Responsible AI

In Art and Design Higher Education

Final version, June 2024

Royal College of Art

Dr Robin Roussel, Dr Seyithan Özer, Prof Sam Jacoby, and Dr Ali Asadipour

Contents

Executive Summary

Despite the growing use and discussion of AI in higher education, a gap remains in addressing the challenges AI poses for practice-based education and practice-led research in art and design disciplines. The RCA faces new ethical questions, evolving educational needs, and transforming creative practices as it endeavours to integrate AI responsibly into its curriculum, research, and operations.

This report presents the findings of a study conducted in Spring 2024, which aimed to identify the challenges and opportunities posed by AI in art and design higher education, especially at the RCA. It examined the uses, expectations, and needs for the responsible use of AI at the RCA through a survey, structured interviews, and workshops with staff and students.

Summary of Findings

Our study at the RCA found that 66% of all respondents (n=187) use AI in various teaching, learning, and research contexts at the College. Among the AI users (n=123), 80% employed chatbots like ChatGPT, 56% used text-to-image generation tools, and 41% AI-powered image editing tools.

One benefit of AI tools frequently mentioned is the research assistance and time savings they offer for common tasks such as reading (e.g., summarising texts), writing (e.g., text review, proofreading), and literature reviews, as well as for ideation and concept and project development through media generation and editing tools.

A small group of expert users have developed their own AI tools or codes (7%). However, most users feel they are not yet very familiar or proficient with AI tools, particularly regarding their development and functionality. Existing AI expertise and activities are currently not well communicated, with 81% of respondents unaware of any projects or initiatives involving AI at the RCA.

Significant concerns also exist about AI use and its associated risks. The key identified risks are to human rights (48%), social trust (47%), and intellectual ownership (44%). In addition, there are widespread ethical concerns about copyright (21%) and the reproduction of existing biases (20%). Other issues include the fear that AI might threaten jobs in art and design and that a lack of AI literacy might limit job prospects to students. A particular concern among student-facing staff is the use of live translation and transcription tools, as well as AI-based text generation in submissions.

Participants in the study highlighted the need for a clear vision and general guidance on the role and use of AI across the College to support responsible AI practices (62%). In addition, 56% of survey respondents would like to see taught modules or training workshops, and better access to hardware (35%), software (51%), and cloud credits (32%) was mentioned.

The study identified the following important challenges at the RCA:

- Clear institutional guidance is lacking to address current varied practices and uncertainty about academic misconduct and best practices.
- More structured debate is needed to discuss the wide range of ambitions, benefits, challenges, limitations, and concerns about AI adoption in the College and develop a shared vision.
- Existing AI activity is scattered across the College, resulting in poor internal and external awareness of existing AI expertise and work.
- AI proficiency and understanding among staff and students are still generally very low despite two-thirds of respondents using AI tools in their work.
- There is significant demand for more structured AI training and technical support, with most current AI users being largely self-taught.
- Better access to computational resources and AI tools is needed, as well as improved infrastructure sharing and resource utilisation.

Recommendations

Based on the findings of this study, the recommendations in support of the adoption of responsible AI use at RCA are as follows:

1. Develop a clear AI Strategy:
    - Engage the RCA community in creating a shared AI vision that meets the College's needs and expectations.
    - Create structures for AI governance and horizon-scanning capability to stay abreast of rapid changes in technology, industry, and regulation, e.g. an AI advisory board and interest group.

2. Provide support for staff and students:
    - Develop clear, comprehensive, and inclusive guidance on the responsible use of AI in pedagogy, research, and operations, offering essential guidelines and knowledge for all staff and students.
    - Implement AI literacy training at multiple levels, ranging from mandatory basic understanding of responsible use to practice-specific skills and advanced technical or humanities expertise for staff and students.
    - Quantify needs for AI tools at the College to determine infrastructural and technical support demand.

3. Foster knowledge sharing and collaboration:
    - Organise events to promote discussions on AI in art and design, and showcase work from the RCA and leading practitioners.
    - Create a directory or platform for sharing AI-related activities, resources, and collaborations.
    - Ensure that any structure created to guide, inform, and engage the RCA community around the use of AI is well integrated within existing structures and processes.

1. Introduction

According to a Goldman Sachs report (Briggs and Kodnani, 2023), Artificial Intelligence (AI) is poised to automate 37% of tasks in architecture and engineering, and 26% in arts, design, entertainment, and media. A survey of US university students found that 30% had used ChatGPT for coursework (Intelligent, 2023). Despite recent research focusing on the implications of AI integration in higher education (Chan, 2023) and approaches to teaching AI literacy (Casal-Otero et al., 2023), little attention has been paid to the specific challenges of AI use in creative practice-based education and practice-led research. Yet, AI is already significantly affecting the way we teach, learn, create, and conduct research, raising questions about the responsible use of AI.

At the intersection of ethics, education, and creative practice, the use of AI in art and design higher education (HE) presents new challenges, including shifts in language usage and the development of new skills. Terms like ‘architecture’, ‘semantics’, ‘bias’, or ‘features’ differ in meaning between computer science and arts and humanities disciplines. Studying AI from a critical socio-technical perspective requires both STEM and arts and humanities literacy (Dignum, 2021). However, machine learning (ML) practices like model evaluation may seem secondary to some creative practitioners who use ML models as black boxes. For example, some users of Midjourney or DALL·E might be only interested in outcomes and not processes, whereas others might want to understand the ML processes to improve existing workflows. The diverse range of AI users and purposes complicate the creation of a comprehensive yet important responsible AI framework in art and design.

While the impact of AI tools and practices on education and creative industries is widely debated, their interrelationship has received less attention. Discourse on AI in higher education typically focuses on its potential to enhance or disrupt top-down knowledge transmission and assessment, but often neglects the specific aspects of practice-based training and the unique challenges of adapting AI methods. Despite recognising that practice is transformed by AI, what this exactly means and how specifically this impacts the adoption of AI in art and design disciplines needs clarification.

Art and design students, as those in research-intensive universities (Russell Group, 2023), increasingly need some level of AI literacy in order to appropriate AI tools, understand the limitations of new technologies, and critically reflect on their impacts on disciplines and society. A key challenge for HE institutions engaged in practice-based education and practice-led research is providing the skills, guidance, policies, and resources necessary for responsible AI adoption across diverse disciplines and stakeholders. This is more difficult in HE institutions without computer science or engineering departments, such as the RCA, where the use of AI is often less formal and reliant on self-directed studies.

As a leading HE institution training the future generations of artists and designers, the RCA has to address these challenges and should show leadership in the responsible adoption of AI in creative education. By leading in the global AI discourse, which is currently dominated by large tech companies, the RCA can strengthen its position as the first art and design university in the world to implement a STEAM (Science, Technology, Engineering, Art and Design, and Maths) vision.

The aim of this study is to clarify the knowledge, ethics, skills, and resources needed for creative educators, researchers, and students at the RCA to responsibly use AI tools. It explores the potential impact of integrating creative practice and AI in arts and design universities on the technical, practical, and analytical skills that need to be taught, as well as the necessary infrastructure and the ethical considerations that should underpin this process.

In the following, this report:

- Provides a brief overview of Responsible AI and related concepts, such as AI ethics and safety;
- discusses the general impact of AI on the creative industry and education in the UK, specifically the RCA;
- presents the detailed findings of an online survey, interviews, and workshops conducted with RCA staff and students in Spring 2024; and
- outlines recommendations for better integrating AI at the RCA based on these findings and consultations.

2. AI Definitions

2.1. What is Artificial Intelligence?

Although artificial intelligence (AI) has been a field of study since the 1950s, and despite its more recent recognition as both an area of strategic importance and a household term, there is no universally accepted definition of AI. Yet, technical definitions of AI abound, each offering a slightly different scope and perspective. One example is the European Commission's (2018) definition of AI as 'systems that display intelligent behaviour by analysing their environment and taking action – with some degree of autonomy – to achieve specific goals'.

A more extensive definition was proposed by the European Commission's High-Level Expert Group on AI (2019):

> Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions.

AI Watch – the European Commission knowledge service monitoring the development, uptake, and impact of AI in the European Union – has adopted this definition and, based on it, developed a taxonomy of AI definitions used by institutions, international organisations, researchers, and companies (Table 1; Samoili et al., 2020). However, this understanding of AI, which aims to be general and comprehensive, still focuses solely on the technical characteristics of AI systems as a field of scientific research.

	AI domain	AI subdomain
Core	**Reasoning**	Knowledge representation
		Automated reasoning
		Common sense reasoning
	Planning	Planning and scheduling
		Searching
		Optimisation
	Learning	Machine learning
	Communication	Natural language processing
	Perception	Computer vision

		Audio processing
Transversal	**Integration and Interaction**	Multi-agent systems
		Robotics and Automation
		Connected and Automated vehicles
	Services	AI Services
	Ethics and Philosophy	AI Ethics
		Philosophy of AI

Table 1: 'AI domains and subdomains constituting one part of the operational definition of AI' (Samoili et al., 2020)

In its current popular use, the term 'AI' refers to dominant computational techniques and technologies that extract patterns and draw conclusions from vast amounts of data (Dignum, 2021). This understanding aligns with the AI definition used by the UK Government: ‘machines that perform tasks normally performed by human intelligence, especially when the machines learn from data how to do those tasks' (Office for Artificial Intelligence, 2021). This places the majority of AI research and development within one of its subdomains, machine learning, with deep learning and reinforcement learning being notable current examples. The best-known applications of machine learning include the analysis or generation of various forms of 'content’ (e.g., text, code, images, sound, video, tabular data) as well as automated decision-making or recommendation systems.

While more concrete, this understanding still narrowly focuses on AI as a set of tools and techniques. Another important limitation of the above definitions and taxonomy is their reliance on anthropomorphic concepts such as ‘learning’ or ‘reasoning’, which has problematic ethical implications by suggesting that AI systems can be responsible agents (Watson, 2019). It also results in both overblown fears and uncritical optimism regarding AI capabilities (Salles et al., 2020).

An increasing number of scholars, writers, and organisations highlight AI as both a sociotechnical phenomenon and a political project (Lindgren, 2023). In this context, the vagueness of 'AI' has been criticised as predominantly serving the interests of its promoters (Suchman, 2023), obscuring the material relations of extraction and power that are embedded in the global infrastructures of data, algorithms, compute, and labour deployed to integrate AI systems into our lives (Crawford, 2021). The need for institutions to clarify the definition and scope of AI, as well as how it differs from other technologies, is particularly important in education (Dignum, 2021) and policymaking (Center for Security and Emerging Technology, 2020). There is thus an urgency to agree on the scope of guidance, policies, and support that institutions should offer while developing a clear position and vision on AI adoption.

2.2. What is Responsible AI?

The transformational impact of AI has raised many questions and debates about how AI systems should be designed, developed, deployed, and used in an ethical and safe way. There are two main conceptual bases for various positions on this: AI Ethics, which focuses

on moral aspects, and AI Safety, which focuses on technical considerations to ensure that AI systems operate reliably and without causing unintended harm. Different concepts that integrate these two key considerations have emerged to guide AI creation and use in a concrete and operational manner. Three important concepts are Trustworthy AI, Human-Centred AI, and Responsible AI. They illustrate the differences and similarities in AI positions and highlight the need for institutions to choose a direction that aligns with their core values.

AI Ethics

AI ethics can be generally defined as a subfield of ethics (Leslie, 2019):

> AI ethics is a set of values, principles, and techniques that employ widely accepted standards of right and wrong to guide moral conduct in the development and use of AI technologies.

Huang et al. (2022) distinguish between the ethics of AI ('ethical theories, guidelines, policies, principles, rules, and regulations related to AI') and ethical AI ('AI that can uphold ethical norms and behave ethically'), while Dignum (2019) makes a further distinction between 'Ethics in Design', 'Ethics by Design', and 'Ethics for Design(ers)'. The last aspect relates to the designers' responsibility to develop their awareness of ethical issues. Various approaches to AI ethics include deontology, consequentialism, principlism, and virtue ethics (Constantinescu et al., 2021). While these philosophical considerations form an important foundation, ethics guidelines as currently formulated by institutions and companies are often considered too general and culturally ambiguous to enforce effectively (Theodorou and Dignum, 2020). This is why various frameworks have been developed on top of AI ethics.

AI Safety

Explanations of AI safety are arguably even less consistent. AI safety institutes from both the UK (https://www.aisi.gov.uk/) and US (https://www.nist.gov/aisi) lack a clear definition. However, two recurrent conceptual aspects of AI safety are:

1. A negative definition, typically as the *avoidance* or *mitigation* of risks.
2. A focus on technical solutions to risks.

The Center for Security and Emerging Technology from Georgetown University defines AI safety narrowly as 'technical solutions to ensure that AI systems operate safely and reliably'. This involves addressing three main categories of problems: robustness, assurance, and specification. Accordingly, the Center for Security and Emerging Technology (2021) states:

> Robustness guarantees that a system continues to operate within safe limits even in unfamiliar settings; assurance seeks to establish that it can be analysed and understood easily by human operators; and specification is concerned with ensuring that its behaviour aligns with the system designer's intentions.

Similarly, the UK Turing Institute equates AI safety to *technical sustainability*, which it divides into four main components: accuracy, reliability, security, and robustness (Leslie, 2019). Beyond these aspects, a wide variety of risks may potentially fall under the AI safety

umbrella, from reproducing biases to posing existential threats (Department for Science, Innovation & Technology, 2023). While the scope of AI safety is still a matter of debate (Lazar and Nelson, 2023), it informs frameworks that guide and regulate the use of AI.

Trustworthy AI

The concept of Trustworthy AI was notably popularised by the European Commission's High Level Expert Group on AI. In 2019, the group published Ethics Guidelines in which it defines trustworthy AI as being made of three components (High-Level Expert Group on Artificial Intelligence, 2019):

1. It should be lawful, complying with all applicable laws and regulations;
2. it should be ethical, ensuring adherence to ethical principles and values; and
3. it should be robust, both from a technical and social perspective, since, even with good intentions, AI systems can cause unintentional harm.

Trustworthy AI thus aims to link aspects from both AI ethics and safety. In the UK, this concept has been adopted by public institutions such as UK Research and Innovation (UKRI) via the Trustworthy Autonomous Systems Hub.

However, since its inception, this term received opposition from trust scholars, philosophers of technology, and ethicists of AI (Freiman, 2022). One of the main criticisms is, based on social epistemology, that trust relations can only exist between moral agents, which current AI systems are not. An additional concern is that trustworthiness should be a consequence rather than a goal of AI design and development, as otherwise it might lead to AI systems that only *appear* to be trustworthy.

Human-Centred AI

While Trustworthy AI focuses on the way these systems are perceived, Human-Centred AI emphasises augmenting human intelligence and capacity rather than superseding it. The origin of this concept is more academic, rooted in Human-Computer Interaction research (Capel and Brereton, 2023). However, the concept has gained popularity in public discourse, with G20 ministers agreeing to support human-centred values in the use of AI.

It is further important to note the kinship between Human-Centred AI and Human-Centred Design, as both prioritise human needs, preferences, and experiences in the development of technology and systems. A related framework called 'Inclusive AI' focuses on the designers, developers, and users of AI. It highlights three components: AI systems created and evaluated by diverse teams, training data that is representative and collected with consent, and AI applications and services accessible to all users (Avellan et al., 2020). While this perspective is particularly relevant to design practice and education, it emphasises principles on how future AI systems should be created rather than guidelines on how existing systems should be used.

Responsible AI

The importance of ground-up action in Responsible AI can be traced back to its origins in Responsible Research and Innovation (RRI), as argued by Owen et al. (2013):

> [RRI] should not be strongly prescriptive, or rules based in its implementation. Beneath the general framework researchers, innovators, and those who fund them should have flexibility in the details of how its dimensions are taken forward, in creative and imaginative ways that suit its context of application best and that they themselves value.

This emphasis has informed policies such as the AREA (Anticipate, Reflect, Engage, Act) Framework by the UK Engineering and Physical Sciences Research Council. The focus on creative agency in the implementation of RRI, and Responsible AI in particular, is especially relevant to practice-based education and practice-led research. This context provides an important area of contribution for art and design disciplines to AI research in ways that go beyond purely technical considerations and focus on the relationship of AI to creative agency.

The responsible design, development, and use of AI is concerned with human well-being and aligned with societal values, safety considerations, and ethical principles. It is an overarching concept that integrates principles from AI ethics, AI safety, and human-centred AI, with a focus on societal impact and concrete action (Dignum, 2019):

> Ethics is the study of morals and values, while responsibility is the practical application of not only ethical concerns but also legal, economical and cultural ones to decide what benefits society as a whole. So, while with Ethics, it suffices to observe what happens, Responsible AI demands action.

Expanding on this idea, Theodorou and Dignum (2020) emphasise the social dimension of AI:

> It is not the AI artefact or application that is ethical, trustworthy or responsible. Rather, it is the social component of the socio-technical system that can and should take responsibility and act in consideration of an ethical framework such that the overall system can be trusted by the society.

Like Trustworthy AI and Human-Centred AI, Responsible AI has a degree of institutional and corporate recognition. For instance, the UK Art and Humanities Research Council recently launched the Bridging Responsible AI Divides programme, investing more than £8 million to investigate how arts and humanities can help create a Responsible AI ecosystem. Microsoft published a Responsible AI Standard to provide concrete and actionable guidance across the company (Microsoft Corporation, 2022). And networks such as Responsible AI UK aim to connect researchers, industry professionals, policymakers, communities, and civil society organisations.

Taking a broader perspective by viewing AI systems as socio-technical artefacts, rather than mere tools to be trusted or designs meeting user needs, allows considering not only their development and deployment but also the broader context of their actual use and impact. This contextual understanding is important as the ethical values that underpin responsible AI practices are prioritised differently across society (Jakesch et al., 2022). Art and design HE institutions have a unique opportunity to research and teach in ways that encompass the various dimensions of responsible AI and define new meanings of ethics in art and design.

3. AI Applications

3.1. AI in Art and Design

AI tools are transforming the creative industries, offering new tools and methods that reshape traditional processes and practices. AI tools are used in art and design in a variety of ways that include (Nabizadeh Rafsanjani and Nabizadeh, 2023):

1. Generative AI for ideation and concept design: AI tools can generate images, design concepts, videos, and storyboards based on text prompts. These tools allow creatives to rapidly explore and iterate on ideas during the early conceptual stages.
2. Rendering and visualisation: AI-powered rendering software can produce photorealistic visualisations, animations, and virtual walkthroughs of architectural designs with remarkable detail and accuracy. This accelerates the workflow and helps designers effectively communicate their visions to clients and stakeholders.
3. Computational design and optimisation: AI algorithms generate optimised design solutions based on specified constraints and performance criteria. This technology can be used, for example, to generate design options, assess energy efficiency, reduce material waste, or discover innovative structural solutions in architecture.
4. Automation of repetitive tasks: AI can automate tedious and repetitive tasks such as documentation, drafting, and project management, allowing designers to focus more on the creative aspects of their work.
5. Preservation: AI image analysis and pattern recognition can assist in preserving and restoring historical artworks, buildings, and cultural heritage sites (Münster et al., 2024).

Despite the significant opportunities, the adoption of AI in art, architecture, and design also raises many ethical, economic, and legal concerns or risks (Piskopani et al., 2023):

1. Intellectual property rights: An important legal and ethical issue is that of authorship and intellectual property. AI content generators are often trained on copyrighted artworks without the necessary consent, raising questions about data ownership and protection as well as creator compensation. In addition, determining authorship and ownership of AI-generated works can be complex.
2. Privacy: A related problem is that of privacy and security when using AI tools that require uploading or submitting designs for training or processing. There are risks of unintentionally sharing confidential information or unreleased creative works if no robust data privacy and security measures are in place, exposing them to misuse.
3. Jobs: A significant economic and socio-cultural concern is the potential job displacement of human artists and designers. There is the danger of overreliance on AI leading to a homogenisation of creative outputs, a loss of critical thinking, and a devaluation of creative skills and careers. This in turn can have system-level effects on creative sectors, making art and design studies or teaching unsustainable and unattractive due to a lack of creative agency.
4. Bias: A key ethical concern is the reproduction and amplification of societal biases and stereotypes through AI as well as the generation of deepfakes that result in

reputational harm or erode public confidence in digital news media, public institutions, and democracy (Parra and Stroud, 2022).

5. Data origin and quality: The lack of transparency from AI companies regarding their models and data makes it difficult to evaluate the risks posed by their tools. At the same time, the increasing 'data pollution' of digital environments with synthetic content generated by AI systems makes it challenging to find quality data generated by humans, leading to degrading performance and the amplification of issues displayed by models over time (Xing et al., 2024).

Considering these opportunities and concerns around the adoption of AI, and the fundamental changes they might bring to creative and ideation processes, professional organisations are trying to understand the implications for their members. The Royal Institute of British Architects recently conducted a survey on the use of AI among architects (2024), which was also the subject of a survey by the Architects' Journal. The Industrial Designers Society of America recently held a conference 'Designing with AI Deep Dive 2024' on the way AI is impacting industrial design. The Writers Guild of America had to clarify the use of AI in the production of literary material and restricted access to this material in the training of AI. Besides these efforts, very little guidance has been published on the use of AI in art and design. One notable exception is the 'Field Guide for Artists' by the AI & Media Integrity Program and the Partnership on AI (Leibowicz et al., 2021), which aims to 'help artists and makers create art using AI techniques responsibly and with care'.

The transformation of professional practice creates pressure on art and design HE institutions to integrate AI into their teaching and learning to equip students with the necessary knowledge and skills. Maintaining academic relevance in such a shifting technological landscape is also seen as important to sustaining strong industry partnerships. However, there remains a lack of knowledge and clarity on how staff and students might use AI responsibly and to what extent AI adoption is desirable or necessary.

3.2. AI in Education

The rapid development of text-based generative AI tools is having a profound impact on education at large (UNESCO, 2021). There are generally three main areas of applying AI systems in education:

- **Student-facing tools** to support learning and assessment. This is the domain of personalised learning and 'intelligent tutoring systems'. AI algorithms can analyse individual student data, such as performance, learning styles, and preferences, to tailor educational content and delivery methods: providing real-time feedback, enabling self-paced learning, identifying areas where students are struggling, and offering targeted assistance, explanations, and practice exercises. AI tools are also commonly used in communication, especially for translation and summarising material.
- **Teacher-facing tools** to support educators. This includes tools for plagiarism detection, automated grading and assessment processes, conversational agents acting as teaching assistants in the classroom, and tools for developing curriculum, lesson plans, and work streams. These can, theoretically, free up time for other tasks, such as providing more support to individual students.

- **System-facing tools** to support the management of educational institutions. AI systems can analyse vast amounts of student data, providing organisations with valuable insights into learning patterns, performance trends, and areas that require additional attention. These data-driven insights can, for example, inform teaching strategies, curriculum development, and resource allocation.

However, the use of AI tools in education has sparked significant controversy due to various concerns (UNESCO, 2021; Chan, 2023):

- **Student-facing tools** raise questions about academic integrity by facilitating cheating and plagiarism, which undermine the principles of honesty and effort in learning. The factual accuracy of AI models can also be questionable, producing hallucinations or incorrect information and reproducing or amplifying societal biases that mislead students and compromise the quality of education. An overreliance on AI can hinder the development of important critical thinking and problem-solving skills. At the same time, there is a fear of AI replacing human teachers, leading to a loss of jobs and the essential human element of teaching. The increasing use of AI tools also presents a significant challenge for educators to rethink methods and criteria of student assessment, for instance, by evaluating processes instead of outputs. Accessibility is another concern, with the benefits of AI potentially not equally available to all students, especially those in underfunded schools or from disadvantaged backgrounds.
- **Teacher-facing tools** present new challenges. The difficulty of detecting AI-generated work can result in unreliable assessments, with the extensive training required to integrate AI detection effectively potentially both time-consuming and costly. This training burden may deter educators from adopting AI tools or lead to ineffective use of such technology.
- **System-facing tools** raise concerns about privacy and security risks, including data breaches and unauthorised use of personal information. The vast amount of data collected and analysed by AI systems necessitates stringent measures to protect this information. There is also the risk of AI reproducing existing biases due to poor-quality data and proxies used to measure student engagement and achievement. Furthermore, AI systems may produce unreliable results, particularly when dealing with outliers, such as students with learning disabilities.

These multifaceted concerns highlight the complexity of integrating AI into educational systems, underscoring the need for careful consideration, regulation, and balanced implementation strategies. However, although many frameworks for AI in education have been proposed (see e.g., Institute for Ethical AI in Education, 2021), most fail to consider the specific opportunities and risks around the use of AI in *creative* education (Lim et al., 2023).

Faced with the growing use of AI tools, educational institutions, and universities in particular, have reacted with different degrees of regulating or supporting the AI use by students and staff. Large associations of universities, including the European University Association (2023) or the Russell Group in the UK (2023), have published general principles on the responsible use of AI tools in higher education.

The main response by the majority of UK universities is guidance, sometimes accompanied by broader position statements clarifying the vision of the institution. Examples of such documents show that they have all been published in the past two years (Table 2). Guidance ranges from basic dos and don'ts (e.g. Nottingham Trent University), to policies on the acknowledgement of AI use (e.g. Loughborough University), to comprehensive guides on AI systems, examples of use, and best practices (e.g. University of Derby). Such documents tend to be both descriptive and normative, indicating the need to clarify both what AI tools *are* and how they *should* be used. Often the guidance is split between different audiences, such as students and teachers, and more rarely guidance is provided for researchers (e.g. University of Glasgow) or staff involved in communication in general (e.g. University of Cambridge). Occasionally guidance is split between concerns around academic integrity and risks around information security (e.g., Lancaster University).

The author and processes of creating these documents varies greatly among institutions. They are sometimes published by the library (e.g., University of Derby) or the communications team (e.g., University of Oxford), and are sometimes the result of substantial cross-university efforts involving both students and staff (e.g., University of Warwick). This underscores that guidance and rules have to be relevant to different audiences, uses, and concerns within a fast-changing technological landscape.

University	Resource	Audience	Published
Imperial College London	AI & Education Guidance Hub	Educators	2024
	AI and Study Guidance Hub	Students	2024
King's College London	King's guidance on generative AI for teaching, assessment and feedback	Educators	2023
	Generative AI: student guidance	Students	2023
Lancaster University	AI usage guidance (information security)	Everyone	2023
	Principles for the Educational Application of Generative AI	Everyone	2024
	Using AI in your learning and assessment	Students	2024
Loughborough University	Guidance to Students on how to acknowledge, describe and reference the use of Generative AI tools in assessed work	Students	2023
Newcastle University	Artificial Intelligence and Your Learning	Students	2023
	Effective Practice: Artificial Intelligence	Educators	2023
Nottingham Trent University	Artificial Intelligence @ NTU	Students	2023
Oxford Brookes University	Artificial intelligence (Guidance for students)	Students	2023
	GenAI University wide policy and practice	Everyone	2023
	Guidance for Schools Programmes and Modules	Educators	2023
University College London	Engaging with AI in your education and assessment	Students	2023
	Generative AI Hub	Educators	2023
University of Cambridge	AI and Education	Everyone	2023
	Artificial intelligence and teaching, learning and assessment	Management	2023
	How we use generative AI tools	Communicators	2023

University of Derby	Generative AI Guidance (Chat GPT, Google Gemini, Microsoft Copilot)	Everyone	2023
University of Glasgow	Generative AI guidance for researchers	Researchers	2024
	Learning & Teaching - AI Guidance	Educators	2023
	Artificial Intelligence - Info for Students	Students	2023
	What is the University of Glasgow's position on AI?	Everyone	2023
University of Leeds	AI for student education	Educators	2023
	AI use in research	Researchers	2023
	Generative AI guidance for taught students	Students	2024
	Guidance to Staff on the use of Artificial Intelligence	Staff	2023
University of Oxford	AI in teaching and assessment	Educators	2023
	Guidelines on the use of generative AI	Communicators	2024
	Use Generative AI services such as ChatGPT safely	Everyone	2023
	Use of generative AI tools to support learning	Students	2024
University of the Arts London	Student guide to generative AI	Students	2024
	UAL Awarding Body's Statement on the use of AI	Everyone	2024
University of Warwick	Introduction to Artificial Intelligence	Students	2023
	Artificial Intelligence in Education	Everyone	2023
The New School	Guide to Teaching and Learning - Generative AI	Educators	2023
Pratt Institute	AI Resource Guide	Everyone	2023
	Statement on Artificial Intelligence	Everyone	2023

Table 2: Examples of guidance and position statements published by universities.

Guidance from art and design HE institutions (including schools or departments within larger universities) is still very rare. The University of the Arts London and the Pratt Institute have, for example, both published position statements and basic guidance, while the New School published guidance that only occasionally mentions design. Most guidance focuses on text-based generative AI, ignoring other media commonly used in art and design. Specific concerns, such as ownership of outputs, differentiating between plagiarism and referencing, safeguarding artistic skills, and the best approaches to integrating AI tools into one's practice, are often not addressed.

This lack of detailed guidance contrasts with the significant amount of pedagogical content on AI in art and design produced by HE institutions worldwide. Indeed, beyond the application of AI tools within classrooms mentioned above (i.e. learning with AI), AI influences educational content through the growing need to teach some of its technical and ethical aspects (i.e. responsible AI literacy) and to prepare citizens to live in an AI era (i.e. learning for human-AI collaboration) (Dignum, 2021; UNESCO, 2021). A major challenge when designing new curricula is how to conceptualise and measure AI literacy (Ng et al., 2021). While general scales have been proposed (Wang et al., 2022), more research is needed on the specific AI literacy demands in creative education.

Table 3 shows examples of courses and programmes on AI in art and design, both in traditional graduate programmes and continuing professional development including executive education. While there is a clear appetite for more education on how new technologies (and AI in particular) is affecting creative industries and practices, pedagogical content on the responsible use of AI in art and design is not yet widely available.

Although the RCA has delivered executive education courses on these topics in the past (e.g. Designing Services & Products with Artificial Intelligence in 2022), and AI is mentioned in specific courses (as described later in this report), no unit or programme explicitly deals with the (responsible) use of AI as a core issue.

Name	Institution	Education
AI for Media, Art & Design (aka Intelligent Computational Media)	Aalto University	Graduate
MA New Media	Aalto University	Graduate
AI-Powered Design	Politecnico Milano	Graduate
Envisioning AI Through Design	Politecnico Milano	Graduate
MSc Architectural Computation	University College London	Graduate
AI for the Arts and Humanities	University of Glasgow	Graduate
Artificial Intelligence at London College of Fashion	University of the Arts London	Graduate
MSc Data Science and AI for the Creative Industries	University of the Arts London	Graduate
Artificial Intelligence in Contemporary Design Practice	Harvard University	Graduate
Deep Learning for Art, Aesthetics, and Creativity	Massachusetts Institute of Technology	Graduate
Computation, Technology and Culture Studio	Rhode Island School of Design	Graduate
Understanding and Exploring Artificial Intelligence	Rhode Island School of Design	Graduate
Artificial Intelligence, Activism, and Art	Stanford University	Graduate
Designing with Machine Learning	Stanford University	Graduate
Transforming Arts with Artificial Intelligence	Imperial College London	Executive
Designing and Building AI Products and Services	Massachusetts Institute of Technology	Executive
AI Design	Pratt Institute	Executive
Designing and Building AI Products and Services	Stanford University	Executive
AI for Creativity and Leadership	The New School	Executive

Table 3: Examples of courses and programmes on AI in art and design (past and current) provided by higher education institutions.

Other HE institutions have dedicated significant efforts and resources to lead on AI in art and design, such as the Creative AI Lab at King's College London (in collaboration with the Serpentine Gallery) or the Creative Computing Institute at the University of the Arts London. More broadly, the use of AI in creative practice has been the subject of numerous talks and symposia, both at the RCA (described later in this report) and elsewhere (Table 4).

Event	Institution	Year
CreAItivity – Artificial Intelligence and Creativity	Imperial College London	2018
Representation and Intuition: AI and the future of design	Architectural Association	2020

Panel discussion: Let's Talk about AI	The New School	2023
Unleashing the Power of ChatGPT/AI to Transform the Future of Education & Work	The New School	2023
Alien Intelligence: AI and the Future of Architecture	University College London	2023
UAL Hackathon	University of the Arts London	2023
Generative AI, Imitation, Style, and the Eternal Return of Precedent	Harvard University	2024
Writing as 'passing' and the role of generative AI	Institute of Education	2024
Attending to Technology in a Time of Radical Change	King's College London	2024
Debates in AI	Rhode Island School of Design	2024

Table 4: Examples of events on AI in art and design (talks, symposia, workshops) organised by higher education institutions.

While research groups and events are important for fostering interdisciplinary collaborations, both internal and external, and attracting talented staff and students, they do not always translate into a strategic vision or the academic programmes of HE institutions. There is therefore a need to better understand the requirements, concerns, and expectations of staff and students about the responsible use and teaching of AI in a specialised art and design institution such as the RCA.

3.3. AI at the RCA

The strategic importance of AI at the RCA has steadily grown in its core activities of teaching and research. This has led to greater debate on the impact of AI on existing practices and pedagogy, as well as the expanding use of generative AI. While the *RCA Strategic Plan 2022–27* highlights the integration of AI and design, specifically in design research (Goal 1), digital and data-driven technologies are also likely to play an important role in achieving teaching excellence (Goal 2) and enhancing knowledge exchange and innovation (Goal 3).

Research

The RCA strategic goals put AI at the heart of its research ambitions. An important investment has been establishing the RCA Computer Science Research Centre (CSRC) in 2020 and the creation of the RCA Robotics Laboratory in 2017. An important research initiative has been the joint establishment of the Laboratory for Artificial Intelligence in Design (AiDLab) with the Hong Kong Polytechnic University, which links up different Schools (SoAH, SoC, SoD) and research centres. Other AI-related research activities are, for example, currently taking place in the Material Science Research Centre, the Intelligent Mobility Design Centre, or the Future Cities Laboratory for Design and Machine Learning (LDML).

As an indicator of a recent growth in AI activity, the RCA has produced more than 30 research publications related to AI in the past four years, with a significant increase in 2023 (Figure 1).

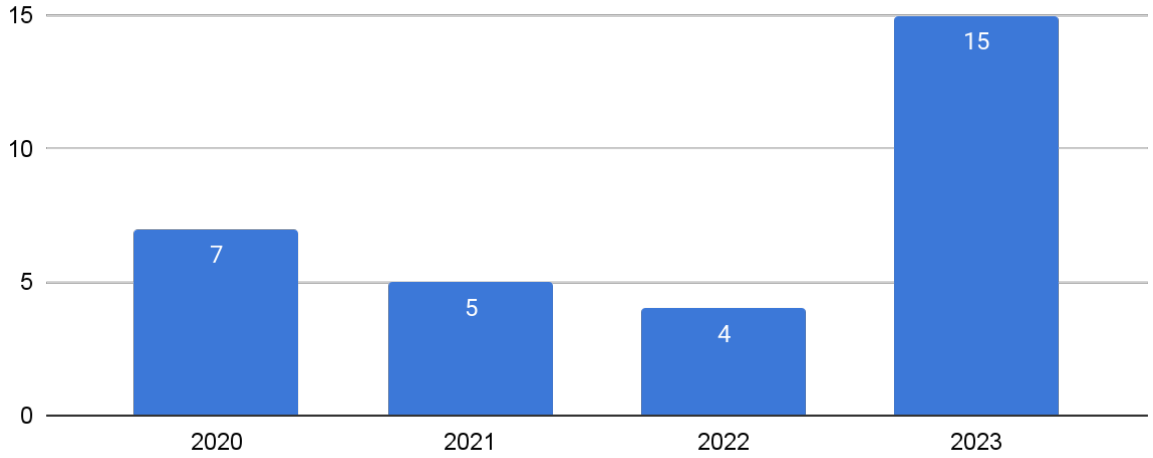


Figure 1: RCA Research outputs related to Artificial Intelligence

Pedagogy

Discussion on AI takes place across all four Schools and their programmes at various levels in relation to teaching and learning. Few programmes or their studios, however, explicitly deal with AI as a learning topic. These include the MA Interior Design (School of Architecture), the 'Synthetic Encounters' strand of the MFA Arts & Humanities (School of Arts & Humanities), the MA Digital Direction (School of Communication), and the MA/MSc Innovation Design Engineering (School of Design with Imperial College). The focus on AI is also explicit in recent executive education courses such as 'Designing Services & Products with Artificial Intelligence' (2022) and 'Challenges for the Future of Interior Design' (2023).

In terms of student projects, two out of the four themes of AcrossRCA 2023 included AI-related projects ('Being Digital' and 'Justice Equality and Misinformation'), while the end-of-year show has seen a six-fold increase in the number of AI-related projects in the past four years (Figure 2).

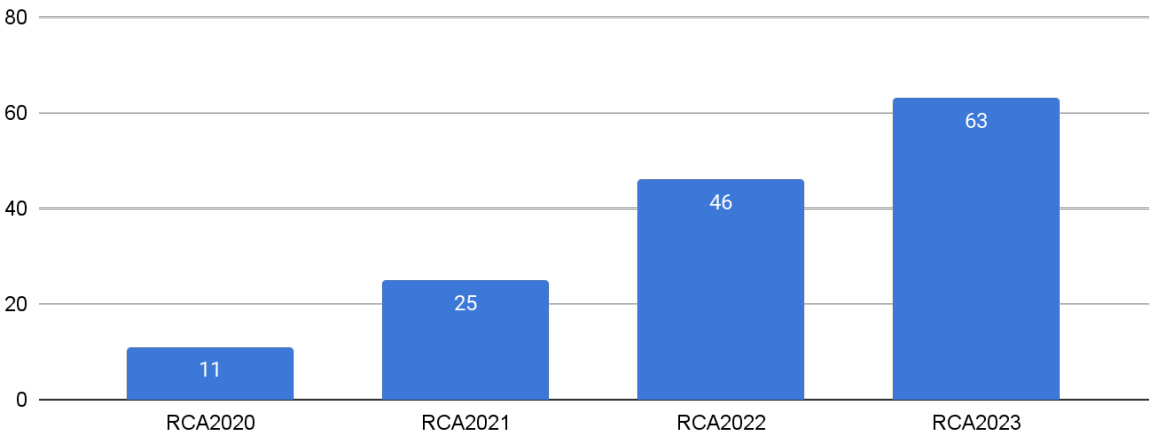


Figure 2: ShowRCA projects tagged 'Artificial intelligence'

The impact of AI on pedagogy has also been explored in three recent workshops: one by the Group for Learning in Art and Design in Higher Education (GLAD) 'The AI Art School: A

Speculative Design Workshop' (2024), and two by the Creative Education Design Group 'AI in teaching & learning' (one for staff and one for students, both in 2024).

Operations & Resources

One way to measure the increased interest in AI at the RCA is through the use of library resources. As of May 2024, the RCA Library offers 83 physical titles broadly related to AI (including deep learning, cybernetics, robotics, etc.). These titles have been borrowed 470 times, including 86 times (18%) in the past year alone. Library catalogue searches on AI have also increased in the past few years (Figure 3), and book requests have been received from all Schools.

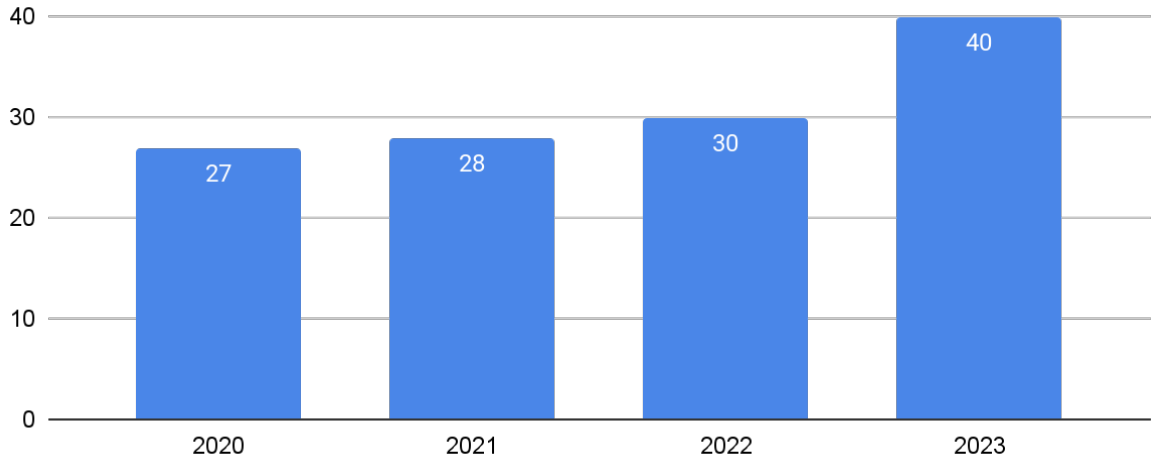


Figure 3: Library catalogue searches including 'AI' and 'artificial intelligence'

Events & Initiatives

Student interests and concerns around the use of AI in their practice has led to a variety of initiatives in the past few years. The AI Study Group, which existed from 2020 to 2023, involved a series of presentations on the diverse ways its members were using AI in their work. The RCA AI Lab was recently founded by students in early 2024 as ‘a space to collectively navigate the transformative impact of AI on art and creativity’. Its ambitions is to host a variety of workshops and guest lectures as well as provide resources and opportunities for its members. Also in 2024, the Student Union ran a workshop on AI and English language, focusing on how students use AI-powered translation tools to enhance their learning experience and ideation process.

The above shows a rising interest in AI at the RCA and in creating more formal fora for discussion. It also indicates a need to develop guidance on AI use.

4. RCA Study: Survey, Interviews, and Workshops

This section presents and discusses data collected through 1) an online survey with RCA students and staff, 2) structured interviews with RCA students and staff who use or support the use of AI in the College, and 3) four workshops with participants from the survey and interviews.

4.1. Methods

The online survey, conducted in February to March 2024, gathered responses from 187 RCA members (Table 6). It comprised 55 questions covering various topics: respondents' affiliation with the College, their definitions, understandings, and perceptions of AI, their literacy, proficiency, and experience with AI tools, the support they received using AI tools, and their awareness of AI-related activities at the RCA. The survey predominantly consisted of multiple-choice questions, analysed using descriptive statistics. However, it also included several open-ended questions regarding the benefits, risks, and opportunities of AI, as well as the support sought from the College. These responses were analysed using content analysis and open coding, with related codes grouped into broader themes.

Structured interviews took place from March to May 2024 with 16 participants selected for their interests in or concerns about AI or their role related to AI adoption in the College. All interviewees were asked the same eight questions (Table 5). While some interview questions overlapped with those in the survey, with interviewees having different teaching, research, and operational roles in the College, the interviews offered deeper insights into AI usage and policy, regulatory, and infrastructural needs. Content analysis was used for the interviews to expand on the codes and themes established in the survey analysis.

Interview Questions
What is your role or programme at the RCA?
Do you use or engage with AI in your work, and if so, how? Do you provide help or support for someone else using AI, and if so, how?
Is AI used in your programme/department (either by staff or students)? If so, how is it used?
Beyond your own work, what AI-related activities have you been involved in? What other AI-related activities at the RCA are you aware of? Are you part of a network (formal or informal) of AI users at the RCA?
Are there any external networks of AI users and experts with whom you work?
What opportunities and risks do you see for the use of AI at the RCA specifically, and in art and design higher education more generally?
What kind of help or resources are you aware of at the RCA to support the use of AI? What would you like to see?
What would you consider to be the challenges around the responsible use of AI in art and design? How could the RCA best ensure that AI is used responsibly?

Table 5. Interview Questions.

The report also incorporates insights from four workshops held with staff and students during May to June 2024, of which three were conducted in-person and one online. These

workshops focused on exploring AI within the context of the RCA's strategic objectives and the pedagogies of art and design. Workshop activities included mapping AI concepts in art and design, discussing findings from desk research, surveys, and interviews, and workshopping what a College-wide strategic AI vision could include (Workshops 1 and 3) or what considerations should inform AI-related curriculum development (Workshop 2). The final workshop in late June gathered feedback on a preliminary draft of this report and included three invited external AI experts.

Participants in the survey, interviews, and workshops were predominantly those with an interest in AI, specifically in relation to their own creative work, research, teaching, or professional role in the RCA. Therefore, the findings of this study may not fully represent the RCA community at large and might be biased towards the perspectives of those who are already involved with or supportive of AI in their work.

4.2. Participants

We collected 187 completed surveys (Table 6), equal to 5.7% of the College population. The majority of respondents were students (59.9%). Yet the response rates by staff were proportionally higher at 8.1% for academic staff (of the 516 total) and 9.1% for non-academic staff (of the 363 total) than by students at 4.6% (of the 2,419 total student population).

	Survey			Interview	Workshops
	n*	% sample	% College population	n	n
Total	187	100%	5.7%	16	33
Role					
Student	112	59.9%	4.6%	3	6
Academic Staff	42	22.5%	8.1%	9	20
Non-academic Staff	33	17.6%	9.1%	4	7
Schools (Students and Academic Staff)					
SoA	26	13.9%	5.2%	2	5
SoAH	50	26.7%	5.2%	2	2
SoC	34	18.2%	6.1%	2	5
SoD	29	15.5%	3.4%	2	4
Research Centres**	12	6.4%	10.9%	3	8
Other***	4	-	-	2	2

* Staff and students registered in multiple programmes are counted multiple times.

** Research centres are AiDLab, Computer Science Research Centre, Intelligent Mobility Design Centre, and Materials Science Research Centre.

*** ADO, RKE, Research Office, and GradDip Program.

Table 6. Participant characteristics

We further interviewed RCA staff and students, who largely either use themselves or support the use of AI through their work at the College (Table 6).

4.3. AI Definition

When survey respondents were asked to choose from a list of common definitions of AI, 28% of respondents selected AI as 'a step in the global digital transformation' (Table 7). Many responses to open questions in the survey, as well as during interviews and workshops, indicated that participants' understanding of AI is often based on their immediate experiences, such as the use of specific tools (17%).

	n	%
AI is a step in the global digital transformation.	52	28%
AI is a specific data-driven technology or tool.	48	26%
AI is an (autonomous) entity that can make decisions, produce content, or interact with its environment.	31	17%
AI is an academic field.	15	8%

Table 7. Definitions of AI

The second most popular definition was AI as 'a specific data-driven technology or tool' (26%), closely aligned with the definition by the European Commission's High-Level Expert Group on AI (2019), which emphasises the relation to data-driven technologies and processes. In responses to open questions in the survey, as well as during interviews and workshops, discussions accordingly often focused on concerns and limitations related to data processing (Figure 4).

When asked about the principles of responsible AI, survey respondents found transparency and explainability (60%), safety and security (49%), and accountability (45%) most important (Table 8).

What do you think are the most important values related to the responsible use of AI? (Select up to 3)	n	%
Transparency and explainability	112	60%
Safety and security	91	49%
Accountability	84	45%
Equal and inclusive access	68	36%
Privacy	64	34%
Fairness	50	27%
Sustainability	37	20%

Table 8. Responsible AI values.

Figure 4. During the workshop, questions were raised on the generally limited understanding of AI technologies.

4.4. Experience Using AI Tools

The survey found that 66% of all respondents have used AI tools in their work at the RCA and that 74% plan to or will continue to use AI in their future work (**Table 9**). The proportion of this among students is 75% and 74% respectively, whereas it is 52% and 73% for staff. The 24% of respondents who had not yet used AI, the majority did not plan on doing so in the future.

	Total Responses	I have used AI tools in my work at the RCA.		I am planning to use AI tools in my future work at the RCA.	
		n	%	n	%
Total	187	123	66%	138	74%
Role					
Student	112	84	75%	83	74%

Academic Staff	42	22	52%	31	74%
Non-academic Staff	33	17	52%	24	73%
Schools (Students and Academic Staff)					
SoA	26	18	69%	21	81%
SoAH	50	31	62%	30	60%
SoC	34	22	65%	29	85%
SoD	29	25	86%	22	76%
Research Centres**	12	9	75%	11	92%
Other***	4	2	50%	2	50%

Table 9. Experience with and future use of AI

The study shows that AI tools are used for a wide range of purposes and applications in their work at the RCA. Of the 66% of participants who responded to the open question, the following main areas of AI use were given:

- **Writing** (text generation, text review, proofreading, summarising): 27%
- **Ideation and concept development** (image generation): 21%
- **Research assistance** (literature review, citation, image recognition): 17%
- **Image, video and sound generation and editing**: 11%
- **Daily communication** (transcription, translation, note-taking, email drafting): 11%
- **Reading** (summarising, simplification): 6%
- **Daily administrative tasks** (automation, organisation and planning): 4%
- **Code generation and data processing**: 4%

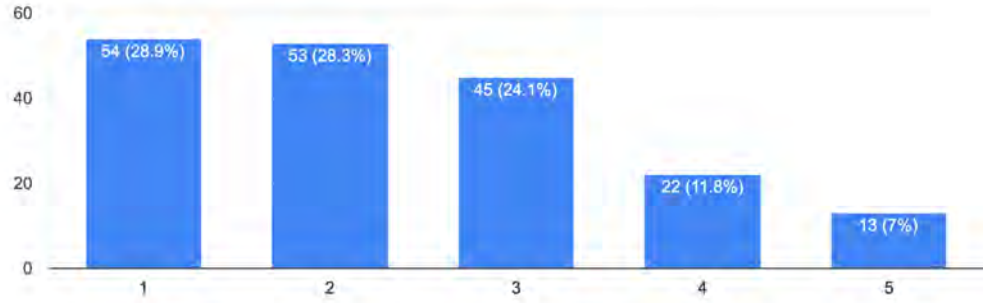
This is related to a range of specific types of AI tools **(Table 10)**. Apart from the widely used chatbots such as ChatGPT for text generation and editing (80%), common AI tools include those for text-to-image generation, such as DALL·E and Midjourney (56%), and tools for image editing (41%). The stated purposes for using these tools were to support ideation, brainstorming, and the creation of various visual or textual media. The planned future applications of AI were very similar.

What kind of AI tools or services have you used in your work at the RCA? (n=123)	**n**	**%**
Chatbot (e.g., ChatGPT, Claude, Bing AI, Google Bard, Character.AI)	98	80%
Text to image (e.g., DALL·E 2, Midjourney, Stable Diffusion, Adobe Photoshop's Generative Fill)	69	56%
Image editing (e.g., Adobe Photoshop's Neural Filters, Canva's Magic Edit/Eraser, Lensa's Magic Retouch/Avatars)	50	41%
Speech to text (e.g., Adobe Premiere Pro's Speech to Text, VEED's Audio to Text)	28	23%
Video generation (e.g., Runway's Gen-2, Synthesia, VEED's AI Avatar)	19	15%
Research literature assistant (e.g., Scholarcy, Paper Digest, Scite)	18	15%
Coding assistant	17	14%
Writing assistant (e.g., Jasper, Copy.ai, Notion.ai)	13	11%
3D modelling (e.g., 3DFY, Meshcapade)	13	11%
Text to speech (e.g., Murf, Lovo)	14	11%
Music and sound generation (e.g. AIVA, Boomy, Mubert)	11	9%

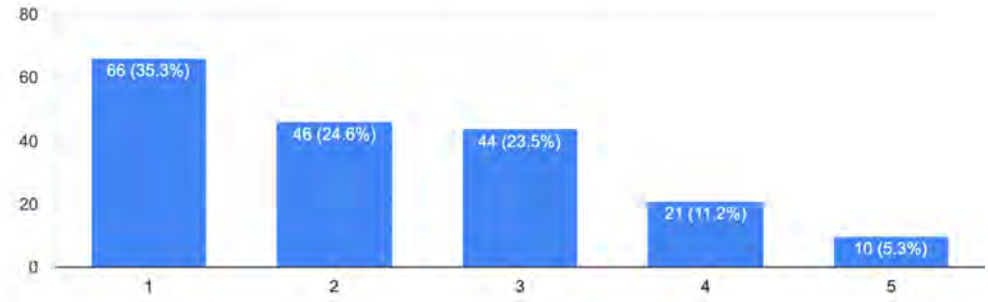
Video editing (e.g., Adobe Premiere Pro's Text-Based Editing, Descript, Wondershare Filmora's Copilot/Text-Based Editing)	10	8%
Image analysis (ML Segmentation, ConvNets)	3	2%
Other (Search, AI Agent)	2	2%

Table 10. AI Tools used at RCA

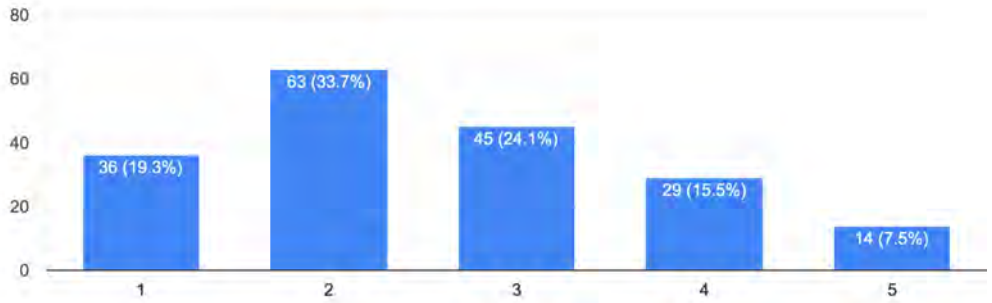
Although two-thirds of staff and students have some experience with using AI tools in their work, most considered themselves not very familiar or proficient users (Figure 5d). In particular, the understanding of the inner workings of AI tools (Figure 5a) and their creation and development are not well understood (Figure 5b).



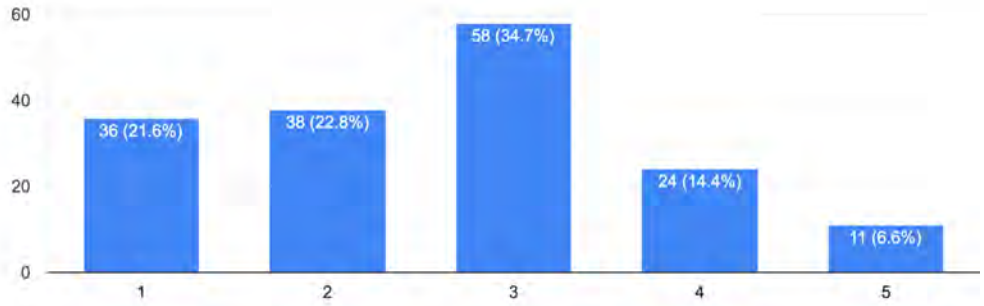
5a. How do you rate your understanding of the inner workings of AI tools? (1: Very Low, 5: Very High)



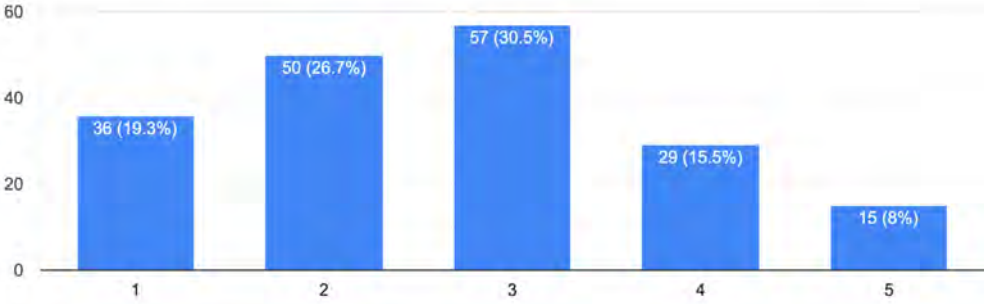
5b. How do you rate your familiarity with the creation and development of AI tools? (1: Very Low, 5: Very High)



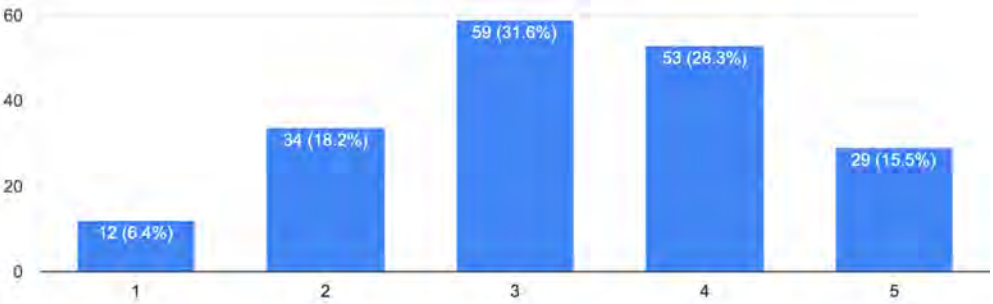
5c. How do you rate your familiarity with AI tools?
(1: Very Low, 5: Very High)



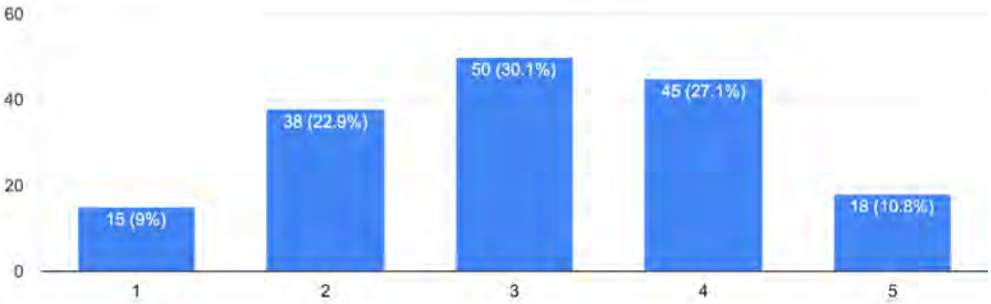
5d. If you have used AI tools before, how do you rate your level of proficiency? (1: Novice [only tried a few times], 5: Expert [very proficient using at least one tool])



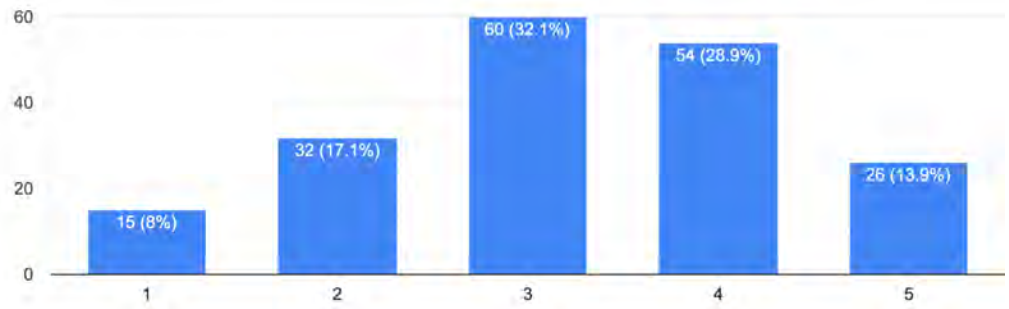
5e. How do you rate your ability to select an appropriate AI-based tool or service for a particular task? (1: Very Low, 5: Very High)



5f. How do you rate your familiarity with ethical issues or responsible practices concerning the use of AI? (1: Very Low, 5: Very High)



5g. If relevant, how do you rate your ability to evaluate the capabilities and limitations of an AI tool after using it for a while? (1: Very Low, 5: Very High)



5h. How do you rate your ability to identify whether AI is involved in the applications, products, and services that you use?
(1: Very Low, 5: Very High)

Figure 5. Literacy and proficiency of AI and AI tools.

Only a relatively small number of all interview respondents (7%) had developed their own AI tools or written code that uses AI frameworks, libraries, or APIs. Applications for this include processing large amounts of data, speeding up iterative design and simulation processes, and investigating new research questions enabled by deep learning to extract complex patterns.

4.5. Benefits of and Concerns over AI

Benefits

To understand the benefits of AI, it is important to also understand the motivations for using it. The top three reasons were to improve productivity (54%), explore the potential of AI tools (52%), and to generate a specific output (44%) (n=123; only survey respondents using AI).

Asked if students had experienced any benefits in their coursework from using AI tools, 50% of the respondents (n=56) confirmed positively.

When all participants were asked to describe the opportunities and benefits of using AI (n=116, 62%), respondents generally referred to specific AI tools and tasks rather than to general machine intelligence and broader implications. The most commonly recognised benefit of using AI was its contribution to productivity, efficiency, and time-saving (52%). This was equally appreciated among students, academic staff, and non-academic staff, and experienced across various tasks ranging from daily administration to image and text creation or editing, prototyping, and research. Others mentioned how AI assisted their creative processes (17%) and improved outputs (8%) by providing research assistance and feedback and evaluation mechanism, helping to summarise and order ideas, and bridging skill gaps or automating tasks related to image and video creation, coding, language comprehension, or editing text to a desired tone and style. Related to this, an important benefit was seen in improving daily communication (8%).

Some also raised that speech-to-text AI tools (e.g. live captioning on Zoom, Otter, Glean) were especially beneficial for neurodiverse individuals, enabling them to concentrate on lectures or meetings while automating note-taking. Many stated that editing and text generation tools helped them in structuring their thoughts more effectively. However, in the

workshops concerns were raised that this form of note-taking and summarising is not always reliable and can misrepresent what has been actually discussed or written.

> Some people have difficulty in articulating their views, rationale, and need to improve their persuasive influence. AI helps unpick and untangle thoughts in a more logical and methodical language.
> **- Staff (other)**

Risks of and Concerns

We asked all survey participants about the biggest risks they see related to the use of AI in a multiple-choice question. The three top responses were risks to human rights (48%), to social fabric (47%), and to ownership (44%) (Table 11).

The most important risks related to the use of AI (select up to 3)	n	%
Risks to human rights (e.g. using deepfakes to damage someone's dignity)	89	48%
Risks to the social fabric (e.g. undermining reliable information and trust in political institutions and processes)	87	47%
Risks to ownership (e.g. plagiarism)	83	44%
Risks to fairness (e.g. automating biased decision making)	62	33%
Risks to security (e.g. cybersecurity)	50	27%
Risks to privacy (e.g. hyper-targeted ads)	46	25%
Risks to the economy (e.g. job displacement)	46	25%
Risks to the environment (e.g. due to the energy consumption of AI models)	36	19%
Risks to safety (e.g. recommending or enabling dangerous activities)	24	13%

Table 11. Risks related to the use of AI.

While risks to human rights were seen as the biggest problem, this was not further elaborated in response to other open-ended questions. However, many participants discussed the problem of AI tools generating inaccurate and unreliable information, which can potentially pose risks to the social fabric. Related to this, 20% of respondents elsewhere in the survey voiced concerns about AI reproducing and amplifying existing biases (which is related to the risk of fairness mentioned by 33%). Participants highlighted that current algorithms can 'propagate racism, sexism, and fat-phobia, among others', and are perceived as 'biased in ability and culture'.

In response to another question about ethical concerns, data ownership and copyright – specifically the unethical use of data, material, and information – was the most commonly mentioned problem (21%). This issue was also a key discussion point in the interviews and workshops and raised three areas of concern.

First, many shared a sentiment that AI was unethical because material is often used without the consent of artists, designers, or content creators to train algorithms. Staff and students were also concerned that their own work could be scraped from the internet for training purposes. This poses a twofold ethical challenge of what data or tools should be used in the generation of work, and also raises a question for the College about the disseminating and safeguarding of work.

> I'm cautious about the use of AI in creative fields, especially as many of the datasets used for common tools are built on other people's creative work, co-opted nonconsensually.
> **- Staff**

The most commonly provided content to AI tools are texts (89%), images (58%), videos (17%), sounds (15%), and 3D models (11%). Of these, 26% were someone else's work or of unknown copyright (Table 12) and 24% were potentially confidential or sensitive information.

	n	No		Yes, my own copyright		Yes, someone else's copyright		I don't know	
		n	%	n	%	n	%	n	%
Total	123	36	29%	55	45%	12	10%	20	16%
Role									
Student	84	24	20%	42	34%	3	2%	15	12%
Academic Staff	22	10	8%	6	5%	3	2%	3	2%
Non-academic Staff	17	12	10%	3	2%	0	0%	2	2%

Table 12. Copyrighted material input

Second, there were concerns about the copyright of outputs produced with AI tools. In legal terms, AI-produced works are still a grey area. For computer-generated and computer-assisted work, the copyright vests in people 'by whom the arrangements necessary for the creation of the work are undertaken' (UK Copyright Designs and Patents Act, 1988). This means that copyright can be vested in people who generate the work, if the arrangements, i.e. the algorithm and the training dataset, are developed by that person. However, if material is generated using an algorithm provided by a third party, that party often holds some copyright to the work (Creative Industries Policy Evidence Centre, 2024).

Third, there were concerns about 'plagiarism [and] originality of thought and research in a learning environment'. Throughout the interviews and workshops (Figure 5), plagiarism was one of the most discussed AI challenges for teaching staff. Both students and student-facing staff felt that there was a lack of clear guidance on the use of AI tools in written work. But more generally, the difficult question is how to ethically use AI tools built on large datasets (where the origin of data is unclear) and dependent on an industrialisation of technology to generate new written and design work. What guidance and level of literacy is needed by different users? This is not just a question of plagiarism but also of ethics and responsible AI use.

As the tools currently used to identify plagiarism (e.g. Turnitin) is based on comparing the submitted text to a database of web pages, scholarly articles, and previous student submissions, AI-generated content is difficult to identify. It is also often unclear at what stage of a submission AI tools were used and where to draw the line of permitted AI use. Student-facing academic staff generally agreed that the use of generative AI tools is not a problem as long as students indicate how they were used.

Given these problems, 56% of survey respondents therefore asked for training or information on responsible AI and its application to their work. For example, clarity is needed on how AI-generated work should be declared and referenced. The best way of knowing if a student

has inappropriately used AI in their work is through greater engagement of tutors in the development of their work and detailing how work has been produced. In the workshops, staff raised the need to reconsider what and how work is assessed, for example, focusing more on the process than the outcome.

> Particularly with generative AI, the only issues that we've had is when somebody has not been transparent about what has been generated by AI and what hasn't.
> **– Student-facing academic staff**
>
> If you don't know the student and you haven't engaged with the process of thinking that they've gone through, then it's impossible [to catch the use of AI]... You have to change the assessment so that somehow during the assessment process, you actually have a conversation with somebody to find out if they are engaged in those processes. And I understand that's a time restrained issue … tutors don't have the time to assess people verbally.
> **– Student-facing academic staff**

Figure 6. During the workshops, best practice in using AI tools was also defined in relation to copyright and plagiarism.

There is also an important question to be asked about how using AI to generate or edit text compares to using it to generate or edit other outputs such as images, drawings, models, sounds, or videos, which are common in art and design schools. While the focus is typically on text generation, the use of AI in other forms of media might be equally problematic or beneficial.

Ideation and concept development is, after text generation, the second most common reason for using AI tools at the RCA. Some respondents referred to AI 'creating imaginaries not yet invented', 'evok[ing] inspiration' and '[providing] novelty of outputs'. While some find

that AI tools benefit creativity (17%), others find it contentious, seeing it as a first step toward an overreliance on technology that prevents creativity and potentially homogenises work and aesthetics.

Another widely discussed controversial area of AI use is live translation. According to teaching staff, students with English as their second language use translation tools very widely during tutorials, seminars, courses, and group work.

> Students who are making use of machine translation, would be a very high number, almost 100%. Because when they're in small group situations, even international students that are really competent with English as a shared language, or people for whom English is the first language, are still often engaging with machine translation in small group work sometimes to assist communication with students that are struggling more.
> **- Interview participant (student-facing academic staff)**

While the survey responses did not clearly indicate the extent of the use of translation tools, student-facing staff held strong opinions about this. Some viewed AI's capability to provide accurate live translations as a positive enhancement to learning experiences, while others felt it prevented the development of essential language skills. A few even reported banning the use of translation tools altogether.

> At the moment, there's a bit of a gap in our regulations. We're telling students [that they] can't use translation devices, because they record and our Code of Conduct says [that] you can't record without permission. So we go around the back way to say you can't use translation devices. And we have good reasons for not wanting students to use translation devices, because it's not their own work, they don't learn… it's not their own words when they're then communicating to us with the translation devices.
>
> So we have said [that they] can't use these because they are recording. But then you've got students who have permission to record so do they have permission to use translation device? So there's, there's a bit of, kind of, uncertainty there about what's acceptable practice and what is not acceptable practice.
> **- Interview participant (student-facing academic staff)**

The divided opinion again highlights a need for AI use policies at the College. These policies have to address different areas of concern or regulation, ensuring a balanced approach that maintains the benefits and prevents the misuse of AI.

The risk to the economy caused by AI, identified by the 25% of respondents, was later further elaborated in relation to art and design practice. Some students and staff were worried about job losses in the creative and traditional arts, with AI leading to labour displacement and loss of creative agency. Students specifically were at the same time worried that not knowing enough about AI tools would limit their employability. These conflicting concerns are important issues to be considered by the RCA, as there is still limited AI debate and training across the College.

> As the Royal College of Art, I believe that we should explore art in all its forms but not in a way that disadvantages human/traditionally working artists; it should be a duty to protect these kind of artists.
> **- Academic staff**
>
> I hope professors don't discourage students from exploring the field of AI… I need to figure out how AI will change the industry [and] the future of work.
> **- Student**

4,6 AI Activities and Support

Existing Activities and Support

Currently, only a few design units or programmes across the four Schools, such as the IDE in the SoD, explicitly incorporate AI teaching and learning activities (Map 1). There are therefore still very limited opportunities for students at the RCA to formally learn about or discuss AI (Map 2).

Existing AI activity and expertise in the College are scattered (Map 3) and, for example, concentrated around the AiDLab, CSRC, and Robotics Lab. However, these centres or labs are not widely known within the RCA (Table 13). In fact, 81% of survey respondents were not aware of any projects or initiatives involving AI at the RCA, highlighting a perhaps general disconnect and lack of communication between Schools and between Centres and Schools. With AI adoption widely seen as something that should connect the different parts of the College, there is a clear demand for creating coss-College AI awareness, expertise, infrastructure, support, and governance.

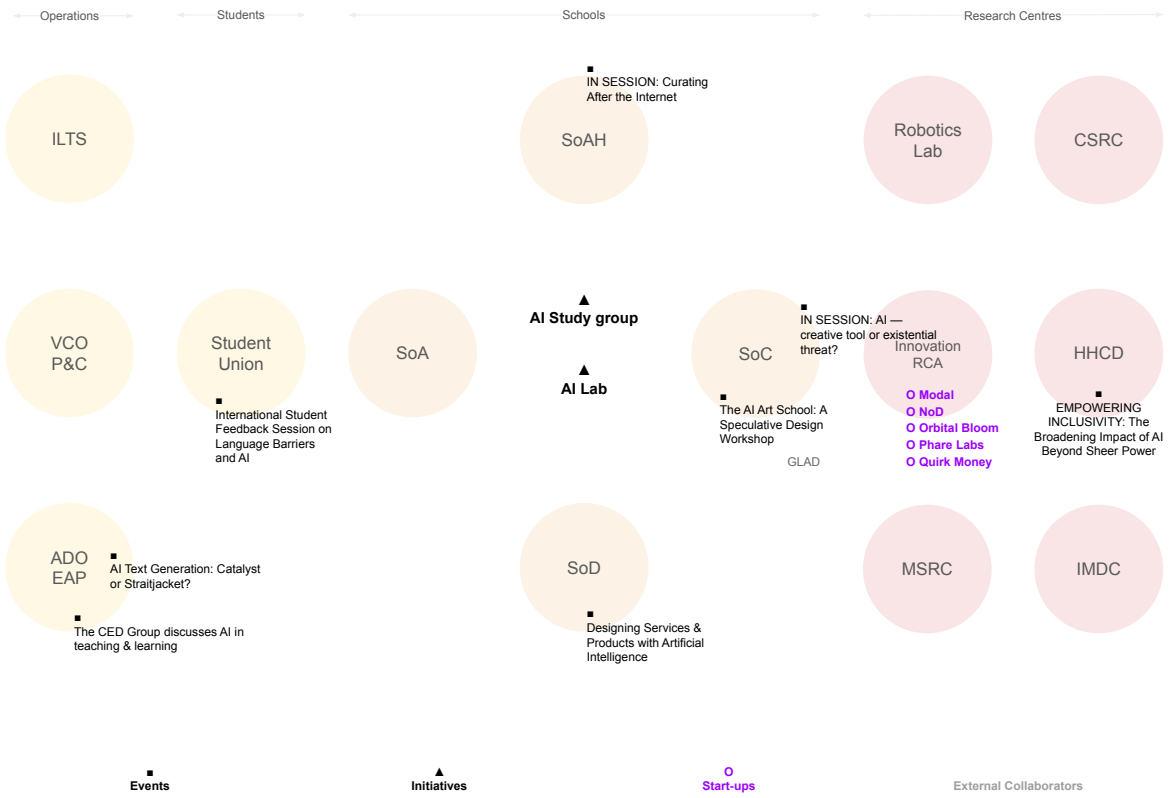
Research	n
Laboratory for Artificial Intelligence in Design (AiDLab)	12
Computer Science Research Centre	4
Laboratory for Design and Machine Learning	4
Intelligent Mobility Design Centre	2
Helen Hamlyn Design Centre	2
RCA Robotics Lab	2
Material Science Research Centre	1
RCA Visualisation Laboratory (VisLab)	1

Table 13. Frequency of research centres mentioned in the open answers given to the question 'Do you know of any projects or initiatives involving AI at the RCA'?

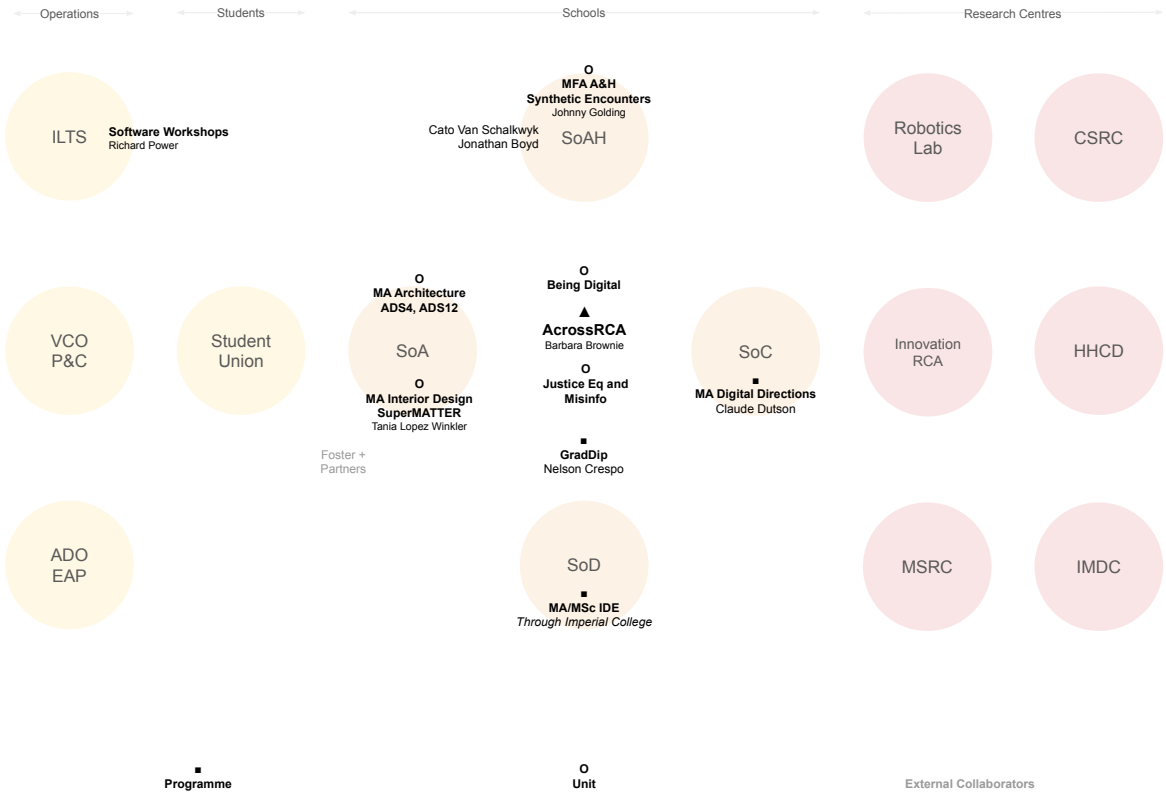
Currently only 20% of survey respondents received internal support for their use of AI, with much of this support being peer-to-peer (Table 14). This is unsurprising, as there is still a general lack of AI expertise and staff with the right expertise are not usually well known beyond their local programme, centre, or network. Consequently, students frequently sought technical support outside the RCA. There is thus a need for better communication and dissemination of existing AI knowledge and expertise within the RCA, as well as a need for creating a structured network of both technical and academic support or supervision staff that are paid for their time as part of their existing contracts or through new appointments.

	Total Responses	I received help from someone working at the RCA.		I received help from someone working outside the RCA.	
		n	%	n	%
Total	123	25	20%	29	24%
Role					
Student	84	17	20%	21	25%
Academic Staff	22	5	23%	6	27%
Non-academic Staff	17	3	18%	2	12%

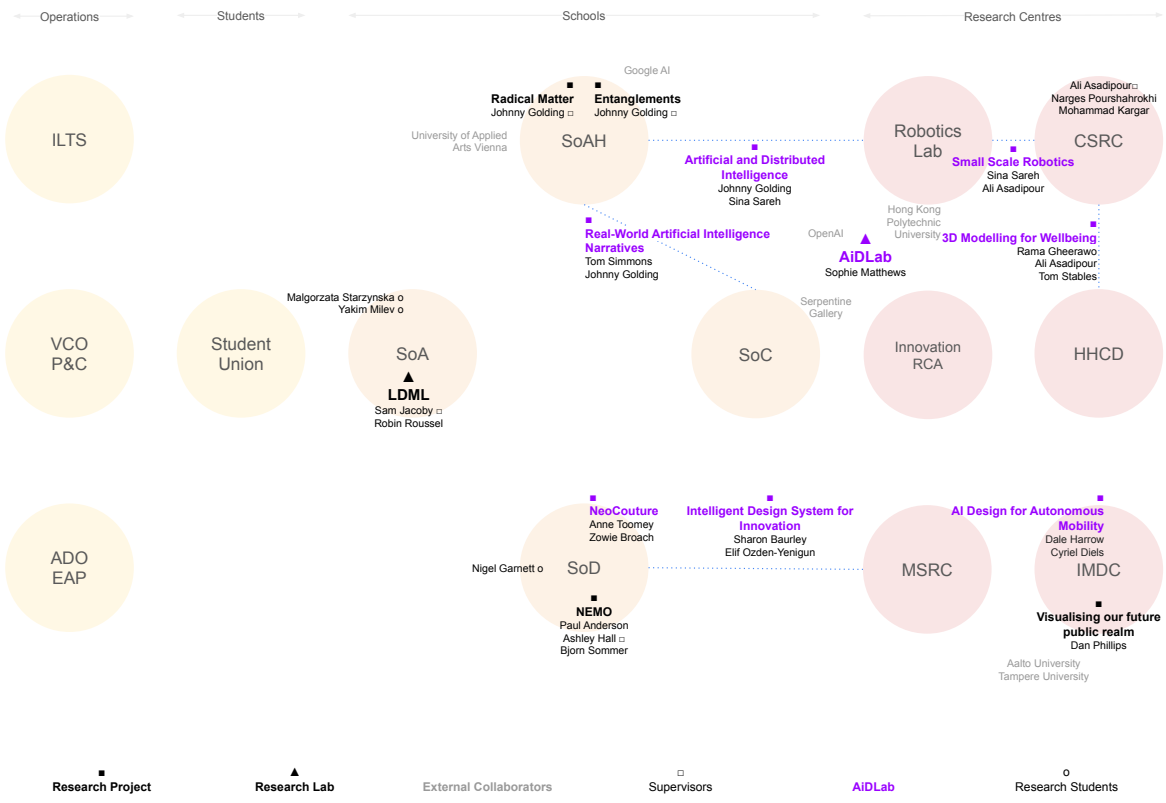
Table 14. Support received from and outside the RCA.



Map 1: AI Events and initiatives at the RCA



Map 2: AI-related teaching and learning activities at the RCA.



Map 3: AI-related research activities at the RCA.

Future Activities, Support, and Vision

When survey participants were asked what type of support they would like to see at the College, guidance on the use of AI (62%), especially related to teaching and learning, was the most common request (Table 15).

Based on the answers given to the open-ended questions[1] in our survey and the interviews, the guidance should be based on a College-wide framework that clearly defines the permitted application, purposes, and processes for using AI tools. In the workshops, the need for this guidance to be underpinned by a clear AI vision for the College was emphasised. The guidance has to specifically address the following questions:

- To what extent and when are students and staff permitted to use AI tools?
- How should the use of AI tools be declared and referenced, when does use constitute plagiarism?
- How is responsible AI practice defined, monitored, and updated?
- How will the College help protect creative work by students and staff?

What kind of support, input, or information would help you undertake or continue work that involves AI? (Select all that apply.)	n	%
General Guidance	116	62%
Taught modules or training workshop	104	56%
Software licences	95	51%
Personalised technical support	87	47%
Computing infrastructure	65	35%
Cloud credits	61	33%
Network	1	1%
Time	1	1%

Table 15. What kind of support, input, or information would help you undertake or continue work that involves AI? (Select all that apply.)

At the same time, the guidance has to consider divided opinion on the use of generative AI tools in coursework. Some strongly feel that the use of generative AI should be restricted or that it has no place in creative education. A more moderate position is that generative AI and AI in general should only be used critically and not for producing outputs. Others support a wider use of generative AI as long as it is transparent, clear, and justified. Given this spectrum of opinions, it is essential that the principles of responsible AI underpin any best practice.

For guidance to be effective, it is also important for it to be shared in a way that everyone is aware of it, knows where to find it, and can easily understand it. Currently, 59% of the College community is not aware of any AI guidance, including that available outside the College (Table 16). To successfully implement the guidance, some basic training or knowledge sharing might be required, which could be integrated into existing ethics and academic standards training.

[1] Questions: 1) If you are a student and were taught at the RCA how to use AI tools, do you have any comments or suggestions? 2) Do you have any suggestions for specific AI initiatives or projects needed at the RCA?

Have you heard of any of the following institutional guidance related to the responsible use of AI?	n	%
No	111	59%
Recommendation on the ethics of AI (UNESCO)	43	23%
Understanding AI ethics and safety (Alan Turing Institute)	38	20%
OECD AI Principles (OECD.AI)	22	12%
The ethical framework for AI in education (The Institute for Ethical AI in Education)	18	10%
Guidelines for secure AI system development (UK National Cyber Security Centre)	19	10%
Making AI art responsibly: A field guide (Partnership on AI)	16	9%
Algorithmic impact assessment: User guide (Ada Lovelace Institute)	13	7%

Table 16. Have you heard of any of the following institutional guidance related to the responsible use of AI?

After the request for AI guidance, respondents asked for taught modules or training workshops (56%). The training sought is not just technical but covers a range of approaches, including:

- Ethical considerations;
- software and application training;
- an overview of the inner workings of AI;
- Coding.

In addition to these two requests, 47% of respondents wanted personalised technical support. Training was sought not only by students but also by academic and non-academic staff. During our workshops, we discussed how this training might be delivered. The different suggestions can be summarised as:

- AI training should be divided into levels with different types of support for each level (Figure 7).
- Basic AI training should be provided centrally for all students, for example:
    - as part of the orientation and induction week
    - as part of AcrossRCA courses on methods
    - as part of a Moodle training
    - as part of centre-led specialist events and seminars
    - as a credit-bearing course.
- Staff, in particular, student-facing and admission staff, should receive basic AI training, similar to other mandatory training modules to help assess applications.
- AI training on the use of tools should be specific to programmes.
- Support for advanced AI training (technical, critical studies, etc.) could be tailored to individual needs, for example for PhD students and staff.

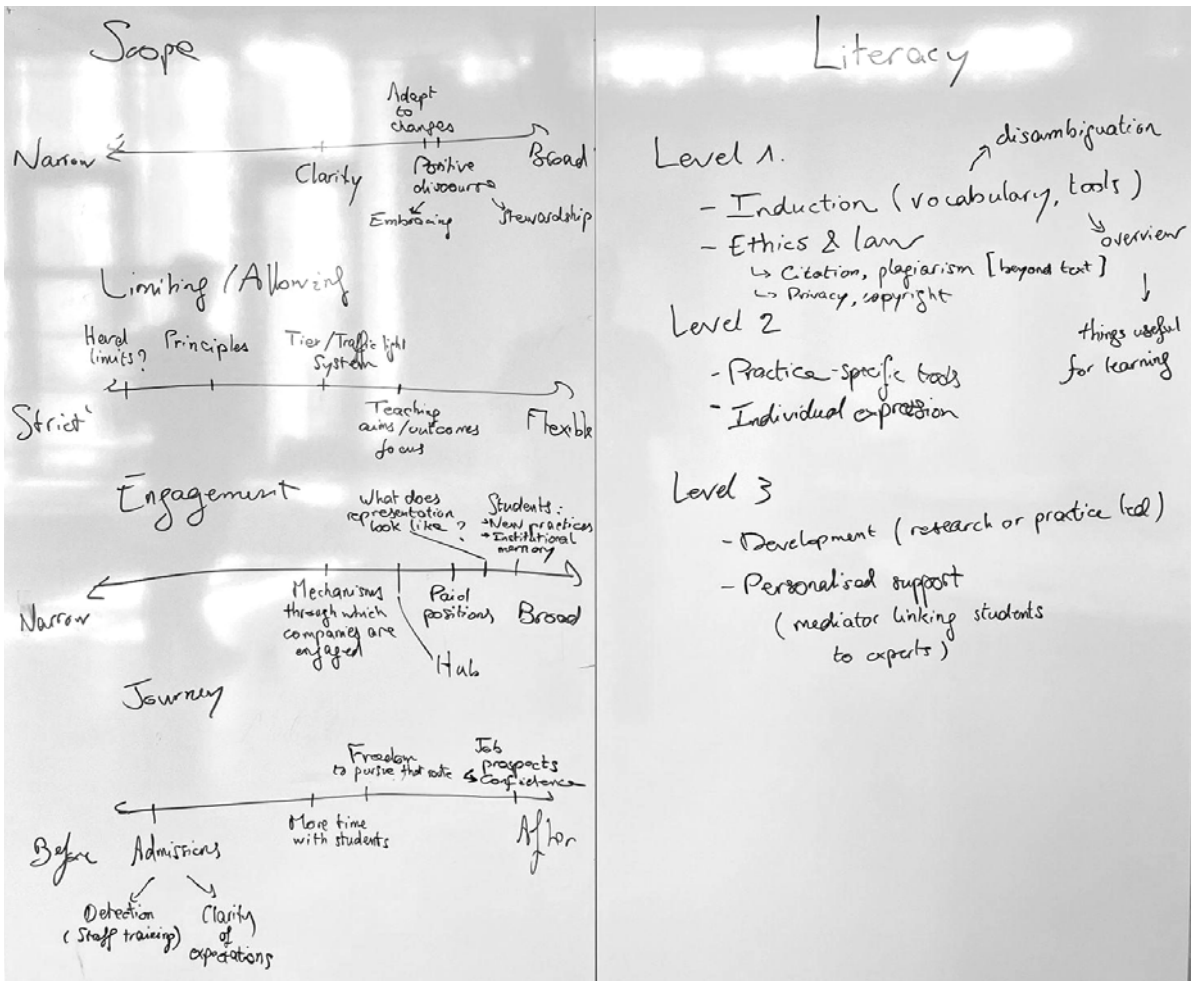


Figure 7. Workshop on AI training at the RCA

The survey and workshops highlighted the importance of complementing guidance and training with regular activities to increase awareness of critical ethical issues related to AI as well as of others working on similar or related issues. In addition, throughout open-ended questions and interviews, both staff and students emphasised the need for more structured discussions and debates on AI addressed to the whole College, which would also present opportunities to showcase already existing expertise and research within the RCA.

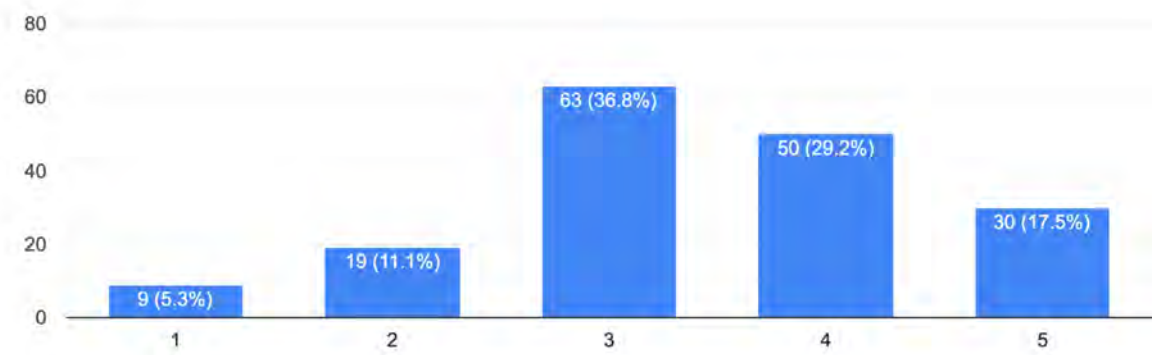


Figure 8. To what extent should the RCA be involved in monitoring and overseeing the use of AI among its staff and students? (1: Not at all, 5: Completely)

Infrastructure needed for experimenting with large AI models is currently only available to small research groups or centres. General knowledge of AI activities and resources overall are still low, with interests in AI scattered across the College. This has resulted in the duplication or underutilisation of computational resources. Access to AI tools, such as image generation tools, also increasingly require subscriptions, preventing wider access.

During the workshops, various possibilities to integrate AI more effectively and visibly across the College were discussed (Figure 9). The key proposal was the creation of a cross-College AI interest group, which should include an advisory board made up of internal and external experts as well as staff and students. The interest group could centralise and curate AI activities in the College and potentially be managed by a dedicated staff member. The advisory board could, in collaboration with existing committees and representatives of key stakeholders, lead on the development of College-wide AI policy, regulations, and guidance. It could also, together with the RCA community, formulate a vision or position statement and principles of use that show thought leadership in the sector, specifically on the role of AI in creative education, practice, and research. One suggestion was that this vision could focus rather on the role of individual creatives than the creative industry, for instance, by being aligned with the Creators' Rights Alliance. Other possible alignments could be with the agendas of the Partnership on AI, the Trustworthy Autonomous Systems Hub, and Responsible AI UK.

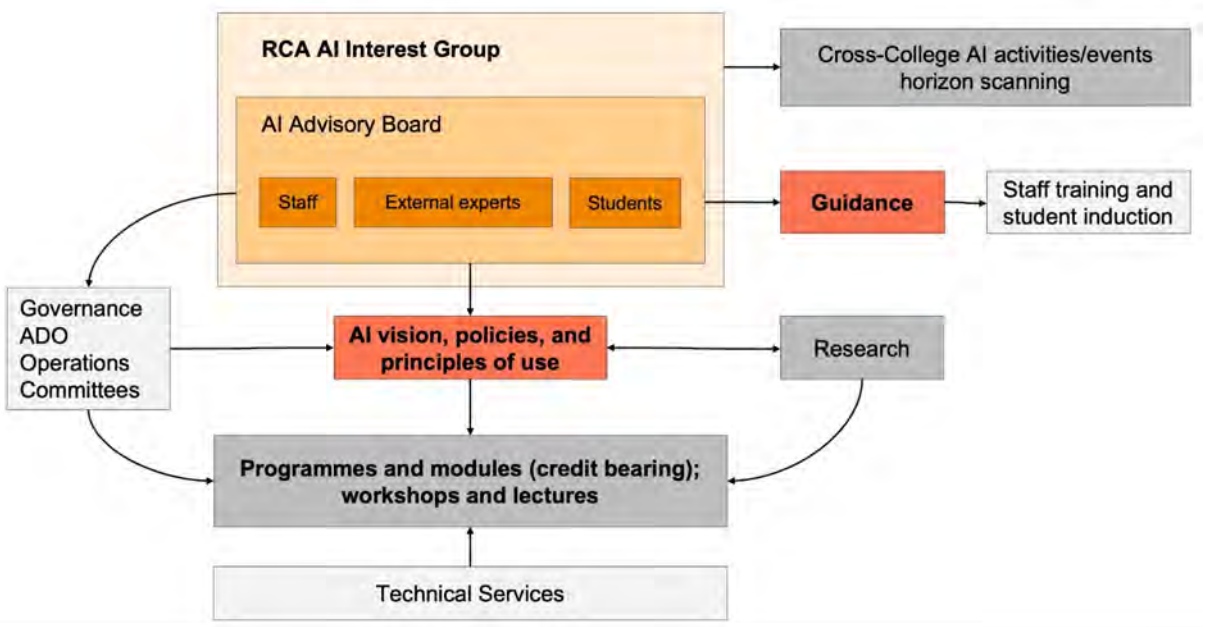


Figure 9. Possible RCA AI implementation diagram from workshops

Participants also suggested establishing an network of AI experts to support student projects and PhD-level recruitment and supervision. This network, made up of existing staff members, would require inclusion in workforce planning or additional fractional appointments.

To provide technical support, it was suggested that AI training and resourcing is either directly linked to credit-bearing units at programme level or through shared modules such as AcrossRCA, which would enable an effective way for Technical Services to include the necessary support in their planning. Other discussed options were training through formal inductions or workshops and lectures for students and staff. This will require programme or module level mapping of AI needs and skills to determine what AI-related training and teaching is needed. There was wide consensus that all students should have at least a basic understanding of responsible AI concepts and practices and be able to access good practice recommendations.

5. Recommendations

Overall, the findings show the great need for the RCA to develop policies, guidance, and activities related to AI in order to allay concerns, improve teaching, learning, and research, and assume leadership in AI in art and design. The following recommendations are based on themes and issues identified from the desk research and survey, which were further discussed in the interviews and workshops.

5.1. Develop a clear AI strategy

AI Vision

The RCA should take a leadership role in the sector by developing a vision on the use of AI specific to creative practice, education, and research.

All AI activity and adoption in the College should be informed by a clear AI vision. In the workshops, the need for guiding principles or tenets were discussed that show thought leadership on AI's role in creative education, practice, and research that can support a model of responsible AI in art and design that recognises the importance of creative human agency and labour. The RCA community should be engaged throughout when developing this vision to ensure it not only meets the College's strategic plans but also the needs and expectations of staff and students at the RCA.

Governance and Horizon-scanning

In order to keep its position relevant, the College should also equip itself with the means to stay informed and flexible, as well as ensure buy-in from the RCA community. This involves:

1. Developing a strong governance structure to support the coherent and shared implementation of its AI vision, as well as regularly review policies and guidance for research, teaching, and operations.
2. Improving its horizon-scanning capability to follow and anticipate shifting technological, industrial, and regulatory landscapes by bringing together experts to report on these changes (for instance, utilising the existing pool of expertise at the College).
3. Setting up initiatives to engage the RCA community and better understand changing needs and expectations. These could range from running surveys to conducting more in-depth research on how AI use affects staff and student work. Additionally, encouraging participation in decision-making processes and creating new leadership roles across the institution, e.g., AI Lead in different parts of the College.

The workshops discussed possible ways to implement wider AI adoption across the College (Figure 9). Suggestions included:

- Creating a cross-College AI interest group and AI advisory board, which could take on different forms, including:

- An Institute for Responsible AI undertaking both research and education and building partnerships with institutions and industry (similar to Stanford's Institute for Human-Centered AI).
- A Community of Responsible AI Practice involving both staff and students and organising regular meetings to share best practices, facilitate collaborations and organise public events, create new knowledge, and discuss topics of concern.
- A Responsible AI Expert Network to support student projects and supervision as well as providing an advisory board to the College.

These suggested structures of engagement are neither mutually exclusive nor exhaustive and should form a multilevel deliberative body at the College. Regardless of the chosen organisation, the workshop discussions emphasised the need for some dedicated and paid positions to ensure the longevity and quality of the initiatives.

5.2. Provide support for staff and students

Guidance

A significant number of UK HE institutions have already produced some guidance on the use of AI tools by staff and students. The RCA needs to urgently write its own clear, comprehensive, and inclusive guidance that takes into account the specificities of creative education and practice. Several aspects of this guidance were discussed during the workshops:

Scope
Rather than simply focusing on policies, the guidance should also provide the necessary definitions and knowledge to understand them, outlining opportunities and concerns, and offering examples of use and best practices (e.g., declaring the use of AI in submissions). Guidance should be specific to different audiences such as students, educators, researchers, supervisors, staff responsible for communications and operations, prospective students submitting portfolios, or staff involved in recruitment or the evaluation of various applications (students, tenders, funding, etc.). Examples of relatively broad guidance can be found at the universities of Glasgow and Leeds (Table 2).

Guidelines and policies
AI use could be guided by varying levels of flexibility, ranging from hard rules to general principles to frameworks. For instance, the College could define hard rules around information security and plagiarism, while using a traffic light system (from red – no AI – to green – AI use encouraged) for teachers to indicate their expectations in assessments. Additionally, AI use could be explicitly tied to teaching outcomes. Processes for AI in research could be developed, requiring researchers to reflect on the potential consequences of using AI as part of the ethics approval process.

Engagement
The RCA should be as inclusive as possible in the writing of this guidance, involving both staff and students from various backgrounds and exploring different means of dissemination

to ensure full community buy-in. While most universities provide their guidance online, the workshop participants also mentioned the inclusion of such guidelines in student induction or staff training. Another option is to enlist the help of the Student Union to write guidance and advice from the perspective of students.

Literacy

The pedagogy workshop discussed the different levels of AI literacy that could be provided (or expected) within the College:

1. **Baseline**: The minimum knowledge that students and staff are expected to have about using AI tools responsibly and compliant with academic policies. This information should be accessible online and could be included as part of mandatory student and staff training.
    a. Definitions: Basic AI literacy is essential to understanding the guidance and helping staff and students engage in more informed discussions.
    b. General purpose tools: Given that a significant proportion of staff and students already use chatbots and translation tools for their daily tasks, they could receive basic training on their responsible and critical use, as well as ways in which AI tools can support their work and learning. Rather than focusing on what is not permitted, it might be more effective to show students how AI can be used effectively and positively as a tool within a larger, creative process.
    c. Information security: An important part of this guidance should be on information security, such as what is provided by the universities of Oxford and Lancaster, to ensure that staff and student use does not expose the RCA to security breaches.
    d. Ethics, law, and society: A basic understanding of the ethical and legal vocabulary and issues surrounding the most common AI tools should be provided to help staff and students decide how much they can rely on AI tools and encourage them to participate in College-wide conversations. While not every student needs to 'upskill' and integrate AI tools into their practice, an overview on the way AI is impacting the creative fields would help to lower some students' uncertainties about the future.

2. **Practice**: This level could be integrated in existing units and modules, or offer workshops for students or researchers who intend to actively use AI tools in their work. While many of these uses are specific to certain disciplines or crafts, some cross-cutting applications may be taught in College-wide offerings such as AcrossRCA or Academic Skills.
    a. Practice-specific tools: This literacy will vary significantly across Schools. Some disciplines may focus more on the outputs of AI tools, while others may be more interested in the process of co-creation and personalisation. Beyond the responsible use of AI tools, this teaching could also involve a deeper understanding of the impacts of AI tools on users and society, especially for staff and students involved in designing products that rely on AI. Given the rapidly changing landscape of AI tools and technologies, this knowledge

should not only follow existing industry practices but also be supported by workshops where students and educators learn together.

b. Research: This literacy involves the knowledge and critical use of AI tools for research. More broadly, it could include training on AI tools that support academic skills or data analysis, such as those used for literature reviews, article summarisation, interview transcription, and chart generation.

3. **Expertise**: This level is tailored for researchers, doctoral students, and postgraduate students with a specific interest in AI as a research field and/or technology. While some of this literacy can be acquired through self-study, the College could explore partnerships with other higher education institutions (building on existing partnerships such as with Imperial) to provide staff and students access to the necessary curriculum.
    a. Software/hardware: This technical literacy involves an understanding of the inner workings of AI systems (including statistics and computer science) as well as coding skills in order to develop new AI tools or conduct a technical analysis of existing tools.
    b. Humanities: This kind of literacy is more social, ethical, and historical, equipping learners with the necessary knowledge to conduct work in fields such as science and technology studies, AI ethics, and critical studies of AI.

Infrastructure and Technical Support

Current AI tools range from plugins that are integrated into established software to experimental libraries requiring significant expertise. Using these tools involve very different computing power, cost, security, and technical support. This diversity is reflected in the survey results: 51% of respondents needed software access, with a further 33% and 35% requesting cloud credits and computing infrastructure. By better sharing resources and knowledge of existing infrastructure, hardware duplication and underutilisation could be prevented.

Different options for support are available: enterprise accounts could be subscribed to for specific software, cloud credits could be offered to staff and students on a per-project or per-course basis, partnerships could be built with other universities to access their computing resources, or computing hardware could be purchased and managed directly by IT.

While this report emphasises the need for these resources, investments should align with the actual (and predicted) use of AI at the RCA. Hardware and software requirements need to be regularly reviewed and quantified in order to determine the changing College-level infrastructure and support required. One way to facilitate this planning within existing frameworks at the College would be to link service provisions to programme-level credit-bearing units or modules (existing or new) (Figure 9). However, there is also a need for more general access technical workshops and drop-in sessions as well as connecting students with specific requests to internal or external experts.

5.3. Foster knowledge sharing and collaboration

Conversations on AI

The College should encourage more conversations and debates around the responsible use of AI in art and design and its impact (positive and negative) on the world. It should communicate both internally and externally, more on the teaching and research already happening around AI at the RCA, and actively promote the uniquely valuable perspective of artists and designers in the global conversation on AI.

Staff and students should have opportunities to showcase their work alongside internationally recognised creatives who engage with AI. Additionally, academics from diverse fields such as computer science and digital humanities should be invited to present their work and inspire staff and students. These activities can include lectures, workshops, symposia (e.g., an annual Responsible AI Symposium), or exhibitions. The College should further promote global, intercultural, and decolonial perspectives on AI.

AI Hub

The College should consider creating a directory of ongoing AI activities to support connections between Centres, Schools, students, and staff, e.g. through the PURE system that it is already implementing. A more specific and advanced version of this directory could be a Github-style platform where users are able to share code, data, AI models, and documents with the whole College or specific teams, as long as sharing this content aligns with existing policies. This platform would be a repository of community knowledge and resources that could include both technical and non-technical projects, and allow users to discover related works and initiate collaborations.

Connections

A surprising finding of this study is the limited awareness among staff and students about AI activities at the College beyond their own group or department. Current initiatives aimed at fostering communities of interest are scattered and informal. Meanwhile, student initiatives like the RCA AI Lab may struggle to sustain themselves without formal support from the College, especially given the one-year MA programme structure, which makes it challenging to pass on knowledge between different student cohorts.

The creation of a College-wide AI interest group and AI advisory board that were suggested in our workshops can make AI adoption in the College better connected and governed (Figure 7). The advisory board, composed of staff, student representatives, and external experts could be responsible for developing essential guidelines, such as principles or policies for AI use in the College, and enhancing horizon-scanning capabilities. Whatever the chosen organisation and structure to support greater AI guidance, implementation, and development may be, it should engage the RCA community and be well integrated within existing College structures and processes.

6. Acknowledgements

We would like to thank Dr Emma Wakelin and the RCA Research, Knowledge Exchange & Innovation Office for supporting this study through the RKE Strategic Investment Fund.

We would also like to thank Angela Applegate for library data, Sophie Matthews for AiDLab data; Cathy Ryan and Ana Cristina Camarero Fernandez for data on the College population; Siân Lund and Katy Rose Thomas for involving us in their workshop; Thomas Cury and Halimo Hussain from the Student Union; Paul Baule and Maria Joseph from the RCA AI Lab for sharing their work and supporting this research; and Prof David Leslie (The Alan Turing Institute and Queen Mary University of London), Dr Oonagh Murphy (Goldsmiths, University of London), and Dr Stephen Law (University College London) for providing their expert feedback on the report draft in the final workshop.

We thank all the participants from the RCA in the survey, interviews, and workshops for their time and generous contributions.

7. References

Avellan, T., Sharma, S., & Turunen, M. (2020). AI for all: Defining the what, why, and how of inclusive AI. *Proceedings of the 23rd International Conference on Academic Mindtrek*, 142–144. https://doi.org/10.1145/3377290.3377317

Briggs, J., & Kodnani, D. (2023). *The Potentially Large Effects of Artificial Intelligence on Economic Growth*. Goldman Sachs & Co. LLC. https://www.gspublishing.com/content/research/en/reports/2023/03/27/d64e052b-0f6e-45d7-967b-d7be35fabd16.html

Capel, T., & Brereton, M. (2023). What is Human-Centered about Human-Centered AI? A Map of the Research Landscape. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, 1–23. https://doi.org/10.1145/3544548.3580959

Casal-Otero, L., Catala, A., Fernández-Morante, C., Taboada, M., Cebreiro, B., & Barro, S. (2023). AI literacy in K-12: A systematic literature review. *International Journal of STEM Education*, *10*(1), Article 1. https://doi.org/10.1186/s40594-023-00418-7

Center for Security and Emerging Technology, Murdick, D., Dunham, J., & Melot, J. (2020). *AI Definitions Affect Policymaking*. Center for Security and Emerging Technology. https://doi.org/10.51593/20200004

Center for Security and Emerging Technology, Rudner, T., & Toner, H. (2021). *Key Concepts in AI Safety: An Overview*. Center for Security and Emerging Technology. https://doi.org/10.51593/20190040

Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, *20*(1), Article 1. https://doi.org/10.1186/s41239-023-00408-3

Constantinescu, M., Voinea, C., Uszkai, R., & Vică, C. (2021). Understanding responsibility in Responsible AI. Dianoetic virtues and the hard problem of context. *Ethics and Information Technology*, *23*(4), 803–814. https://doi.org/10.1007/s10676-021-09616-9

Crawford, K. (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence*. Yale University Press.

CVL Economics. (2024). *Future Unscripted: The Impact of Generative AI on Entertainment Industry Jobs*.

Department for Science, Innovation & Technology. (2023). *Capabilities and risks from frontier AI*.

Dignum, V. (2019). *Responsible Artificial Intelligence: How to Develop and Use AI in a Responsible Way*. Springer International Publishing. https://doi.org/10.1007/978-3-030-30371-6

Dignum, V. (2021). The role and challenges of education for responsible AI. *London Review of Education*, *19*(1). https://doi.org/10.14324/LRE.19.1.01

European University Association. (2023). *Artificial intelligence tools and their responsible use in higher education learning and teaching*. https://eua.eu/resources/publications/1059:artificial-intelligence-tools-and-their-responsible-use-in-higher-education-learning-and-teaching.html

Freiman, O. (2023). Making sense of the conceptual nonsense 'trustworthy AI.' *AI and Ethics*, *3*(4), 1351–1360. https://doi.org/10.1007/s43681-022-00241-w

High-Level Expert Group on Artificial Intelligence. (2019). *Ethics guidelines for trustworthy AI*. European Commission. https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai

Huang, C., Zhang, Z., Mao, B., & Yao, X. (2023). An Overview of Artificial Intelligence Ethics. *IEEE Transactions on Artificial Intelligence*, *4*(4), 799–819. https://doi.org/10.1109/TAI.2022.3194503

Institute for Ethical AI in Education. (2021). *The Ethical Framework for AI in Education*. University of Buckingham. https://www.buckingham.ac.uk/research/research-in-applied-computing/the-institute-for-ethical-ai-in-education/

Intelligent (2023). One-Third of College Students Used ChatGPT for Schoolwork During the 2022-23 Academic Year. https://www.intelligent.com/one-third-of-college-students-used-chatgpt-for-schoolwork-during-the-2022-23-academic-year/
Jakesch, M., Buçinca, Z., Amershi, S., & Olteanu, A. (2022). How Different Groups Prioritize Ethical Values for Responsible AI. *2022 ACM Conference on Fairness, Accountability, and Transparency*, 310–323. https://doi.org/10.1145/3531146.3533097
Lazar, S., & Nelson, A. (2023). AI safety on whose terms? *Science*, *381*(6654), 138–138. https://doi.org/10.1126/science.adi8982
Leibowicz, C., Saltz, E., & Coleman, L. (2021). Creating AI Art Responsibly: A Field Guide for Artists. *Revista Diseña*, *19*. https://doi.org/10.7764/disena.19.Article.5
Leslie, D. (2019). *Understanding artificial intelligence ethics and safety: A guide for the responsible design and implementation of AI systems in the public sector*. Zenodo. https://doi.org/10.5281/ZENODO.3240529
Lim, J., Leinonen, T., Lipponen, L., Lee, H., DeVita, J., & Murray, D. (2023). Artificial intelligence as relational artifacts in creative learning. *Digital Creativity*, *34*(3), 192–210. https://doi.org/10.1080/14626268.2023.2236595
Lindgren, S. (Ed.). (2023). *Handbook of critical studies of artificial intelligence*. Edward Elgar Publishing.
Microsoft Corporation. (2022). *Microsoft Responsible AI Standard—General Requirements* (Version 2). https://blogs.microsoft.com/wp-content/uploads/prod/sites/5/2022/06/Microsoft-Responsible-AI-Standard-v2-General-Requirements-3.pdf
Münster, S., Maiwald, F., Di Lenardo, I., Henriksson, J., Isaac, A., Graf, M. M., Beck, C., & Oomen, J. (2024). Artificial Intelligence for Digital Heritage Innovation: Setting up a R&D Agenda for Europe. *Heritage*, *7*(2), 794–816. https://doi.org/10.3390/heritage7020038
Nabizadeh Rafsanjani, H., & Nabizadeh, A. H. (2023). Towards human-centered artificial intelligence (AI) in architecture, engineering, and construction (AEC) industry. *Computers in Human Behavior Reports*, *11*, 100319. https://doi.org/10.1016/j.chbr.2023.100319
Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, *2*, 100041. https://doi.org/10.1016/j.caeai.2021.100041
Office for Artificial Intelligence. (2021). *National AI Strategy* (E02674508). https://www.gov.uk/government/publications/national-ai-strategy/national-ai-strategy-html-version
Owen, R., Stilgoe, J., Macnaghten, P., Gorman, M., Fisher, E., & Guston, D. (2013). A Framework for Responsible Innovation. In Responsible Innovation (pp. 27–50). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118551424.ch2
Parra, D., & Stroud, S. R. (2023). *The Ethics of AI Art*. https://mediaengagement.org/research/the-ethics-of-ai-art/
Piskopani, A. M., Chamberlain, A., & Ten Holter, C. (2023). Responsible AI and the Arts: The Ethical and Legal Implications of AI in the Arts and Creative Industries. *Proceedings of the First International Symposium on Trustworthy Autonomous Systems*, 1–5. https://doi.org/10.1145/3597512.3597528
Royal Institute of British Architects. (2024). *RIBA Artificial Intelligence Report*. https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-ai-report-2024
Russell Group. (2023). *Russell Group principles on the use of generative AI tools in education*. https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/
Salles, A., Evers, K., & Farisco, M. (2020). Anthropomorphism in AI. AJOB Neuroscience, 11(2), 88–95. https://doi.org/10.1080/21507740.2020.1740350
Samoili, S., López Cobo, M., Gómez, E., De Prato, G., Martínez-Plumed, F., & Delipetrev, B. (2020). *AI Watch. Defining Artificial Intelligence. Towards an operational definition and*

taxonomy of artificial intelligence. (EUR 30117 EN). Publications Office of the European Union. https://data.europa.eu/doi/10.2760/382730
Suchman, L. (2023). The uncontroversial 'thingness' of AI. *Big Data & Society*, *10*(2), 20539517231206794. https://doi.org/10.1177/20539517231206794
UNESCO. (2021). *AI and education: Guidance for policy-makers*. UNESCO. https://doi.org/10.54675/PCSP7350
Wang, B., Rau, P.-L. P., & Yuan, T. (2022). Measuring user competence in using artificial intelligence: Validity and reliability of artificial intelligence literacy scale. *Behaviour & Information Technology*, *42*(9), 1324–1337. https://doi.org/10.1080/0144929X.2022.2072768
Watson, D. (2019). The Rhetoric and Reality of Anthropomorphism in Artificial Intelligence. *Minds and Machines*, *29*(3), 417–440. https://doi.org/10.1007/s11023-019-09506-6
Xing, X., Shi, F., Huang, J., Wu, Y., Nan, Y., Zhang, S., Fang, Y., Roberts, M., Schönlieb, C.-B., Del Ser, J., & Yang, G. (2024). When AI Eats Itself: On the Caveats of Data Pollution in the Era of Generative AI (arXiv:2405.09597). arXiv. https://doi.org/10.48550/arXiv.2405.09597