deviate from expected outcomes.

O_{ij} : The observed frequency corresponds to the number of occurrences recorded for the i -th task type within the j -th category of performance outcomes.

E_{ij} : The expected frequency for the i -th task type and j -th performance outcome category is the value predicted under the assumption that there is no association between task type and performance.

$\sum$: The summation is performed over all possible combinations of task types and performance outcome categories.

Thematic Analysis of Qualitative Data:

Alongside the quantitative analysis, the qualitative data collected from the two rounds of structured group interviews was subjected to thematic analysis. This involved systematically identifying recurring themes and patterns concerning students' personal experiences, motivations, emotional reactions, and the exchange of ideas during interactions.

Result and Discussion

This section presents the analysis of data through both quantitative and qualitative methods, encompassing descriptive statistics and chi-square tests to evaluate task performance and survey responses, alongside thematic analysis of group interviews to explore students' experiences.

Quantitative Analysis

The analysis of behavioural data gathered via screen-capture software identified clear patterns in students' interactions with digital visual archives. The investigation focused on navigation paths, browsing behaviours, time management, and task completion accuracy. Findings indicate that students were generally proficient in managing digital information-seeking tasks, although variations in time management were observed. A summary of these findings is presented in Figure 2.

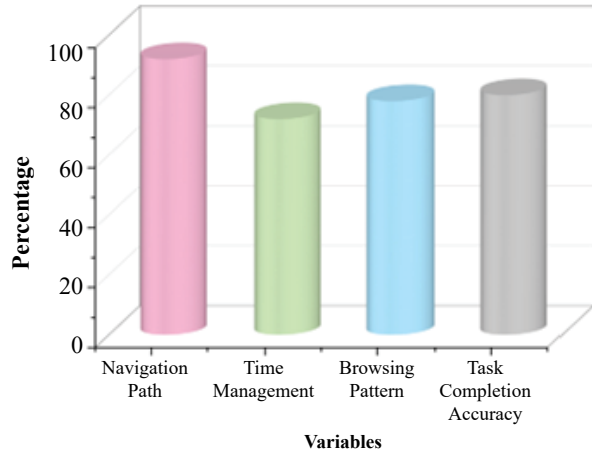


Figure 2: Screen-Capture Software Analysis Results.

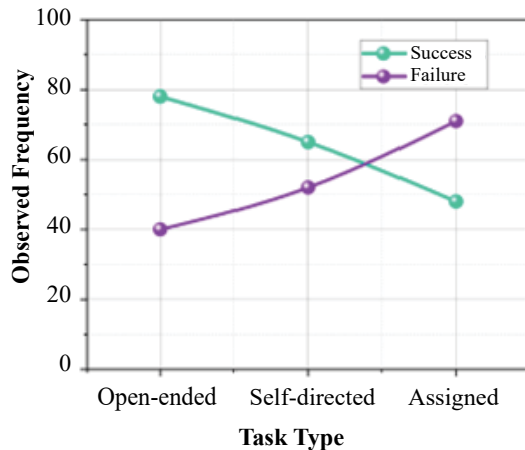
Table 3: Descriptive Statistics of Survey Variables.

Variable	Mean (M)	Standard Deviation (SD)	Skewness	Kurtosis
Relevance	3.98	0.82	-0.35	0.12
Domain Knowledge	3.45	0.91	0.21	-0.34
Visibility	3.67	0.88	-0.18	-0.21
Trust	3.84	0.79	-0.42	0.08
Social Norms	3.22	1.01	0.45	0.35

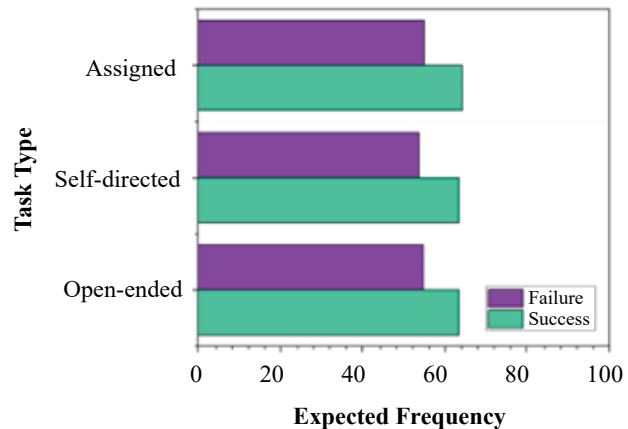
Task Analysis

Table 4 presents a summary of the observed and expected frequencies for successful and unsuccessful outcomes across three categories of search tasks: open-ended, self-directed, and assigned. The chi-square statistic ($\chi^2 = 16.62$) demonstrates a statistically significant relationship between task type and success rate. Notably, students exceeded expectations in open-ended tasks, with 78 successes observed compared to 63.4 expected, indicating that tasks affording

greater autonomy and creative freedom led to higher success rates. In contrast, assigned tasks yielded fewer successes than anticipated (48 observed versus 64.2 expected), suggesting these more structured tasks posed greater difficulty. Performance on self-directed tasks closely aligned with expectations. These findings underscore the impact of task structure on students' ability to effectively engage with digital archives. Figure 3 provides a graphical comparison of observed (a) and expected (b) frequencies across the different task types.



(a) Observed (O)



(b) Expected (E)

Figure 3: (a) Observed and (b) Expected Frequency across Task Type.

Table 4: Observed and Expected Frequencies for Task Type vs. Task Success (N=236).

Task Type	Outcome	Observed (O)	Expected (E)	(O – E) ² / E
Open-Ended	Success	78	63.4	3.37
	Failure	40	54.6	4.12
Self-Directed	Success	65	63.4	0.04
	Failure	52	53.6	0.05
Assigned	Success	48	64.2	4.09
	Failure	71	54.8	4.95
Total χ^2				16.62

Qualitative Analysis

Table 5 outlines four principal themes derived from the group interviews. Personal experience reveals students' early difficulties and subsequent increasing familiarity with the archives. Motivation encompasses their curiosity and eagerness to engage beyond the

requirements of assigned tasks. Emotional response captures feelings of inspiration and enthusiasm triggered by the visual materials. The dynamic exchange of ideas illustrates how peer discussions contributed to the cultivation of a more profound understanding.

Table 5: Summary of Thematic Analysis from Group Interviews.

Theme	Description	Example Quote
Personal Experience	Students discussed familiarity and challenges in navigating the archives.	"It felt intuitive once I explored a bit."
Motivation	Internal drive to explore beyond assigned tasks was highlighted.	"I kept searching just because I was genuinely curious."
Emotional Response	Feelings of inspiration, confusion, and excitement were commonly expressed.	"The images gave me goose bumps—it really connected to me."
Dynamic Exchange of Ideas	Group interactions helped refine understanding and interpretation.	"Talking with others helped me see things I missed alone."

Discussion

This study investigated the application of resource-based learning (RBL) within recreational and fitness programmes in higher education institutions, focusing particularly on cross-cultural training. Employing theoretical, empirical, and mathematical methodologies with a sample of 236 students from Ukraine, a subsystem was developed to enhance the professional preparation of future specialists. The research highlighted the significance of RBL in equipping fitness and recreational professionals with the skills necessary to work effectively across diverse cultures, thereby strengthening the global capacity of the fitness sector (Kononets et al., 2022). Additionally, cognitive mapping was utilised within ethnographic research to explore library user behaviours across cultures. This approach demonstrated how cognitive mapping can serve as a method for uncovering cognitive styles, perceptions, and user experiences originating from various cultural backgrounds. The technique facilitated self-reflection among participants and helped to alleviate certain language barriers, proving particularly valuable in the study of heterogeneous communities (Fu et al., 2022).

The quantitative findings offer important insights into students' interactions with digital archives and their influence on task completion efficacy. Descriptive statistics revealed that students regarded the digital materials as relevant and trustworthy, factors likely contributing to increased usage. Conversely, lower scores relating to social norms suggested that peer and societal pressures played a lesser role in motivating archive use, supporting the premise that perceived relevance and trust were more influential drivers. Chi-square analysis confirmed significant differences in success rates across task types, with open-ended tasks yielding superior results compared to more structured assigned tasks. This suggests that granting students autonomy and creative freedom positively affects their engagement and achievement. The performance on self-directed tasks fell between that of open-ended and assigned tasks, aligning closely with expectations and underscoring the importance of balancing independence with guidance.

The qualitative thematic analysis complements these quantitative results by elucidating individual and social factors underpinning the data. Themes related to personal experience and motivation reveal students' increasing familiarity with the archives over

time, with curiosity prompting further exploration. Emotional responses characterised by excitement and inspiration highlight the affective impact of interacting with digital archives, while the dynamic exchange of ideas emphasises the collaborative nature of learning in this context. Collectively, these findings suggest that both task design and the emotional-social environment significantly influence students' engagement with digital resources, offering valuable implications for enhancing digital literacy and research skills in educational settings.

Findings from the study indicate that library and digital archival resources facilitate the development of creativity among English-speaking students engaged in cross-cultural studies. Data demonstrated that students performed substantially better on tasks they selected themselves rather than those assigned to them. This suggests that learners exhibit greater effort and self-motivation when afforded the freedom to choose their activities and strategies. Such autonomy encourages deeper cognitive engagement and sustained energy directed at navigating the extensive and complex cultural material continually presented. Qualitative feedback from group discussions supported these quantitative results, with participants reporting that access to culturally relevant digital materials increased their workload, confidence, and creative output. Students noted that the diverse range of resources brought their creative work closer to their personal interests, motivating them to explore a variety of cultural concepts and theories. A pronounced emotional engagement fostered an environment in which students respected and thoroughly examined the cultural nuances and artistic styles of different countries.

Furthermore, the findings suggest that students develop sophisticated critical thinking skills by engaging with visual materials representing multiple cultures. Through interaction with cultural symbols, artworks, and historical artefacts, learners are prompted to partake in intercultural dialogues and reflections integral to cross-cultural education. This process encourages students to construct meaning, challenge preconceived notions, and cultivate an open and inclusive mindset. The study underscores the necessity of providing clearly organised digital resources to facilitate improved student collaboration. Through curated collections, learners can communicate, pose questions, and collectively deepen their understanding. Such integrated experiences promote intercultural competence and strengthen abilities essential for working across national and cultural boundaries. The results indicate that digital library and archival collections effectively support cultural exploration and

creative expression. Given the increasing shift toward digital education platforms, these resources are crucial for advancing student learning and cultural awareness. The availability of culturally diverse materials not only enhances creativity but also fosters a broader comprehension of global cultures.

Conclusion

This study makes a valuable contribution to understanding the role of digital visual archives and libraries in shaping the creative identities of English-speaking learners engaged in cross-cultural education. The capacity to engage with culturally significant and easily accessible materials, alongside the ways in which digital platforms foster students' motivation, confidence, and agency as creative individuals, substantially influences their creative development. Notably, learners demonstrated significantly better performance ($p < 0.05$) during open-ended, self-directed learning tasks. The research also highlighted a marked predominance of English-language content within the archives, emphasising the necessity for an expanded range of multilingual and culturally diverse digital collections to promote critical dialogue and greater inclusivity in multicultural educational settings. Both qualitative and quantitative data, as well as the archival systems employed, illustrated how digital resources facilitate purposeful information-seeking behaviours and progressively deepen engagement through experiential, emotional, and cultural connections. Collectively, these findings underscore the influential role of library collections and documented digital resources in surmounting cultural barriers, fostering global understanding, and ultimately supporting creative expression within diverse contexts. A key challenge for educational institutions and digital resource developers lies in curating culturally inclusive content while designing digital repositories that effectively support cross-cultural learning in the digital age.

Limitation and Future Scope

The scope of this research is constrained by its predominant focus on English-speaking students, which may restrict the applicability of the findings to learners who do not speak or read English. Future studies could extend the analysis to include speakers of other languages and adopt longitudinal approaches to explore the sustained impact of digital archives on the evolution of creative identity. Furthermore, incorporating additional cultural contexts would enhance the comprehension of cross-cultural learning processes and their influence on creativity.

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