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Impact of Generative Artificial Intelligence Tools on Higher Arts and Design Education

Research Report

Table of Contents

Executive Summary

Context

The introduction of ChatGPT, a generative AI chatbot, has generated varying perspectives and approaches among universities globally regarding the use of generative artificial intelligence tools in higher education. While there has been extensive research on ChatGPT, there is a limited exploration of text-to-image and other generative models within practical university environments. This study focuses on investigating the impact of generative artificial intelligence tools on student learning, teaching, and assessment in Higher Arts and Design Education, specifically within the context of the London College of Communication. Additionally, it aims to identify potential implications for educational approaches and provide implementation suggestions.

Methodology

This mixed methods study employed a two-section approach with a primary focus on quantitative data to investigate student and teacher perspectives. In the first section, staff interviews were conducted, transcribed manually in some cases and with the assistance of AI in others, and analyzed using thematic analysis. The second section utilized a custom research tool to collect student data, capturing their intended use of generative AI tools in relation to slightly modified LCC briefs. Data was collected through prompts, observations, and self-reporting, and informally analyzed.

Key findings

Both staff and students express a shared desire to incorporate generative AI tools into the course curriculum. Tutors emphasize the need to identify appropriate areas within the curriculum to integrate these tools, highlighting specific aspects of teaching, learning, and assessment that can be impacted. Students, on the other hand, are interested in exploring the potential and relevance of generative AI tools for their projects. However, both groups recognize the importance of applying these tools critically and cautiously.

When using generative AI, students exhibit a critical mindset. Staff members are particularly concerned about the need to adjust assessment methods, particularly in relation to ChatGPT and summative assessment. Some students also support the shift toward more generative assessment methods, highlighting the necessity for innovative approaches to testing knowledge.

It is evident that students require training in prompt engineering. Their efforts in utilizing generative AI tools often remain surface-level, indicating a need for first exposure and guidance and instruction to achieve optimal results. The level of student engagement with the task seems to have a direct impact on how they would use the generative AI tools available at their disposal.

Recommendations

It is not recommended to solely orient creative briefs towards generative AI tools. Instead, it is important to identify opportunities where these tools can enhance learning through practice and provide rapid feedback to students. Additionally, courses should incorporate workshop sessions to educate students on working with different generative AI tools, including research and understanding their limitations, which may evolve over time. This can be achieved by inviting industry experts relevant to the course or arranging workshops through the Creative Technology Lab. It should be clarified that these tools can inform specific parts of the creative process rather than guiding it entirely.

Establishing a network within the university where staff can share their experiences with generative AI tools is crucial for promoting best practices among teachers and understanding how students have utilized these tools. Staff training in generative AI tools is necessary to enable effective guidance for students and identify opportunities for their use within the course, facilitating the development of student's skills in utilizing these tools.

Research Suggestion

The most valuable area for research would be to explore the potential of ChatGPT as a tool for student self-assessment and skill diagnosis, in alignment with the criteria set by the University of the Arts London (UAL), which would greatly enhance the learning experience.

Introduction

Background

The emergence of Generative Artificial Intelligence, specifically the chatbot ChatGPT, has brought the potential for another technological disruption in education. Universities worldwide have varied approaches and perspectives regarding the integration of ChatGPT in their academic work and assessments (Hardman, 2023c).

ChatGPT

Based on a literature review, several key findings regarding the impact of ChatGPT in education have been identified. Alves de Castro (2023) highlights the benefits of ChatGPT, including improved student engagement and personalized learning experiences. Rudolph et al. (2023) emphasize that ChatGPT is particularly beneficial for learners who prefer experimental and hands-on learning, as it provides a platform for achieving such learning goals. Additionally, ChatGPT has the potential to enhance teaching practices, as noted by Alves de Castro (2023), who suggests that it can be a valuable tool for tutors in lesson planning, personalized learning support, answering learners' queries, and rapid assessment and evaluation, as discussed by Rudolph et al. (2023).

However, there are also negative implications associated with ChatGPT. Privacy concerns, issues of academic integrity, and the potential for bias have been raised by Alves de Castro (2023) and Rudolph et al. (2023). Merely acquiring answers from ChatGPT can hinder the development of learners' critical thinking and problem-solving skills. To mitigate these issues, instructors should receive training on the effective usage of ChatGPT, and students should be educated about its use, limitations, and potential impact on academic integrity, as suggested by Lo (2023).

Text-to-Image Generative Artificial Intelligence

The research on ChatGPT in the field of education is growing, and it has proven to be highly versatile. In addition to ChatGPT, there are also text-to-image generative artificial intelligence models that would be of relevance to Art and Design universities. These models have the potential to support visually-led outcomes by producing high-fidelity visual content. A study by Dehouche and Dehouche (2023) acknowledges the transformative potential of these technologies in teaching art, as they enable rapid production and reduce costs.

However, Hutson and Lang (2023) and Vartiainen and Tedre (2023) have raised concerns about algorithmic bias and the lack of sufficient prompt engineering skills, which can hinder human and student creativity when using these AI tools. These studies highlight the importance of ensuring that these technologies are designed and used in a way that encourages creativity and avoids limiting artistic expression.

Furthermore, all three studies agree on the ethical implications of copyright violations when using AI-generated content. As these technologies become more prevalent in educational settings, it is crucial to address these ethical concerns and develop guidelines for responsible usage and copyright compliance.

Research Question

What is the impact of Generative Artificial Intelligence Tools on Student Learning, Teaching and Assessment in Higher Arts and Design Education, specifically within the context of the London College of Communication?

Objectives

Explore the perceptions of staff and students regarding the use of generative AI tools within Higher Arts and Design Education.

Investigate the utilization of generative artificial intelligence tools by students for completing modified course briefs at the London College of Communication, within the context of Higher Arts and Design Education.

Compare the viewpoints of staff and students on the topic of generative AI tools.

Identify areas of potential improvement or change in education as perceived by staff and students in relation to generative AI tools.

Hypotheses

A significant proportion of the staff would hold reservations or concerns about implementing technology, including generative AI tools, within the context of Higher Arts and Design Education.

The majority of students will regularly incorporate at least one of the prominent generative AI tools, particularly ChatGPT, into their university projects.

Significance

The significance of this research lies in its exploration of how students utilize a range of Generative Artificial Intelligence (AI) tools to fulfil creative briefs within the context of the London College of Communication (LCC). By investigating the utilization and chaining together of these tools, the study aims to provide valuable insights into the practical application and learning experiences associated with AI tools in the field of Arts and Design education.

This research would be relevant and beneficial for educators and policymakers. Educators can gain insights from the study to make informed decisions about incorporating AI tools into their teaching practices, improve their instructional methods, and create innovative learning environments. Policymakers within the university can use the research findings to inform their strategic decisions, policies, and practices concerning the integration of generative AI in education.

The study aims to promote the adoption and effective use of AI tools to enhance digital learning experiences for students in Arts and Design Higher Education. The goal is to equip students with skills that will be valuable in the future labour market.

Methodology Overview

To achieve the research objectives, this study utilized a mixed-methods approach, encompassing two distinct parts focused on tutors and students respectively. For the tutor side, formal interviews were conducted, and some of the collected data was manually transcribed and some used AI technology. Thematic analysis techniques were then applied to analyze the transcriptions. Regarding the student side, a custom research tool was developed to gather behavioural data through artefacts of their actions, prompts, and the researcher's observations. Additionally, student attitudes were assessed through questions posed during interactions and self-reporting via a post-participation form. The findings obtained from this custom research tool underwent informal analysis. Ultimately, both perspectives were triangulated to provide a foundational understanding of the research topic, delineating the scope of the field and identifying potential areas for further research.

Outline of the Report

The research report is organized as follows: Section 2 provides a comprehensive overview of the methodology utilized, including the data collection process, analysis techniques, and experimental design. Following that, Section 3 addresses the methodological considerations and limitations of the study. Section 4 presents the findings and analysis derived from the study, followed by a discussion of the implications and recommended actions. Finally, Section 5 outlines potential areas for future research investigations.

Methodology

This study employed a mixed-methods approach to investigate the holistic impact of Generative Artificial Intelligence (AI) tools on student teaching, learning, and assessment in Arts and Design higher education, specifically within the London College of Communication (LCC). The primary objective of this study was to provide insights into the topic, specifically focusing on enhancing the student experience and identifying potential areas for future research. The research design primarily emphasized quantitative data collection methods to investigate the student and teacher perspectives. It specifically aimed to assess, their level of awareness, and their willingness to utilize the tools, the influence of students' task performance.

Integration of Methods

The research findings derived from staff interviews and a custom research tool were synergistically integrated to achieve a comprehensive understanding of the overall impact of Generative AI tools on higher arts and design education. This integration enabled the exploration of potential future directions. The aim was to assess the alignment between staff and students and address teachers' concerns, in order to optimize efforts in enhancing the student experience and equipping them with competitive skills that differentiate them in the labour market.

Staff Interviews

I conducted semi-structured interviews with six tutors from the London College of Communication. Five of the interviews were transcribed from handwritten notes, while the sixth and seventh were audio-recorded, transcribed, and analyzed using a thematic analysis approach. I personally coded the data and identified themes and sub-themes.

Sample selection

Although the sample selection was based on personal connections, efforts were made to ensure diverse perspectives and backgrounds among the participants to enhance the validity and breadth of the findings.

Custom research tool

A custom research tool called 'Open Lab (CoLab AI)' was developed to gather data on participants' behaviours with the current well-known on-market Generative AI tools in relation to tackling creative briefs and attitudes toward using Generative AI.

The promotion of the research event involved distributing printed materials on notice boards and various locations with high foot flow around the LCC.

Methodology

Design of the custom research tool

The Open Lab was comprised of several components:

"Challenges" (briefs)

The briefs that acted as a starting point were sourced from LCC's briefs repository of academic years before 22/23.

Media

- BA Advertising
- BA Media Communications

Design

- BA Graphic Branding and Identity
- BA Social Justice
- BA Social Innovation
- BA Climate Justice
- BA Graphic and Media Design
- Ma Illustration and Visual Media
- BA User Experience Design

Screen

- BA Film and Television
- BA Games Art
- BA Immersive Media
- BA Sound Arts
- BA Music Production

Initially, six briefs were created from the pool of selected briefs. These briefs were prepared prior to conducting the staff interviews. Later, a seventh brief was derived from the data collected during interviews with tutors.

Produced briefs as follows:

Brief 1: Produce an essay expressing their position on the topic of human and machine creativity using a ChatGPT.

Brief 2: Communicate the essence of key news since the rise of AI chatbots, incorporating Generative Artificial Intelligence tools.

Brief 3: Create a sound piece that exemplifies the fusion of human-Generative AI creativity, accompanied by a cover design.

Brief 4: Develop a creative campaign for the fictional brand "Cogentia" aimed at implementing Generative AI tools in the LCC.

Brief 5: Design a holistic brand identity for a tech brand specializing in AI for education at leading creative universities worldwide.

Brief 6: Envision a future world design artefact reflecting the diverse perspectives and value systems of art and design educators and students regarding AI in creative higher education at LCC.

Brief 7: Create a simple Role-Playing Game (RPG) focused on a branching dialogue system, drawing inspiration from games like Pokémon.

The briefs were categorized into three levels of difficulty (easy, medium, and hard) based on the challenge and time required for completion.

The briefs were made accessible through a website, allowing students to access them by scanning the provided QR codes from a printed poster. This enabled students to have the briefs readily available on their phones, freeing up the computer screen for task execution. As a backup, printed materials containing the briefs were also provided to ensure accessibility in case of any technical difficulties or preference for physical copies.

To read the full briefs, you can visit the CoLab AI website.

AI tools

Initially, 40 Generative AI tools were selected from the largest AI tools directory, Futuropedia.io.

Text-to-Text

- ChatGPT 3.5

Text-to-Image/ Video

- BlueWillow
- GenmoAI
- Artflow

Text-to-Audio/ Sound

- Soundraw AI
- Uberduck AI

Text-to-3D/game assets and text-to-User Interface (UI) design options were considered; however, they were either costly or had waitlists. Although popular, Midjourney and ChatGPT 4 were not cost-effective due to the limited number of accounts available (10).

Post-participant questionnaire

Integration within the Tool

The questionnaire was integrated as the last element of each brief page. Upon completing their challenges they were encouraged to complete the survey.

Questionnaire Instrument Design

The questionnaire instrument was carefully designed to align with the research objectives and gather valuable insights that would enhance the overall research findings. It consisted of a combination of single and multiple-choice questions, along with open-ended responses, allowing students to provide detailed explanations and elaborate on their views regarding the implementation of tools in their courses. The primary aim of the questionnaire was to collect anonymous information from the students, providing insights into the effectiveness and clarity of the research method employed.

Specifically, the questionnaire sought to gather data on the following aspects:

Effectiveness and Clarity: Participants were asked to provide feedback on the effectiveness and clarity of the research method employed. This information aimed to assess how well the research method facilitated their engagement, understanding, and achievement of the research objectives.

Tool Usage: The questionnaire also delved into the students' utilization of specific generative AI tools. Participants were asked to reflect on the tools they used, their perceived applicability to their courses, and any suggestions for improvements that could enhance their learning experiences.

Limitations and Future Enhancements

One limitation of the questionnaire design was the potential for response bias due to self-reported data. However, the application of other qualitative data collection methods would ensure these findings are well understood.

Methodology

Pretesting the research tool

Purpose of pretesting

The pretesting phase aimed to evaluate the usability of the custom research method for data collection from the participants using the selected generative artificial intelligence tools.

Sample selection

A convenience sample of three participants, including undergraduate and postgraduate students with varying levels of experience using Generative AI tools, was selected for the pretesting phase. Participants were reimbursed for their one-hour time commitment to the study, ensuring a diverse age range from young to mature students.

Data collection procedure

Participants were gathered in a compact study room environment and were introduced to the activity. They were given the freedom to choose and engage with as many tasks as they desired during the 45-minute session. Throughout the session, their interactions with the tasks and their comments were observed and recorded. Following the session, a 15-minute follow-up focus group was conducted to inquire about their overall experience and gather additional insights.

The observation notes and the students' responses were triangulated to enhance the validity and reliability of the findings. By comparing and cross-referencing the data from both sources, a more comprehensive and well-rounded understanding of the participants' experiences and behaviours during the research was achieved.

Results and Findings

Participants exhibited notable levels of immersion in the tasks, as observed by the researcher and reported by themselves. It was observed that participants showed a preference for briefs that aligned with their respective specialities or those that were perceived as easier to accomplish. Interestingly, there was a tendency to brief 3, which involved audio-related tasks.

The interaction with the poster displaying the tasks initially lacked clarity, and the presence of the researcher was necessary for efficient navigation. Students experienced difficulty in locating a specific brief of interest, often spending around five minutes searching for the appropriate task.

There was a shared sentiment among the three participants regarding the need to reduce the length of the briefs. They found the amount of text overwhelming, particularly when reading from a phone screen. Additionally, participants perceived the tasks to be relatively large in scale for the nature of the research method. As a result, it was suggested to simplify the task deliverables and content to accommodate the limited time available to students, ensuring a higher completion rate and overall engagement with the research tasks.

The students exhibited limited familiarity with the tools, except for ChatGPT, and required additional guidance on how to utilize the other tools effectively to meet their respective challenges.

It became apparent that for more complex tasks, the utilization of software such as the ones from the products from the Creative Cloud suite, which the students were already familiar with, was necessary. This allowed them to both complete the tasks and minimize any potential friction. One of the students used an additional freemium generative artificial intelligence tool, which initially appeared to be better suited for achieving the desired deliverables. However, it was found to be less capable of meeting the quality standards expected by the student. Further consideration is required to ensure that the selected tools align with the student's expectations and facilitate the attainment of desired quality outcomes.

Implemented changes

To enhance efficiency, the wording of the briefs was condensed to include only essential information and the tasks were simplified to be completed within 20-30 minutes each.

Guidance on utilizing the Generative AI tools, including ChatGPT, was provided, incorporating best practices gathered from online sources and tool documentation as the final section of the briefs.

For ease of access, small sheets of paper were provided at each workstation, listing all the tasks and featuring a single QR code.

The Riffusion tool was excluded from the study due to its limited functionality, fixed outcomes, and poor user experience, rendering it unsuitable for effective usage.

Brief 7, which involved creating a simple RPG game, was removed from the study due to the necessity of using additional tools and having a good understanding of coding and game engines.

Limitations

One limitation of the pretesting phase was the relatively small sample size. Furthermore, the pretesting was conducted in a controlled environment where participants dedicated specific time to the research, which may not fully reflect the dynamics of the actual event day. Due to limited participation, not all of the challenges were tested; however, the conclusions from the general comments and observations were applied to them towards the end. It is important to acknowledge the limitations of not conducting a formal analysis of the collected data, but considering the specific objectives of the study (to test the usability of the method to students), the pretesting phase served its purpose effectively.

Sample selection

The sample for this research activity was not obtained through a formal sampling process but rather comprised of individuals who voluntarily participated in the drop-in session. Participation was incentivized with monetary compensation, contingent upon completing at least one challenge.

The participants in this study encompassed a wide spectrum, ranging from those who had not used any generative AI tools, including ChatGPT, to individuals who were actively interested and experienced users of these tools. The study attracted individuals from diverse disciplines. The participant pool primarily consisted of undergraduate students aged between 18 and 25. Their levels of familiarity with Generative AI tools varied, providing a valuable opportunity to capture a broad range of perspectives with a small sample size.

Methodological Considerations

Choice of Data Collection Venue

The selected data collection venue may not have been the most suitable for capturing data in an intended manner, as it was outside of the students' usual teaching and learning environment. To enhance the effectiveness and relevance of the study, it would have been more advantageous to integrate the research activities within the context of their course curriculum. This approach would have provided a more authentic and long-term application of the research findings within the real-world context of the students, fostering a deeper understanding of the topic within their educational journey.

Lack of Email Subscription/ Notification Process

Given the considerable initial interest observed through the scanning of QR codes on the posters across campus (55 individuals), it would have been advantageous to establish an email subscription or notification process. Such a system would have allowed for proactive communication with the students, both prior to and on the day of the event, potentially resulting in a higher turnout rate. Considering that only 4 participants ultimately attended the session, the implementation of an email subscription or notification process could have effectively increased awareness and participation in the study.

Lack of Self-Assessment of Outcomes

Regrettably, the study did not incorporate the recording of self-assessment or AI assessment of the outcomes attained through the utilization of Generative Artificial Intelligence tools. As a result, the investigation of the third component of the research question from the student perspective remained unexplored. Recognizing the significance of student assessment as a pivotal aspect of their university journey, it is crucial to include this additional dimension in future research endeavours.

Role of Researcher Presence

It is important to acknowledge that the researcher's presence and assistance with less familiar Generative AI tools (every other tool apart from ChatGPT) as an alternative to the provided written materials may have influenced participants' behaviour, shifting them from an active problem-solving approach to a more exploratory one. In future studies, it is recommended to employ strategies that minimize the impact of the researcher's presence, such as incorporating context-specific, preferably animated, visual “show-how-to” guidance relevant to the experience of the user with the tools. This would encourage participants to rely less on the researcher's guidance and foster a more independent and authentic student process with the Generative AI tools towards fulfilling the briefs.

Participant Confusion with the Website

Participants experienced a slight sense of confusion when accessing the activity through the QR code provided on the paper with the listed materials. The interaction process on the website was not clearly apparent to them. Recognizing the importance of user experience, it is essential to provide explicit instructions and intuitive navigation to minimize any potential confusion.

Results

Results from Staff Interviews

I identified four main themes: "Needed changes within HE to keep up with innovation and stay current", "Critical application of AI" "Potential applications" and "Historical approach towards understanding the usage of AI within the University." Each of these themes had several sub-themes:

The relationship between student learning, teaching, and assessment is very close, and changes in one area will inevitably impact the others. However, the introduction of AI has caused the equation to become imbalanced, as the current understanding and expectations of universities have not been taken into consideration. Urgent change is needed to keep up with the latest innovations and remain relevant and avoid repeating similar mistakes to one from COVID lockdowns.

"So it's artificial intelligence and actually this is a good opportunity to ask ourselves what we mean by intelligence, and what we mean by knowledge, and how we share and construct this knowledge, and what knowledge are we're talking about..."

"There is potential that is missed there to disrupt the education as we know it now it has to be played with and seen where it can go"

Tutors' attitude towards Generative AI within the curriculum

Overall, the tutors involved in the study are not opposed to the usage of AI. In fact, the majority of them encourage creative experimentation and push the limits of AI to explore its potential for both staff and students. They are open to exploring how AI can be effectively utilized in various ways.

Almost all of the staff compared the historical progression of AI with the range of technological developments and agree that it represents the next step of evolution. They recognize that AI has the potential to render certain practices obsolete while also making certain industries more cost-effective, similar to the dichotomy between mass-produced items and craft items.

ChatGPT - Most Useful Out of Them All

ChatGPT is highly regarded for its impressive capabilities by the staff and is considered to have a significant impact. On the other hand, text-to-image AI models are seen as "not there yet" compared to ChatGPT, possibly due to the skill level required for prompting and iterating outcomes.

Possible Places of Implementation of Generative AI tools within Education

Assessment methodologies and learning outcomes need a fundamental overhaul with the integration of AI. As suggested, generative assessments that emphasize the process, particularly for written assignments, and human authenticity should be preferred. AI tools, such as ChatGPT, should be viewed as supplementary support that prepares students for new types of exams and aids them in developing deeper critical thinking skills and understanding through a feedback loop. When a written piece is required for assessment, ChatGPT can be utilized with supervision to generate feedback for tutors.

Results from the Custom Research Tool

Assessing the Effectiveness of the Custom Research Tool

Participants expressed enjoyment in taking part in the activity, likely linked to the self-reported response in the survey about learning something about and trying out these new technologies, that are widely talked about impacting our society. All the participants indicated tried AI tools for the first time, except for ChatGPT, which some had already experienced. Furthermore, the collected data points out that the activity was clear and additional materials on how to use these Generative AI tools were beneficial leading to the conclusion that the custom research tool worked to a good enough standard for students to be engaged and clear what is expected from them.

However, despite the latter responses, it is important to acknowledge the researcher's intervention and nearly constant attention, especially on the observed "freezing of action" caused by the overwhelm of the never-encountered software before which suggests a need for better-than-text explanations such as video of usage or live demo usage of the tool to successfully navigate the outcome. Therefore with caution, this might have important implications for the following results and conclusions of this method and overall study.

Students Would Like to Have Generative AI Tools Training

Regarding the question, "Do you think you can apply Generative AI tools to your projects at university?", the responses were divided, with a slightly higher percentage leaning towards "no" at 66%, while 33% responded with "yes." However, all participants unanimously agreed that changes in the course curriculum are necessary to accommodate generative AI tools. This suggests a couple of key points.

Firstly, participants noted that the current project briefs are not designed with generative AI in mind. This observation is understandable, as these tools became more prevalent at the beginning of the academic year and gained significant popularity in early 2023. Therefore, it is expected that the current curriculum might not fully leverage the potential of generative AI tools.

Secondly, the limited experience and exposure of students to these tools might be a contributing factor to their inability to envision the wide range of applications and benefits they might offer. This highlights the need for induction workshops or courses to familiarize students with the tools and help them recognize their potential. An alternative approach could involve encouraging tutors to explore potential areas within existing project briefs where these tools could be introduced without drastically altering the original objectives, ensuring that the focus remains on implementing the technology where it truly enhances the learning experience and does not take a central place.

In the open-ended questionnaire responses, participants provided insights on where these changes in the curriculum could be implemented. Their suggestions mainly gravitated towards two areas: first, utilizing generative AI in their work, with emphasis on rapid concept testing and, second, aligning with the teachers' perspectives on requiring new ways of assessing student knowledge and addressing associated challenges with that. Overall, the findings suggest that there are opportunities worth exploring, but with a critical approach to ensuring their effective integration.

Students Demonstrated Apply Critical Supervision when Working with the Generative AI Tools

While students demonstrated a decent level of supervision over their outputs, there was a significant lack of engagement when using text-to-image and text-to-sound tools. This lack of engagement can be attributed to several factors. Firstly, there was a reported lack of interest in using such tools and insufficient expertise in utilizing these tools, as supported by self-reporting and observations. Secondly, it could be also potentially attributed to tasks that were not adequately contextualized or related to the student's course, but this claim would require further investigation to confirm its validity.

Students Need Training in Prompt Engineering

The majority of student participants demonstrated a low level of effort in crafting their writing prompts, following the outlined steps by Fagerlie (2023).

Specifically, in the case of ChatGPT, students exhibited a good level of task clarity. However, when it came to iterating their prompts, most students made little (one, maximum two) to no minor revisions, with only one exception. It is important to clarify the definition of iterations in the context of text-to-image/audio models. In this study, a small iteration refers to simply modifying a specific portion of the prompt, typically represented by a button. On the other hand, a big iteration involves expanding or regenerating the entire prompt. The presence of "bigger" iterations was more noticeable when using ChatGPT.

A significant observation was that many prompts were ineffective at "priming the model" to produce valuable responses or providing adequate contextual information. It appears that students were carrying over their expectations from human partners to tools that lack such context awareness. This hampers the quality of outcomes leading to decreased engagement with these tools, as one potential explanation for students' attitudes towards them. It is worth noting that while the quality of these tools, especially in the case of Blue Willow, may be lower compared to the paid main versions available on the market, appears that there is still untapped potential for these pieces of software that students could benefit from. I strongly believe that cultivating the ability to incorporate adequate context in communication is an invaluable skill that would greatly benefit students in the workplace.

Furthermore, it was observed that the prompts provided by the participants lacked specificity, with a notable absence of descriptive adjectives and modifiers. There was a tendency towards more general prompts without references to specific styles, lighting, or other detailed aspects. As a result, the generative AI tools often produced content that was not specifically tailored to the student's needs, as the students did not communicate the specific "filter" or parameters of the brief to the software they used to generate their assets. This limitation can be attributed to the structure of the assignments, which implicitly encouraged combining the stages of concept generation and brainstorming with refinement to a near-production level. This approach may have constrained the students' creative freedom during brainstorming sessions. A more effective solution would involve designing explicitly the task so that the students explore the capabilities of generative AI tools for concept development, brainstorming, and iterative refinement, taking off the pressure of production.

In general, it was noted that there was a notable dissatisfaction with the outcomes produced by the Generative AI tools. Some exceptions from this are ChatGPT and Genmo Ai.

Conclusion and Suggestions

The aforementioned findings reflect two different perspectives on the same research question. However, they cover slightly different areas and angles of the research topic due to the varying needs and expertise of the parties involved and the methods utilized. The staff's viewpoint offers a comprehensive overview of the student learning experience, encompassing teaching, assessment, and the overall process. On the other hand, the student perspective delves into specific aspects of task production, highlighting the acquisition of skills through practical, hands-on learning.

Overall, it appears that utilizing these generative AI tools can be beneficial to both staff and students in enhancing the learning experience.

Generative AI tools as Supplimentary, not Central

In light of the findings, it appears that these generative AI tools would serve as a supportive element in the creative process, occupying a specific role or a couple rather than completely taking over the student's creative direction.

Careful consideration should be given to the implementation of these tools, as student disengagement with the task may lead to a lack of criticality in their approach when using Generative AI tools, simply aiming to complete the task rather than engaging deeply with it. Simultaneously, it is equally important to ensure that these tools do not overshadow the main objectives of the brief. The varying levels of student interest in using these tools should be taken into account, ensuring that they are not forcefully emphasized or overly influential in the design process. Striking the right balance will allow students to leverage the benefits of Generative AI tools while maintaining a focus on the core aspects of the task.

It is advisable to introduce generative AI as optional workshops within the courses. To generate a sufficient level of interest and promote exploration, it is recommended that students engage in interactive video or live demonstrations. It is worth noting that while the majority of the students expressed a desire for these tools to be implemented, not all students have the same level of interest in using them. This tension should be acknowledged and further explored through research. It is possible that some students, especially those engaged in creative practices that do not heavily rely on these tools, may not be initially interested. However, they might still find value in exploring generative AI as an expanded toolset, broadening their creative possibilities.

As mentioned previously, it is essential for the design of the task to emphasize the importance of iterative production in order to prevent students from being influenced to skip the idea expansion phases of the design process. The high-fidelity outputs generated by generative AI tools can inadvertently discourage students from fully exploring and expanding their ideas, thus limiting their creativity. It is crucial to create a task structure that encourages students to engage in iterative refinement while being mindful of the potential influence of AI-generated outputs on their creative process.

When it comes to using these tools for research, exploring and/ or implementing alternative platforms such as Perplexity.ai, Research rabbit, or Elicit.org. These tools provide easy access to real-world resources, significantly reducing the time spent browsing internet libraries, accommodating student mistakes and allowing for serendipitous discoveries. It is worth noting that there was no evidence from the collected data indicating that students might use these tools for research purposes, emphasizing the need for conducting further research on this topic.

Importance of Student's Critical Reflection for Their Own Work

In order to cultivate students' confidence in their own judgment, tutors should aim to teach them a robust process that includes regular feedback. When students present their work, they can incorporate a summary of the critique received from the generative AI tool. This approach ensures a balanced assessment, considering both the feedback provided by the AI tool and the student's personal critical engagement with their work. This particular area holds great potential for exploration, as it addresses the perceived needs of both parties involved and offers overall benefits to the modern iterative creative process, with the potential to enhance student learning. However, it is important to approach this with caution, as the perceived benefits of automation and process acceleration need to be carefully evaluated.

Incorporating advanced models like ChatGPT 4.0, which enable image upload, would necessitate LCC/UAL to acquire costly licenses. However, this investment carries a significant risk as the potential benefits the students of these tools are not well explored. Therefore, it may not be justifiable to pursue this direction at this time.

One advantage is the ability to target specific learning outcomes by delegating parts of the creative/ learning process that are not of interest to the activity through automating these sets of tasks.

Conclusion and Suggestions

Staff Knowledge Exchange Network Needed

During the interviews with the staff, it became evident that research probes utilizing these tools are currently being implemented at the course level, with limited connectivity between staff members. Establishing a shared digital space where each staff member can contribute their observations and local experiments would greatly facilitate the rapid dissemination of findings and allow for their implementation in other courses. Additionally, it seems that staff members would greatly benefit from dedicating more time and resources to focused personal and course exploration of generative artificial intelligence tools within the context of their courses and professional practice. Such exploration can lead to valuable insights and enhanced integration of these tools into their teaching methodologies.

In order for tutors to adequately prepare and train students with skills that cannot be replicated by AI, new types of projects are necessary. This may involve re-examining some of the existing briefs and sharing best practices among tutors. At the same time, it is also important to at least introduce and even implement these tools available to students in order to remain competitive in the labour market.

Prompt Engineering Skill Required

To ensure student success in working with these technologies, it is crucial to enhance communication by providing more context and specificity. This can be achieved by adopting a communication approach similar to interacting with a disabled person, where clarity and precision are emphasized. Additionally, practice is essential to attain optimal results when utilizing these technologies. By improving communication and combining it with regular practice, students can enhance their proficiency and maximize their outcomes.

Conclusion

In conclusion, there is a pressing need for swift implementation of AI tools to harness their powerful capabilities in order to remain relevant and tap into the benefits for students. This requires a reevaluation of current teaching and assessment methods to adapt to the upcoming wave of changes where AI is poised to disrupt the education sector. Equally important is the exploration and research of generative models, such as ChatGPT, to gain a better understanding of them and their potential and implications.

Limitations

The data collection methods utilized for the interviews relied on self-transcribing and expanding upon the points made by the interviewees, although the expansion occurred within a 30-minute timeframe following the conversation.

It should be noted that the student sample size was relatively small, which can limit the generalizability of the findings. To enhance data collection and obtain more comprehensive insights, integrating the application of generative AI tools within the context of the course curriculum or conducting focus groups with a more time-compressed activity could have resulted in more effective outcomes.

Furthermore, this research provided a broad, high-level overview of how generative AI tools are implemented, outlining specific areas for further investigation. To gain a deeper understanding of the nuances involved, it would be beneficial to focus on a specific aspect and increase the sample size accordingly. This would contribute to a more comprehensive and robust exploration of the topic.

Future Directions for Research

Validate the Findings with a Bigger Study

Conducting a study on a larger scale with students, preferably within the context of their courses, would be highly beneficial to validate the findings across the London College of Communication (LCC) and provide justification for the university's potential implementation of large language models as part of its educational ecosystem.

Explore How Students Can Benefit from Feedback from ChatGPT on Their Work

Another potential area of focus for student research could be exploring how ChatGPT 4.0 can be effectively utilized to provide feedback on their creative work. This research could investigate how students can leverage ChatGPT to engage in self-assessment and diagnose their skills and areas of improvement, aligning with the criteria set by the University of the Arts London (UAL). Understanding the extent to which ChatGPT can support students in this manner would be valuable for enhancing their learning experience.

Design of Creative Briefs with Generative AI Tools in Mind

Intriguing avenue for investigation would be examining how creative briefs, even if they do not explicitly emphasize generative AI tools, can still promote an iterative process of producing outcomes. This research would explore how students can utilize such tools while avoiding the pitfall of solely aiming for high-fidelity outcomes. Emphasizing the iterative aspect of the creative process, even in the presence of generative AI tools, can foster deeper engagement and encourage students to explore diverse creative possibilities.

Ethical Considerations

Informed consent was obtained from all participants from the staff interviews, pre-testing of and participation in the custom research tool.

Participants were assured of the confidentiality of their data. Detailed explanations of the research objectives and procedures were provided to participants, and their participation was voluntary. They had the freedom to withdraw from the study at any time.

Data collected during the study were anonymized to safeguard individual identities. All data were securely stored on the university network drive, with restricted access limited to the researcher and their direct mentor.

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