

Integrating AI and Human Careers Guidance in Higher Education



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Executive summary

Artificial Intelligence (AI) is rapidly reshaping higher education careers services, with students increasingly using generative AI tools for applications, interview preparation, career research, and employability development^{1,2}. At the same time, careers professionals are navigating significant uncertainty regarding how AI can be integrated ethically, effectively, and in ways that preserve the relational foundations of careers guidance.

This practitioner-led research explored how AI can be optimally integrated with human careers guidance for maximum effectiveness in higher education careers services. The project investigated careers professionals' perceptions of AI, current patterns of adoption across careers services, and the opportunities and risks associated with AI integration.

The study used a qualitative methodology based on semi-structured interviews with eleven careers professionals working across UK higher education institutions. Participants represented a broad spectrum of AI engagement, from early adopters embedding AI into service delivery to more cautious practitioners still evaluating its role.

Participants consistently viewed AI as highly effective for transactional tasks such as CV drafting, interview preparation, labour market analysis, and resource creation. However, they also emphasised that the relational and developmental aspects of careers guidance – including empathy, reflective dialogue, contextual understanding, and ethical judgement – remain fundamentally human-centred.

Importantly, the findings suggest that the most effective approach is not an “AI versus human” model, but a blended human-in-the-loop approach in which AI enhances efficiency and accessibility while practitioners retain responsibility for interpretation, contextualisation, and ethical oversight.

The project culminated in the development of a practical “Working with AI in Careers Guidance Toolkit”, designed to support careers professionals and services in navigating AI integration responsibly. The toolkit includes practitioner personas, implementation guidance, ethical considerations, case studies, and reflective prompts designed to support progressive and context-sensitive adoption.

Overall, the research contributes to a growing body of practitioner-led work exploring AI within higher education careers services. It highlights the importance of balancing innovation with professional values and demonstrates that effective AI integration depends as much on institutional culture, staff development, and ethical governance as it does on the technology itself.

Key findings

Careers professionals consistently view AI as highly effective for transactional tasks such as CV drafting, interview preparation, labour market analysis, and resource generation.

Participants emphasised that relational and developmental aspects of careers guidance remain fundamentally human-centred.

Trust in AI outputs is conditional, with practitioners positioning AI as a starting point that requires professional review and contextualisation.

AI adoption varies significantly across institutions, ranging from embedded service-wide integration to cautious experimentation.

Institutional support, governance, and staff confidence strongly influence AI adoption.

Participants identified significant opportunities relating to scalability, efficiency, and AI literacy development.

Concerns centred on authenticity, skill erosion, equity of access, data protection, and over-reliance on AI.

The findings support a blended guidance model in which AI enhances practice while practitioners retain responsibility for ethical oversight, interpretation, and relational guidance.

Introduction

Artificial intelligence has moved rapidly from a speculative topic within higher education careers services to an everyday reality. Generative AI tools are now widely accessible to students and graduates, who increasingly use them to support applications, career research, interview preparation, and employability development. Recent evidence suggests that AI use among university students is now close to universal¹, with many students viewing AI capability as an essential employability skill³.

For Careers Services, this presents both an opportunity and a challenge:

- On one hand, AI offers considerable potential to improve scalability, responsiveness, and accessibility within careers guidance⁴. AI-powered tools can rapidly analyse job descriptions, generate tailored interview questions, provide application feedback, and summarise labour market information. These capabilities have the potential to support increasingly stretched services while enabling students to access guidance at any time.
- On the other hand, careers guidance has traditionally been grounded in human-centred and relational principles⁵. Effective guidance involves far more than the transmission of information; it includes empathy, reflective dialogue, contextual understanding, confidence-building, and meaning-making. These aspects of guidance are difficult to replicate through automated systems.

This tension between innovation and relational practice formed the starting point for this research project.

Why this research matters

The rapid emergence of generative AI has created a significant moment of transition for careers services. Students are already using AI extensively in employability-related activities, often ahead of institutional policy and practice. Careers professionals are therefore increasingly expected to support students in navigating AI use responsibly while also deciding how AI should be incorporated into their own service delivery.

Despite the speed of change, there remains relatively limited practitioner-led research exploring how AI is experienced within higher education careers guidance. Much of the existing discussion has focused either on the technical capabilities of AI or on broader sector-level commentary.

This project sought to address that gap by exploring the experiences and perspectives of careers professionals themselves. The research also aimed to contribute practical value to the sector by developing a toolkit that careers services can use to support ethical and effective AI integration.

The study was undertaken as part of the MA in Careers Education, Information and Guidance in Higher Education at the University of Warwick and funded through the Jisc Careers Research Grant. The project explored how careers professionals understand and experience AI within their practice and sought to identify what an effective blended model of AI-enhanced careers guidance might look like.

Aim and objectives

AIM

The aim of this research was to explore how artificial intelligence can be optimally integrated with human careers guidance for maximum effectiveness within higher education careers services.

OBJECTIVES

- Explore careers advisers' perceptions of the effectiveness, value, and limitations of AI within careers guidance.
- Identify how careers professionals are currently integrating AI tools into their practice.
- Examine the opportunities and challenges associated with AI integration.
- Develop a practical toolkit to support ethical and effective blended guidance practice.

RESEARCH QUESTIONS

- How do careers advisers perceive the effectiveness of AI-based careers guidance compared to traditional human interaction?
- What approaches are currently being used by careers professionals to integrate AI tools into practice?
- What challenges and opportunities do careers professionals encounter when integrating AI into careers guidance?

If we want students to use GenAI well, we have to teach it like a careers skill, not a tech trick.⁵

Literature review

Careers guidance has traditionally been grounded in person-centred approaches that emphasise empathy, reflective dialogue, and the importance of human relationships in supporting career decision-making^{6,7}. However, the rapid growth of artificial intelligence (AI) is reshaping higher education careers services and creating new opportunities and challenges for practitioners.

The literature highlights the increasing digitalisation of careers services, accelerated significantly by the COVID-19 pandemic, which led many institutions to adopt virtual appointments, online resources, and self-service careers platforms⁸. AI-powered tools such as CV reviewers, career matching systems, labour market analysis platforms, and generative AI chatbots are now becoming increasingly common within employability support⁹. Researchers suggest these technologies can improve accessibility, scalability, and efficiency within careers services, particularly as student expectations shift towards immediate and flexible support⁴.

Student use of AI is now widespread. Stephenson and Armstrong¹ found AI use among undergraduates to be “near universal”, while Marris² reported substantial student engagement with AI for CV writing, applications, and interview preparation. Students increasingly view AI literacy as an important employability skill³. However, studies also suggest students continue to value personalised feedback and human interaction alongside AI tools¹⁰.

While the literature identifies clear benefits of AI for structured and data-intensive tasks, significant limitations are also highlighted. AI systems often lack empathy, contextual understanding, and cultural sensitivity. Algorithmic systems may reproduce bias and inequitable outcomes, as cautioned by Wang et al.¹¹, while Proctor¹² argues that AI should support rather than replace professional careers guidance.

The literature also explores the implications for professional identity and practice. Careers professionals are increasingly expected to act as facilitators and critical interpreters of AI-generated content, requiring new forms of digital literacy and ethical awareness¹³. Hughes and Percy¹⁴ advocate for a “human-centred, AI-enhanced” model that preserves the relational nature of guidance while utilising AI to enhance efficiency and accessibility.

Overall, the literature suggests that the most effective approach is likely to be a blended model in which AI complements, rather than replaces, human careers guidance.

We don't want to be dinosaurs, though. I think we really need to support students to use it and use it effectively. We know that they're using it.

Research participant

Methodology

The study adopted a qualitative, interpretivist methodology in order to explore the lived experiences and perspectives of careers professionals working within higher education.

Semi-structured interviews were conducted with eleven careers professionals from UK higher education institutions. Participants represented a broad range of:

- Institutional contexts
- Levels of professional experience
- Degrees of AI engagement
- Service models

Some participants described themselves as enthusiastic early adopters of AI, while others remained more cautious or sceptical.

Interviews explored:

- Perceptions of AI effectiveness
- Current patterns of AI use
- Concerns and opportunities associated with AI integration
- Professional identity and changing practice
- Institutional support and governance

Data was analysed using reflexive thematic analysis. Through iterative coding and analysis, eight key themes emerged across the dataset:

- AI as efficient but transactional
- Relational guidance remains human-centred
- Reliability, trust and preservation of professional judgement
- The spectrum of engagement
- Current operating models
- Opportunities for scaling, reach and service redesign
- The challenge of skill erosion
- Components of an optimal model

These themes informed the structure of the findings and the development of the “Working with AI in Careers Guidance Toolkit”.

Staff don't need the AI skill, they need the AI will. The tools will change... but if you have the AI will, you can sit down with a student and explore together.

Research participant

Findings

The findings revealed both enthusiasm and caution regarding AI integration within higher education careers services. Participants consistently described AI as a valuable enhancement tool while emphasising the continuing importance of human-centred guidance.

Eight interconnected themes emerged from the analysis:

AI AS EFFICIENT BUT TRANSACTIONAL

Participants consistently described AI as highly effective for transactional and procedural tasks within careers guidance. AI tools were commonly used to support CV drafting, interview preparation, labour market analysis, and resource creation. Many participants viewed AI as a valuable productivity tool that could save time and improve efficiency. However, participants generally regarded AI outputs as useful starting points rather than final products, emphasising the need for human refinement and contextualisation.

I use it the most for coming up with interview questions based on job descriptions.

Research participant

RELATIONAL GUIDANCE REMAINS HUMAN-CENTRED

Despite recognising the benefits of AI, participants strongly emphasised that the relational dimensions of careers guidance remain fundamentally human-centred. Empathy, reflective dialogue, trust-building, and contextual understanding were viewed as essential aspects of effective guidance that AI cannot replicate. Participants repeatedly identified empathy, contextual understanding, trust-building, and reflective dialogue as areas where human practitioners remain essential

If they've come to see a human, we honour that with a human interaction.

Research participant

RELIABILITY, TRUST AND PRESERVATION OF PROFESSIONAL JUDGEMENT

Concerns regarding reliability, accuracy, and authenticity emerged strongly across the interviews. Participants highlighted risks associated with hallucinations, misinformation, generic outputs, and loss of authentic student voice. Many stressed the importance of preserving professional judgement when using AI tools, describing AI as something that should assist rather than replace adviser expertise. Human oversight was viewed as essential to ensure outputs remained accurate, ethical, and appropriately contextualised.

Everybody's CV ends up reading the same.

Research participant

THE SPECTRUM OF ENGAGEMENT

Participants demonstrated a wide spectrum of engagement with AI. Some described themselves as enthusiastic early adopters embedding AI into workshops, appointments, and resources, while others remained cautious or sceptical due to concerns regarding ethics, data protection, and professional identity. Levels of confidence and experimentation often depended on institutional culture, access to training, and perceived organisational support.

I haven't used it myself... I'm not sure how it works.

Research participant

CURRENT OPERATING MODELS

The research identified significant variation in how careers services are currently integrating AI into practice. Some institutions had adopted embedded approaches, incorporating AI into workshops, student resources, and appointment preparation, while others used AI more selectively for administrative or content-generation tasks. Several participants described emerging "co-prompting" approaches in which advisers and students worked collaboratively with AI during guidance interactions.

We bring AI into every session – CVs, LinkedIn, job search.

Research participant

OPPORTUNITIES FOR SCALING, REACH AND SERVICE REDESIGN

Participants identified significant opportunities for AI to improve scalability, accessibility, and service reach. AI was viewed as having the potential to support increasingly stretched services by providing on-demand assistance and freeing adviser time for more complex or developmental guidance work. Some participants also suggested that AI could support wider service redesign by creating new touchpoints for students who may not traditionally engage with careers services.

AI helps us focus on the complex stuff; it deals with the grunt work.

Research participant

THE CHALLENGE OF SKILL EROSION

Concerns about over-reliance on AI and potential skill erosion were raised frequently. Participants worried that students may become overly dependent on AI-generated content, reducing opportunities for critical reflection, self-awareness, and independent skills development. Several participants expressed concern that excessive AI use could lead to homogenised applications and weaker understanding of personal strengths and experiences.

Students lose the ability to analyse their own skills if they use AI for everything.

Research participant

COMPONENTS OF AN OPTIMAL MODEL

Participants consistently supported a blended “human-in-the-loop” model of careers guidance. This approach positioned AI as a supportive enhancement tool while maintaining human responsibility for ethical oversight, interpretation, relational guidance, and contextual understanding. Participants emphasised that effective AI integration requires clear governance, staff development, student AI literacy, and a continued commitment to person-centred guidance values.

It's not going to replace the human; it can complement what we do.

Research participant

Conclusion

This research explored how AI can be effectively integrated alongside human careers guidance within higher education careers services.

The findings demonstrate that careers professionals largely perceive AI as a valuable enhancement tool rather than a replacement for human guidance. AI was viewed as particularly effective for transactional and procedural tasks such as drafting, resource creation, interview preparation, and labour market analysis. However, participants consistently identified the relational and developmental dimensions of guidance as fundamentally human-centred.

The research highlights the emergence of a blended “human-in-the-loop” approach in which AI supports efficiency and accessibility while practitioners retain responsibility for interpretation, ethical oversight, contextualisation, and reflective dialogue.

The study also demonstrates that successful AI integration depends not only on technological capability but also on organisational culture, staff confidence, governance structures, and institutional support. Concerns relating to authenticity, equity, data protection, and skill erosion remain significant and require careful consideration.

Overall, the findings suggest that the future of careers guidance is likely to involve increasingly hybrid models of practice in which AI complements, rather than replaces, professional expertise. The challenge for the sector is therefore not *whether* AI should be used within careers guidance, but *how* it can be integrated in ways that remain ethical, inclusive, and fundamentally human-centred.

As a Service to then not [use AI] just seems to me like a much quicker road to irrelevance and extinction than a world where it's being used.

Research participant

THE WORKING WITH AI IN CAREERS GUIDANCE TOOLKIT

A practical “Working with AI in Careers Guidance Toolkit” was developed as a key outcome of this research. Informed directly by the findings, the toolkit supports careers professionals in integrating AI ethically and effectively while maintaining the human-centred principles of careers guidance.

The toolkit includes practitioner personas, case studies, reflective prompts, ethical guidance, and practical recommendations for implementing blended “human-in-the-loop” approaches within higher education careers services.

The toolkit is available online via the QR code and at:
www.abdn.ac.uk/uploads/careers/resources/documents/6995.pdf



Recommendations

FOR CAREERS PRACTITIONERS

- Use AI to support procedural and drafting tasks while maintaining human oversight.
- Support students to critically evaluate AI outputs rather than accepting them uncritically.
- Encourage students to maintain authenticity and reflective depth within applications.
- Develop confidence in experimenting with AI tools and prompting approaches.

FOR CAREERS SERVICES

- Develop clear institutional guidance on ethical AI use.
- Provide ongoing staff development and AI literacy training.
- Embed AI discussions within employability education and careers programming.
- Create opportunities for staff to share practice and experimentation.

FOR HIGHER EDUCATION INSTITUTIONS

- Invest in secure and compliant AI platforms.
- Ensure equitable access to AI tools and support.
- Develop governance frameworks addressing data protection, ethics, and accessibility.
- Support collaboration between careers services, academic departments, and digital teams.

FOR THE WIDER SECTOR

- Develop shared frameworks and ethical guidance.
- Encourage collaboration and communities of practice.
- Share case studies and examples of effective blended guidance.
- Continue practitioner-led research exploring AI and careers practice.

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Appendix

Appendix A: Summary of the Working with AI in Careers Guidance Toolkit

WORKING WITH AI IN CAREERS GUIDANCE: A PRACTICAL TOOLKIT

AI Supports

AI as a tool for generating, processing, and structuring information.

Integration Point

Practitioner actively manages, evaluates, and contextualises AI outputs.

Human Guidance

Human-centred meaning-making, emotional support and professional judgement

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We don't want to be dinosaurs, though. I think we really need to support students to use it and use it effectively. We know that they're using it.



Make it Transparent



Make it Pedagogical



Make it Ethical



Make it Human-Centered



Make it Inclusive

AI is most effective as a tool for supporting tasks and processes, while careers guidance professionals remain central to the reflection, interpretation, and ethical judgement that make guidance meaningful.

ETHICAL FOUNDATIONS

Rights and Transparency

Bias and Fairness

Human in the loop

Data and Privacy

Inclusion and Access

The building of a CV, and a cover letter, these are procedural tasks. This is what AI is for... it allows the human to do the relational, higher-order guidance.

PRACTITIONER PROFILES

Tier 3:
Embed AI
across services



Tier 3 Persona: The Strategist

Tier 2:
Integrate AI into
guidance delivery



Tier 2 Persona: The Practitioner

Tier 1:
Foundational AI Awareness



Tier 1 Persona: The Explorer

LINK TO FULL
TOOLKIT:





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www.abdn.ac.uk/careers/about/research-activities