

GENERATIVE ARTIFICIAL INTELLIGENCE HIGHER DEGREES BY RESEARCH



**UNIVERSITY OF
NEWCASTLE**
AUSTRALIA

**GUIDANCE FOR
HDR STUDENTS AND SUPERVISORS**

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In Practice

1. Generative Artificial Intelligence and Higher Degrees by Research

The rise of powerful, accessible generative artificial intelligence (GenAI) platforms has the potential to transform the research landscape, creating new possibilities and considerations for Higher Degree by Research (HDR) candidates and their supervisors.

The intersection of GenAI and research integrity requires thoughtful navigation. Many researchers are already using GenAI for a wide range of research tasks.^{1, 2} When used appropriately and transparently, GenAI can enhance research capabilities and outcomes rather than compromise them. However, these technologies present significant risks that need to be understood and managed, including privacy laws and data security concerns, accuracy and integrity issues, potential biases in outputs, and implications for the development of essential research skills. Without due care, GenAI use could undermine the principles of responsible research conduct and the intellectual development that is central to HDR training.

It's important to understand that utilising GenAI tools does not inherently constitute academic or research misconduct. However, determining appropriate GenAI use requires consideration of research methodologies, discipline-specific norms and degree requirements. We recognise that GenAI use may be beneficial at different stages of the HDR journey,³ and such applications may be encouraged when properly disclosed and discussed between the candidate and their supervisor. Further, the ability to effectively engage with and use GenAI is increasingly valued in academic and industry environments,⁴⁻⁶ and allowing or even promoting opportunities to use GenAI may benefit both students' research and their development of digital literacy skills.

Any use of GenAI in higher degree research must be transparent, responsible, and ethical. (ACGR)⁷

This guidance document aims to provide practical considerations for both HDR candidates and supervisors on how to navigate the use of GenAI in research training. They include practical considerations around how to determine appropriate vs inappropriate usage, as well as a framework for discussing GenAI use within the supervisory relationship.

This guidance document builds upon existing university resources, including the [Generative AI in Research Guideline](#) and the principles outlined in the [Policy on the Use of Generative AI in Teaching, Learning and Assessment](#), [Privacy Management Plan](#) and its development has been informed by the [Australian Council of Graduate Research \(ACGR\) Good Practice Guidelines for Generative Artificial Intelligence Use in Graduate Research Training](#).⁷

What should supervisors do?

- **Stay up to date** with information about GenAI, including University approved GenAI solutions, provided via University channels such as the [Generative AI Tools Guide](#), [Academic Integrity, Artificial Intelligence, and Standards Working Group \(AASWG\)](#), [AI Community of Practice](#), [HDR HQ](#), [Research Hub](#), [Privacy Management Plan](#), [Privacy Resources Centre](#), and [The Loop](#).
- **Ensure that appropriate use of GenAI is discussed with colleagues** (both internal and external) and forms part of discussions through formal groups such as discipline and school level meetings, and [Research Integrity Advisors](#).
- **Ensure appropriate use of GenAI is discussed with your candidate(s)** and clear expectations are set (more on this in Section 2).
- **Participate in training opportunities** (such as workshops and webinars) to increase understanding of the impact of GenAI on your discipline and on research more broadly.
- Ensure you have completed the **Research Integrity modules**.

What should HDR candidates do?

- **Stay up to date** with information about GenAI, including University approved GenAI solutions, provided via University channels such as the [Generative AI Tools Guide](#), [HDR HQ](#) and [Research Hub](#).
- **Ensure appropriate use of GenAI is discussed with your supervisor** and clear expectations are set (more on this in Section 2).
- **Participate in training opportunities** (such as workshops and webinars) to increase understanding of the impact of GenAI on your discipline and on research more broadly.
- Ensure you have completed the **Academic Integrity modules** and **Research Integrity modules**.

2. The importance of communicating expectations

Effective communication between HDR candidates and supervisors about the use of GenAI is fundamental to ensuring research integrity and maximising the benefits of these tools while managing potential risks. The University recognises that appropriate use of GenAI will vary between disciplines, methodologies, and research projects. Therefore, establishing clear expectations and maintaining open dialogue throughout candidature is essential.

How to communicate expectations

Early discussion and agreement

Discussions on proposed GenAI use should form part of early expectations setting between the student and their supervisor. Initial discussions should be acknowledged in the [HDR Supervisory Expectations Form](#) to be completed within the first six months of candidature.

In those early discussions, students and supervisors should each outline their expectations around use of GenAI, and agree a plan on what is appropriate for the student's candidature and research topic. The expectations of GenAI use also extend to supervisor use of GenAI in a supervisory capacity, and supervisors must also communicate and agree on their intentions with the student.

The following topics should be considered as part of these early discussions:

- Appropriate vs inappropriate AI use in your research context (see Section 3 for further information);
- Development of critical research skills;
- Plans to store and document GenAI interactions;
- Agreed communication channels and frequency of discussions between supervisor and student to review the use of GenAI tools in student candidature, and reflect on the student's ongoing development of both research and digital literacy skills;
- Plans for transparent acknowledgement of GenAI use in research outputs; and
- If supervisors intend to use GenAI as part of their supervisory process or feedback.

These discussions will serve as a foundation for ongoing dialogue throughout the candidate's research journey. As such, the discussions should be noted in writing and reviewed and updated throughout candidature.

In the case of disagreement, each side should seek to understand the underlying concerns and work towards solutions to address them. If further advice is needed related to the ethics or integrity of using GenAI in a particular research-related manner, you should seek advice from a Research Integrity Advisor.

Maintaining effective communication

It is important for both the supervisor and the student to facilitate and maintain regular, open dialogue about GenAI use.

The following should be considered as part of maintaining this communication:



Proactive Engagement

- Students should initiate discussions about potential GenAI use before implementation
- Supervisors should regularly update students about relevant developments in GenAI use within the discipline
- Both parties should raise concerns or questions as they arise



Structured discussion

- Dedicate time in regular supervision meetings to discuss GenAI use
- Review and update agreements as research progresses and new tools emerge
- Include GenAI considerations in milestone reviews and planning discussions



Documentation

- Maintain records of agreed GenAI usage protocols
- Document significant decisions about GenAI use in your research and provide in writing to your supervisor(s)
- Keep copies of GenAI interactions and outputs as part of your research documentation



Regular Review

- Schedule periodic reviews of GenAI use and its impact on your research and development
- Assess the effectiveness of current communication practices
- Update protocols as needed based on evolving research needs
- Reflect on digital literacy skills and identify opportunities for development

Remember: All student use of GenAI as part of their HDR work must be discussed with their supervisor(s) and documented. This ensures transparency, maintains research integrity, and supports the student's development as a researcher.

Students might also like to share examples of their GenAI interactions (prompts and outputs) with their supervisors to foster concrete discussions about appropriate use and application to research outputs.

What should supervisors do?

- Encourage peer discussion about GenAI use with your research group, school and discipline.
- Model GenAI best practice to your student.
- Stay up to date with university communications and relevant discipline guidelines and standards about best practice for GenAI use in research.

What should HDR candidates do?

- Be transparent with your supervisors about all use of GenAI
- Proactively discuss planned AI use with your supervisor(s) and seek clarification on unclear guidelines.
- Ensure generative AI use is discussed at the beginning, and regularly throughout your candidature.
- Document discussions of GenAI use with your supervisor(s).
- Stay up to date with university communications and relevant discipline guidelines and standards about best practice for GenAI use in research.

3. How to determine appropriate vs inappropriate use of GenAI

The question of what constitutes appropriate vs inappropriate use of GenAI in higher degree research is complex and nuanced. It can only be answered with due consideration of the specifics of the research methodology, the norms within the research discipline, the learning outcomes of the degree, and the research and professional development needs of the individual student.

To aid supervisors and students in considering and discussing appropriate vs inappropriate use, the Graduate Research team have developed a *Checklist for Responsible Usage of Generative AI in HDR Research*, which can be viewed in Section 4.

The checklist comprises of 9 key principles:



These principles represent the key factors that need to be considered by higher degree researchers considering a use case for GenAI as part of their degree.

The principles and checklist are designed to provide HDR candidates and their supervisors with a framework to structure discussions and critical thinking around the use of GenAI in activities associated with their degree.

These principles also apply to any supervisor use of GenAI as part of their supervisory processes and activities. Supervisors should not be entering HDR student work into any GenAI platform without prior disclosure to, and agreement with, the student.

Here, each of the principles are discussed in detail to support student and supervisor understanding of and engagement with the Checklist and its principles.

Understanding the principle and why it's important

All research activities at the University, including by HDR students, must comply with the [Australian Code for the Responsible Conduct of Research](#),⁸ as well as other relevant [University policies](#) including, but not limited to, the [University of Newcastle Responsible Conduct of Research Policy](#) and [Privacy Management Plan](#).

Depending on your research, you may also need to review and comply with the policies of external funding bodies, publishers, discipline specific guidelines (e.g. from peak bodies, accreditation bodies), industry partners etc.

In addition to ensuring compliance with policies related to research, HDR students must also adhere to the [Student Code of Conduct](#) and consider any implications of GenAI use on their academic integrity.

These frameworks and policies provide essential boundaries that protect you both as a researcher and as a student, and the integrity of your work. Research conducted outside established policy frameworks risks undermining the credibility of your findings, violating stakeholder agreements, and potentially leading to academic misconduct proceedings, withdrawal of funding, or rejection of research outputs. For HDR students, understanding and adhering to policies is a fundamental aspect of research training.

Questions to consider

- Have you reviewed the most current version of relevant policies? Policies regarding AI may be updated frequently as the technology evolves.
- Does your funding body have specific requirements or restrictions regarding AI use in research?
- Have you checked target publication venues for any AI-specific policies?
- How does your planned AI use align with the protection of personal and health information and the principles of research integrity, including honesty, rigor, transparency, and fairness?

Tips for a strategic approach:

Before implementing AI tools in your research, map all applicable policies and identify any potential conflicts or grey areas. Document your compliance assessment and discuss any uncertainties with your supervisor or Research Integrity Advisor.

As a helpful starting point, the [University AI tools: AI for Research Guide](#) provides links to GenAI statements from some common funding bodies and publishers.

Looking Forward

As policies evolve alongside AI capabilities, develop a habit of periodic policy review throughout your research journey to ensure continued compliance.

Understanding the principle and why it's important

When using GenAI tools for research, data security and privacy must be paramount concerns as protecting sensitive research data is both an ethical obligation and a legal requirement. Many commercial AI platforms store user inputs to improve their models, which creates significant risks when working with sensitive research data. Unlike traditional software, sharing data with an AI tool may mean that data becomes part of the model's training set, potentially exposing confidential, personal or health information to future users or making it discoverable by the AI provider.

HDR students must understand that [information submitted to AI tools is typically processed on third-party servers outside the University's control](#) and outside of Australia. This means that regardless of how these tools market their privacy features, your research data or personal or health information could be stored, analysed, and potentially accessed or otherwise used by others once submitted. Even if you opt out of your research information being used for model training sets, you may be opted in again, next time the terms and conditions are updated, so review regularly.

Regardless of the data being inputted, HDR students are expected to read all user agreements of any GenAI software tools used as part of their candidature to ensure they have a thorough understanding of how the input data is being used. If there are any uncertainties, then students may consult with their supervisor or Research Integrity Advisor. HDR students are also encouraged to [opt out of data usage](#) and continue to monitor changes on data usage and storage on GenAI platforms where this is an option.

Where research data is being considered for inputting, the [Generative AI in Research Guideline](#) should be adhered to, particularly in relation to clauses 11 and 12, alongside the University's [Research Data and Primary Materials Management Procedure](#). Do not put University data into unapproved AI tools. Currently, [Microsoft Copilot](#) is the approved and supported GenAI tool, with [Zoom AI Companion](#) also available as a productivity tool. It is the responsibility of students and supervisors to be aware of and use [University endorsed tools](#).

Where a more complex GenAI application is being considered as part of a research project, including running an AI model locally, students and supervisors should engage with their College DTS Business Partner and Legal and Compliance to confirm if and how it is appropriate to use and what legislation may be enlivened.

Proper data security practices protect not only your research participants and partners, but also safeguard your intellectual property and ensure compliance with relevant privacy and Artificial Intelligence legislation and ethics approvals.

Questions to consider

- What happens to your input data when using the AI system? Do you know where your input data is stored, for how long, and how it might be used by the provider?
- Does your planned AI use comply with Privacy laws, Artificial Intelligence laws,

data management plans, intellectual policy protections, confidentiality agreements, and ethics approvals?

- If working with human participant data, does your ethics approval and participant consent clearly allow for processing via external AI tools?
- Are you working with data subject to specific regulations (e.g., health data, children's data) that require enhanced protections? If so, seek advice from the University's Privacy team in Legal and Compliance
- Could the combination of seemingly non-identifiable data points potentially lead to re-identification of individuals?
- What is the worst-case scenario if my research data were to be exposed through an AI platform, and how can I mitigate this risk? You may be able to be sued personally if personal information is exposed?

- Could the combination of seemingly non-identifiable data points potentially lead to re-identification of individuals?
- What is the worst-case scenario if my research data were to be exposed through an AI platform, and how can I mitigate this risk?

Tips for a strategic approach:

Clearly identify early data within your research that should never be inputted into external AI systems or any AI systems.

Utilize institutional AI tools with enhanced privacy protections.

Maintain detailed documentation of what data has been shared with which AI tools and the security measures you implemented.

For highly sensitive data, consider working with your College DTS Business Partner and the Privacy team in Legal and Compliance to explore secure AI processing options.

Break larger problems into smaller components that don't require sharing the entire dataset with AI tools.

Looking Forward

As AI tools continue to evolve, so will their privacy features and institutional policies around their use. Regularly reassess the security implications of your AI usage throughout your candidature, especially when working with new datasets or tools. Consider investigating emerging AI technologies that offer local processing options or enhanced privacy features as they become available. You cannot solely rely on privacy features in AI software, so seek privacy advice from your supervisor if you are unsure.

Understanding the principle and why it's important

AI models are trained on vast datasets of existing data, which they recombine to generate new outputs. When you use AI tools, you risk inadvertent plagiarism because these systems may reproduce exact phrases, arguments, ideas, artistic styles etc from their training data without citation or acknowledgment. This creates significant academic integrity risks, as what appears to be "original" AI-generated content might actually contain uncredited work from other scholars.

Further to ensuring your work is free of plagiarism, when considering originality you should be ensuring your research makes a genuine contribution to knowledge that reflects your intellectual effort and insight. This applies to all HDR degrees, and is particularly important for Doctor of Philosophy qualifications where demonstrating "original and significant" contributions is essential to meeting degree requirements per the [AQF Framework](#) and the [Program Schedule](#).

While AI tools can legitimately support your research by organizing ideas, suggesting approaches, and assisting with analysis, it cannot replace your original thinking, creativity, and intellectual contribution, and the intellectual core of your thesis must clearly be your original work. For Masters students, this means your project should reflect your scholarly voice and analysis; for PhD students, the novel perspectives, frameworks, methods, or findings advancing your field must clearly be your original work.

Remember that AI can help you work more efficiently, but the intellectual journey and resulting contribution must remain fundamentally yours.

Questions to consider

- What approach will I use to ensure any content I have created with the help of GenAI does not contain plagiarised work?
- Does your thesis demonstrate the appropriate level of original contribution for your degree program?
- Does your AI use align with disciplinary expectations of originality?
- How does your use of AI support rather than replace your original thinking?

Tips for a strategic approach:

Use AI as a brainstorming partner rather than a content creator—start with your own ideas and use AI to help expand or refine them to help ensure your work maintains its originality and intellectual integrity.

Looking Forward

Consider now how you will articulate the relationship between AI assistance and your original contribution in your thesis, and publications.

Understanding the principle and why it's important

GenAI models produce outputs based on statistical patterns in their training data rather than through true understanding or reasoning. While these outputs can be impressively coherent and seemingly authoritative, they may contain factual errors, logical inconsistencies, outdated information, or biases reflecting patterns in their training data. AI systems have no inherent concept of truth, accuracy, or quality—they simply generate content that resembles their training data without verifying its correctness.

As a researcher, you must approach all AI-generated content with the same critical evaluation you would apply to any other source. This requires maintaining a healthy scepticism and applying rigorous verification procedures. The responsibility for ensuring the accuracy, quality, integrity, and alignment with scholarly standards of any AI-generated content incorporated into your research lies entirely with you. This includes ensuring that you have sufficient expertise to critically evaluate the output before application. Critical engagement with AI outputs not only safeguards the integrity of your research but also helps you develop and maintain your own expertise and analytical skills.

This principle protects against the propagation of misinformation in scholarly work and ensures that your research maintains rigorous standards of evidence and reasoning.

Questions to consider

- Do you have processes in place to fact-check AI-generated information, claims, references, or statistics against reliable sources?
- Are you critically assessing not just factual accuracy but also reasoning patterns, assumptions, and potential biases in AI outputs?
- How will you ensure that AI-generated text or ideas align with the methodological and theoretical frameworks of your research?
- Are you relying on the AI for areas of expertise where your own critical evaluation might be limited?

Tips for a strategic approach:

Treat all AI outputs as drafts requiring thorough verification and critical assessment.

Implement a systematic verification process for AI-generated content before incorporating it into your research.

In addition to assessing the AI-generated content for bias, reflect on how your own biases might affect your views. For example, you may unconsciously favour AI outputs that align with your preexisting views (confirmation bias).

Be particularly cautious when using AI for disciplinary content at the edge of your expertise, where your ability to critically evaluate may be more limited.

Maintain your own subject matter expertise rather than becoming dependent on AI — continue reading primary literature, attending conferences, and engaging with human experts in your field.

Looking Forward

Consider how emerging AI evaluation frameworks might be adapted for your specific research context to strengthen your critical engagement practices.

As AI systems continue to evolve, their limitations and strengths will change. Developing strong critical evaluation habits will serve you throughout your research career, regardless of how AI tools develop. Remember that the value you bring as a researcher includes your critical thinking, domain expertise, and ability to evaluate information—skills that remain essential even as AI assists with various aspects of the research process.

Understanding the principle and why it's important

When you incorporate AI-generated content into your research outputs, you assume full accountability for that content—just as you would for content created through any other means. This accountability extends to all aspects of your research, from methodological choices to published findings and your final thesis. The use of AI tools does not diminish your responsibility for ensuring the quality, accuracy, integrity, and originality of your work.

In particular, understanding how copyright applies to, and can be used with, GenAI tools is part of the ethical use of such tools. The University Library maintains an up-to-date guide on [Copyright for Generative AI](#).

You are accountable for the appropriate, collection, use and protection of personal and health information used in your research and can be held personally liable for failing to comply with privacy laws. You must check the privacy laws that apply and comply with the University's [Privacy Management Plan](#).

Being accountable for research created with GenAI assistance includes: considering the consequences and outcomes of your research prior to its communication;⁸ being prepared to explain and defend all parts of your research from editors, reviewers, public or thesis examiners; and taking responsibility for any errors or issues that may arise from your research. Even if an error originated in AI-generated content, the responsibility remains yours as the researcher who chose to incorporate that content.

Maintaining a clear line of accountability helps to preserve the integrity of the research process and ensures that human judgment and expertise remain central to scholarly inquiry.

Questions to consider

- Could you confidently explain and defend every part of your research that involved AI assistance if questioned during examination?
- Are you prepared to take responsibility if AI-generated content you've included contains errors, biases, or other issues?
- Have you considered the potential legal and ethical implications of the AI-generated content you're including?

Tips for a strategic approach:

Always ensure you fully understand any GenAI content or ideas you [incorporate into your research](#), and give due consideration to the consequences and outcomes of research.⁸

Maintain detailed documentation of how, when, and why AI tools were used in your research process to support your rationale behind your research choices.

Looking Forward

As GenAI tools become more integrated into research workflows, maintaining clear lines of accountability becomes increasingly important. Future researchers may need to develop

more sophisticated frameworks for documenting and verifying AI contributions while maintaining human accountability. By establishing strong practices now, you contribute to the evolution of responsible GenAI use in academic research and set the stage for maintaining research integrity in an increasingly AI-assisted future.

Understanding the principle and why it's important

Transparency is a fundamental tenet of research integrity⁸ and is crucial when using GenAI tools. [Being transparent about GenAI](#) use means clearly documenting and communicating when, how, and why you used GenAI assistance in your research process and to any human participant. This openness serves multiple important purposes: it allows others to fully understand your methodology, enables replication of your work, and helps establish appropriate expectations about your capabilities and contributions. If applicable, clear disclosure of why you are collecting personal or health information, how you will use it, and who you may disclose it to, including to a GenAI model, to any human participant is required under privacy legislation.

Without transparency, readers might misattribute the source of ideas, misunderstand how conclusions were reached, or make incorrect assumptions about the research process, compromising the integrity of your research. A lack of transparency about AI use in your HDR work could also potentially constitute academic misconduct. Accordingly, it is important to acknowledge any use of GenAI in your thesis submitted to external examiners.

Transparency doesn't mean diminishing your contribution or suggesting that your work is less valuable because you used AI tools. Rather, it demonstrates your methodological rigour and commitment to research integrity. Being open about AI assistance is now an expected practice in academia, similar to acknowledging statistical software, research assistants, or other tools that support the research process.

Questions to consider

- Does your methodology section and/or acknowledgements section adequately explain how AI tools were incorporated into your research process?
- Have you considered how to appropriately [acknowledge AI use](#) in publications, presentations, and your thesis?
- Where applicable, have you been transparent about your collection, use or disclosure of personal or health information?
- Are you prepared to share your AI usage documentation if asked by supervisors, examiners, or reviewers?

Tips for a strategic approach:

Consider using version control systems that help track changes and different contributors (including AI) to your documents. Further, if you are saving any AI generated outputs for later use, ensure you tag or mark them as AI generated for your future self so they don't get mixed up with your own drafts.

Familiarise yourself with the University's [Privacy Management Plan](#) to ensure you understand your obligations under privacy laws.

Looking Forward

As AI tools become more integrated into research processes, expectations around transparency will likely evolve. Disciplinary norms and publisher requirements will continue to develop to address how AI contributions should be documented and acknowledged. By establishing robust transparency practices now, you position yourself as a responsible researcher who understands that openness about methodologies—including AI use—strengthens rather than weakens the perceived value and integrity of your work.

Understanding the principle and why it's important

AI systems have complex societal implications. On one hand, they can democratize access to knowledge, improve accessibility for diverse users, enhance efficiency, and help solve complex societal challenges. On the other hand, they raise concerns about environmental impacts (substantial energy consumption),⁹ economic effects (potential job displacement or power concentration), social consequences (perpetuation of inequalities and biases or overreliance on proprietary technologies), and development of knowledge monocultures.¹⁰ As a researcher, you have a responsibility to understand these complex potential implications and make informed decisions about when and how to employ AI tools.

Considering broader impacts isn't just an ethical obligation—it strengthens your research by demonstrating critical awareness of the contextual factors that influence your work. This awareness is increasingly valued with the emergence of responsible research frameworks such as the Responsible Research and Innovation (RRI) framework, which is being adopted by many funding bodies and publishers internationally. Being able to articulate the potential societal implications of your methodological choices, including AI use, demonstrates critical engagement with your research context.

Questions to consider

- Have you considered both the positive and negative potential impacts of using GenAI in your research activities?
- What else can you do to educate yourself and critically evaluate the effects of GenAI use in your research activities?
- Have you considered whether alternatives to GenAI might achieve similar research goals with fewer potential negative impacts?
- How can you ensure your AI-assisted research does not result in negative social consequences, including development of knowledge monocultures?

Tips for a strategic approach:

Stay up to date with relevant research on the impacts of GenAI use and emerging frameworks for responsible AI use in your field to help you balance the benefits of AI use against potential negative impacts. Be prepared to justify your choices to use GenAI.

Looking Forward

As AI technologies continue to evolve and become more embedded in research practices, your awareness of their broader impacts and societal implications will become increasingly important. By developing a nuanced understanding of both the opportunities and challenges presented by GenAI, you position yourself to contribute meaningfully to the responsible advancement of knowledge in an AI-augmented research landscape, potentially helping to shape how these technologies are deployed for maximum benefit and minimal harm.

Understanding the principle and why it's important

The fundamental purpose of an HDR program is to develop researchers who are capable of independent inquiry and making meaningful contributions to their field. AI tools can significantly enhance productivity and capabilities, but they should complement—not replace—the essential skills that must be developed as a researcher. These include critical thinking, methodological expertise, analytical reasoning, creative problem-solving, and intellectual autonomy.

Developing the discernment to know when to use AI and when to rely on your own developing expertise is, in itself, an important skill. Strategic use of AI can accelerate learning by allowing time to focus on higher-order aspects of research. However, this this requires thoughtful consideration of how each instance of AI use contributes to, or impedes, the development of research capabilities.

“Individuals who trust AI tools to overcome their own cognitive limitations become susceptible to illusions of understanding in which they believe that they understand more about the world than they actually do.” ¹⁰

Remember that the goal is not just to produce a thesis, but to become someone capable of independent research leadership in your field.

Questions to consider

- Are you using AI to extend capabilities you're already developing, or to bypass learning processes?
- Will your use of AI affect your capacity to meet the three key learning outcomes in the [Doctoral](#) or [Masters](#) Degree Awards and Programs schedule?

Tips for a strategic approach:

Create a personal development plan that identifies core competencies you need to develop, and whether AI will aid or hinder development of each of these competencies.

Looking Forward

As GenAI capabilities continue to evolve, the relationship between researcher development and AI assistance will become increasingly nuanced. Future researchers will need to be adept at collaborating with AI tools while maintaining their distinctive human capabilities for creative insight, critical judgment, and ethical decision-making. By thoughtfully integrating GenAI into your research practice now, while prioritizing your own intellectual development, you prepare yourself to thrive in this emerging research landscape where human expertise and AI capabilities complement each other.

Information for this principle is provided in Section 2, The Importance of Communicating Expectations.

4. A Checklist for Responsible Usage of Generative AI in HDR Research

Generative artificial intelligence (GenAI) is developing at great speed. We recognise that these rapid advancements may lead to confusion and uncertainty among our HDR candidates and their supervisors. To provide guidance designed to withstand these changes, the Graduate Research team have developed this *Checklist for Responsible Usage of Generative AI in HDR Research*.

This checklist has been developed by drawing on the Checklist Questions for Responsible AI usage in Research proposed by Knöechel et al.¹¹ and The ETHICAL Framework for Responsible Generative AI Use developed by Eacersall et al.¹² We recommend utilising the checklist after review of the University's [Generative AI in Research Guideline](#) and with a deep understanding of the Australian Code for the Responsible Conduct of Research.⁸

How to use this checklist

This checklist is recommended to be used when you are considering a use case for GenAI during all stages of HDR candidature. This includes use in research projects, development of research outputs, and production of the thesis materials. It is designed to help you decide whether your intended use of GenAI will constitute responsible usage.

In most cases, you should only proceed with using GenAI for the purpose under consideration if you can confidently answer “yes” to all checklist items. Each of the principles is discussed to greater detail in Section 3 of the Guidance document. Any questions should be directed to your supervisor, and if you require further advice you can contact your [Research Integrity Advisor](#) or [Research Ethics Advisor](#) as appropriate.

In the notes section, you should include any relevant information, or information to support your response to the checklist item. If the room provided is insufficient, consider creating an additional document you can keep on file addressing each of the principles and checklist items for your intended use. Keeping good records like this is not only good research practice, but will assist you in defending the use of GenAI in your selected manner should it be required.

CHECKLIST FOR RESPONSIBLE USAGE OF GENERATIVE ARTIFICIAL INTELLIGENCE (GenAI) IN HDR RESEARCH

AI Use Case:				
Principle		Preparation	Checklist	
1	Policy Compliance	Ensure that any use of GenAI tools is within the bounds of appropriate operating principles, which are conditioned by the Australian Code for the Responsible Conduct of Research , the University of Newcastle Responsible Conduct of Research Policy , and external funding and publishing bodies. Students must consider the academic integrity implications of GenAI and adhere to the Student Code of Conduct and the Privacy Management Plan .	Do the applicable codes and policies allow for the use of GenAI tools in your research in the manner intended?	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes:
2	Data Security and Privacy	You must read all user agreements of any GenAI software tools you use for research to ensure you have a thorough understanding of how your input data is being used. Use University-endorsed GenAI tools with enhanced privacy protections where possible. Opt-out of data usage and storage when available if using other tools. Consult with data security experts when needed.	Have you read the user agreements of all AI software you are using? Is your intended GenAI use compatible with privacy and data security regulations?	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes: <input type="checkbox"/> Yes <input type="checkbox"/> No Notes:
3	Originality	In all cases, ensure your thesis and research outputs are free from plagiarism and appropriately credit the work of other people. In line with the AQF Framework and the Program Schedule , PhD students must ensure they are making an “original and significant” contribution to knowledge. AI should be used to support and enhance your work, not replace your original contributions.	Your thesis and all research outputs will appropriately credit other people’s work? Are you confident you will meet your degree requirements for an original contribution to knowledge despite the use of AI in this case?	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (Masters) Notes:

4	Critical Engagement	Understand that GenAI models may generate inaccurate or inappropriate results, and create random or systematic biases. As such, you must critically engage with any GenAI output that forms part of your research. That is, all output should be critically evaluated (e.g. for correctness, reasoning, relevance, professional quality, biases) and revised as appropriate.	<p>All AI outputs will be (or have been) critically reviewed by a human against empirical evidence to ensure the truth and accuracy of the output?</p> <p>Have you ensured that your project will not/does not create, reflect or perpetuate biases or unfairness due to AI usage?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No Notes:</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No Notes:</p>
5	Accountability	It is your responsibility to make sure you understand the AI outputs you include within your research and program. You are also responsible for the quality, originality and fairness of all research outputs (including your thesis) even if they were created using AI. As such, you will be accountable for any ethical or legal breaches such as breaches of privacy laws, potential plagiarism or copyright infringement .	Do you accept accountability for all AI content included in your research outputs, including the final thesis?	<p><input type="checkbox"/> Yes <input type="checkbox"/> No Notes:</p>
6	Transparency	Make sure that the process of using AI tools and their input to your work is documented and clearly communicated in all instances, including in the thesis in accordance with the Thesis Examination Guidelines . Students should keep copies of AI inputs and outputs to provide full transparency of its use. If collecting or using personal or health information, have you made the appropriate disclosures and collected valid consent? Copies of these must be retained.	All AI use will be documented and reported transparently?	<p><input type="checkbox"/> Yes <input type="checkbox"/> No Notes:</p>

7	Broader Impact	As a research student, you are expected to be proactive in educating yourself on both the broader impacts of AI use in research, both positive and negative. In each use case, you should take time to consider the possible social, economic, and environmental impacts that could arise from your use of GenAI, and consider alternatives to AI use within the context of these potential impacts.	Are you aware of the social, economic, and environmental impacts that could arise from your AI use, and have you considered alternatives?	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes:
8	Researcher Development	Be aware that using AI for research tasks may impact your development of essential research skills. Critically reflect on why you are using GenAI for this task as opposed to undertaking it yourself. Regularly reflect on your AI use to ensure it is enhancing your researcher development, rather than supplanting your critical thinking, skill development, and creative processes. You are encouraged to consider this within context of the three key learning outcomes in the Doctoral or Masters Degree Awards and Programs schedule.	<p>Have you critically reflected on why you are using AI in this manner as opposed to undertaking the task yourself?</p> <p>Are you confident your development as a researcher will not be negatively impacted the use of AI in this manner?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes: <input type="checkbox"/> Yes <input type="checkbox"/> No Notes:
9	Supervisor Communication	<p>Any use of AI by a student as part of their HDR work should be discussed with their supervisor(s) first. You must clearly communicate your intentions to use GenAI, and discuss any areas of concern or uncertainty either of you may have, including the areas provided in this checklist.</p> <p>When discussing use with your supervisor, ensure you discuss any discipline-specific considerations for your use case.</p>	<p>Have you clearly communicated with your supervisor about your intent to use GenAI?</p> <p>Does your supervisor agree to its use for this purpose and have you discussed the areas within this checklist, including any discipline-specific considerations?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No Notes: <input type="checkbox"/> Yes <input type="checkbox"/> No Notes:

5. Case examples

General risk of academic misconduct

Table 1 presents a simplified summary of risk of academic misconduct per example GenAI use cases. The actual risk of academic misconduct will be situation dependent and so the examples are provided to inform decision making rather than determine individual usage.

Table 1: Examples of HDR-related activities and their potential risk of academic misconduct.

Risk of academic misconduct	GenAI Use Case
Red	To write whole sections of thesis
Red	Use without prior conversations with supervisor
Red	Use within confirmation or thesis document without transparent disclosure of use
Yellow	Language editing and proofreading
Yellow	Brainstorming and ideation
Yellow	Literature processing and synthesis
Green	Personalised tutoring and explanation of concepts
Green	Practice for responding to questions at a presentation (mock interactions/rehearsals)
Green	To provide feedback on writing (without using it to directly edit text)

Risk of academic misconduct: Red = high, yellow = moderate, green = low

Case examples of appropriate and inappropriate use

To further assist students and supervisors in their understanding of academically appropriate uses of GenAI in HDR, we have developed some more detailed case examples of both appropriate and inappropriate GenAI use across a range of use types. These case examples have been based on the *Checklist for Responsible Usage of Generative AI in HDR Research* in Section 4 are presented below.

Please note that case examples presented here are generalised and will not be applicable in all situations.

Note, all of the appropriate use cases rely on transparent, proactive communication with supervisors. In the absence of this, all otherwise appropriate case examples would constitute irresponsible use of GenAI by the student.

Planning your research

Inappropriate use case

Lin, a first-year PhD candidate in urban design, has meticulously collected literature on sustainable transportation infrastructure. After discussion with her supervisor about using AI tools, she uses MS Copilot to help organize themes from her readings based on her paper summaries. However, when developing research questions, she becomes overwhelmed by the volume of potential directions. Lin asks the GenAI tool to "generate novel research questions based on gaps in sustainable transportation literature". From the output she selects three questions that sound interesting and impressive for her research proposal, conducting only cursory verification of their originality.

Why is this inappropriate?

Despite initially following good practice by discussing AI use with her supervisor, Lin's approach became problematic when she:

- Outsourced the critical intellectual task of question formulation (**Researcher Development, Originality**)
- Failed to critically engage with whether the questions truly addressed meaningful gaps and potential perpetuation of knowledge monocultures (**Critical Engagement, Broader Impact**)
- Did not seek supervisor guidance about this specific AI application (**Supervisor Communication**)
- Could not fully articulate the theoretical foundations for her selected questions (**Accountability**)

Appropriate use case

Malik, a first-year PhD candidate in biochemistry, struggles to refine his broad interest in antibiotic resistance into focused research questions. After reading extensively, he drafts several potential questions. With his supervisor's approval, Malik asks MS Copilot to "critique these draft research questions for clarity, specificity, and methodological feasibility." He discusses the AI feedback with his supervisor, critically evaluates which suggestions improve his questions while maintaining his research vision, and documents how the AI helped refine—but not generate—his questions.

Conducting a literature review

Inappropriate use case

Dylan is a first-year Masters candidate in business. After receiving six foundational manuscripts from his supervisors, he uses ResearchRabbit, a GenAI-powered academic paper recommendation tool he had heard good things about from another student, to

expand his collection of relevant papers. He builds his literature review primarily from these AI-recommended sources without discussing this approach with his supervisors.

When his supervisor notes gaps in his first draft, Dylan turns to ChatGPT, asking it to "list key manuscripts and their summaries" for his missing topic areas. Dylan incorporates these manuscript summaries directly into his literature review without verifying if the papers actually exist, without reading the original texts, and without checking if the AI's interpretations are accurate. When later questioned about specific papers in his review, Dylan struggles to discuss their methodologies or findings in depth.

Why is this inappropriate?

Dylan's approach was problematic because he:

- Relied entirely on GenAI tools to conduct the literature search (**Researcher Development**)
- Did not verify whether the AI-suggested manuscripts actually existed before citing them, and relied on ChatGPT summaries rather than reading primary sources leading to him being unable to respond to questions about his review (**Critical Engagement, Accountability, Originality**)
- Failed to discuss his use of AI research tools with his supervisors or attribute their contribution to the developed literature review (**Supervisor Communication, Transparency**)

Appropriate use case

Jai, a first-year PhD candidate in performance art, discusses appropriate use of AI tools in literature reviews with their supervisor. Together, they agree that AI tools can help with organizing and discovering literature, but that Jai must personally read and critically analyse all key papers.

After identifying foundational papers through traditional database searches, Jai uses Litmaps to map relationships between sources and identify additional relevant literature. They document all relevant papers found through this method and read each one thoroughly, taking detailed notes. When faced with particularly dense theoretical papers, Jai occasionally uses Notebook LM to help summarize complex sections, but always checks for [copyright restrictions](#) before uploading, verifies the summaries against the original text, and forms their own analysis. In their methodology section, Jai transparently documents how AI tools assisted their literature discovery and organization process while emphasizing that all analysis and synthesis represent their original intellectual work.

Analysing Data

Inappropriate use case

John is undertaking an Industry Engaged PhD, analysing commercial data provided by his industry partner alongside data he has collected himself. He and his supervisor maintain regular communication about GenAI use, with agreed boundaries for how he balances researcher development with AI assistance. John thoroughly understands the statistical methods and coding techniques used in his analysis and employs a university-supported GenAI platform to help optimise his code and interpret complex data patterns.

The university platform he uses is secure and complies with the national and University research conduct requirements. However, while John meticulously followed academic protocols, he failed to review his industry partner's AI policy or obtain specific approval for running their proprietary data through an AI platform, even a secure university one. When the industry partner discovers this during a project update meeting, they express serious concerns about potential intellectual property and competitive intelligence risks.

Why is this inappropriate?

Although John did many things correctly (supervisor communication, using secure university platforms, maintaining his own research skills), he violated important principles when he:

- Failed to review and comply with all relevant policies, specifically his industry partner's AI and data handling guidelines, which apply to their proprietary data **(Policy Compliance)**
- Did not have authorisation to process the industry data through any AI system, even a secure university platform, potentially exposing sensitive commercial information without proper consent **(Data Security and Privacy)**

Appropriate use case

Mira, an economics PhD candidate, discusses with her supervisor how to use AI tools for her econometric analysis. With guidance, she uses programming-focused AI tools to help debug her R code for complex regression models, but runs all analyses on secure university systems. She carefully validates all outputs, performs appropriate diagnostic tests herself, and interprets the results based on her economic theory knowledge. Mira documents her AI use for code assistance in her methodology, maintains all raw data securely within university systems, and keeps copies of her prompts and resulting outputs.

Presenting

Inappropriate use case

Sofia, a second-year PhD student in social work researching childhood trauma in refugee communities, is preparing to present collaborative research at a national conference. Three days before the submission deadline, she needs to submit an abstract. Without consulting

her two co-authors (including a community member from the refugee population), Sofia uploads preliminary findings to Claude to generate a conference abstract.

When sharing the abstract with co-authors, Sofia mentions that she "used AI to help polish the language a bit," downplaying that the entire abstract was AI-generated and that sensitive data was uploaded. For the presentation Q&A, Sofia uses Claude to create pre-written answers to anticipated questions. During the session, she reads these AI-generated responses verbatim, which include conclusions about the data she did not critically engage with or fully understand.

Why is this inappropriate?

Sofia violated key principles of responsible AI use when she:

- Shared personal or health information from vulnerable populations without proper notification, consent, or consideration of how uploading refugee community stories might impact those communities if used for AI training (**Policy Compliance, Data Security and Privacy, Broader Impact**)
- Shared conclusions about the research that she didn't fully understand and did not critically engage with in a public forum, potentially perpetuating biases, sharing misinformation, or misrepresenting the views of her coauthors (**Accountability, Critical Engagement, Broader Impact**)
- Downplayed the extent of AI use to her co-authors and audience. Failed to obtain the appropriate consent, for collection, use and disclosure of personal or health information (**Transparency**)
- Used GenAI to perform key researcher development tasks, rather than developing the skill herself, without assessing for plagiarism and without representing her own original scientific voice (**Researcher Development, Originality**)

Appropriate use case

Amir, a second-year neuroscience PhD student, prepares for his conference presentation on brain injury rehabilitation. This will be his first major conference presentation, and he's anxious about handling challenging questions from experts in the field. After discussing his concerns with his supervisor, they agree that using GenAI to help practice for the Q&A session could be beneficial for his preparation.

He uses Claude to generate potential challenging questions, ensuring all inputs are compliant with relevant policies, privacy and data security requirements. He uses these AI-generated questions as practice prompts but researches and develops his own answers from primary literature and his research data. He then has Claude critique his responses to help him refine his answers deepen his understanding of potential weak points in his methodology. During the actual conference Q&A, he confidently responds with his own well-informed answers, demonstrating genuine mastery of his research.

Writing and Editing

Inappropriate use case

Tomas, a third-year PhD candidate in sociology, struggles with writing his discussion chapter. He had used GenAI tools as brainstorming partners earlier in his candidature when planning his methodology with his supervisor's agreement. Thinking he can use it that way again, he uploads his entire results section to a commercial GenAI tool and asks it to suggest some dot points for his discussion. Tomas intends to use this as a starting point, but keeps experiencing "writer's block" and is feeling a lot of time pressure. He begins to get it to write whole sections of the discussion and is so impressed with the results he incorporates large sections of AI-generated text directly into his thesis, only making minor edits. He doesn't fully understand some of the theoretical connections made by the AI but includes them because they sound sophisticated. He feels a bit embarrassed by how much he used GenAI in the writing, but knows he needs to acknowledge its use, so lists that he used ChatGPT to refine his writing.

Why is this inappropriate?

Time pressures and writer's blocks are things most PhD students will come up against and there are many ways to overcome them. However, Tomas' approach was inappropriate because he:

- Uploaded a full copy of his unpublished results to ChatGPT without a full understanding of how the data is used by the provider or whether the use complies with research policies related to his research (**Data Security and Privacy, Policy Compliance**)
- Did not use the tool for brainstorming in an appropriate manner by having it suggest the discussion content dot points and building on them directly, rather than starting with his own original ideas (**Originality**)
- Outsourced the intellectual task of discussion writing and was unable to demonstrate this core part of scholarly expertise (**Researcher Development, Originality**)
- Did not critically review the text and was unable to fully understand the theoretical connections in the AI output (**Critical Engagement, Accountability**)
- Did not have proactive discussions with his supervisor about his new intended use (**Supervisor communication**)
- Wrote a misleading acknowledgement about the level of AI use (**Transparency**)

Appropriate use case

Maria is a Masters student in her final year writing up her thesis on novel educational technologies. Maria recognises that while she has significantly developed her writing skills during studies, she still struggles to put things in an "academic voice" after a career in marketing. She discusses this with her supervisor, and they agree that she can use the University's access to MS Copilot with enterprise data protection as a writing tutor to help her fine tune her thesis drafts. She uses it to provide feedback on how to improve her

writing, and for light copyediting and proofreading that falls within the Institute of Professional Editors *Guidelines for editing research theses*.¹³ Maria keeps copies of all prompts and outputs with dates and tool versions, and clearly acknowledges how she utilised GenAI in her final thesis document.

6. Tips for supervisors to identify and address GenAI misuse

Identifying GenAI misuse

In many instances, the most telling indicator of undisclosed GenAI usage may be significant changes in the style, tone, or quality of a student submission. Reviewing multiple drafts makes it easier to identify these changes. The University has developed a resource to assist educators in identifying the use of GenAI in student work based on writing style. See more at [Tips to Identify AI-Generated Content in Written Work](#).

Further, regular check-ins and discussions with students about their work in progress will help supervisors to gauge their student's true understanding of the research. Students who heavily rely on GenAI may struggle to elaborate beyond the written work or explain their decision making. Asking process-oriented questions like methodology choices, abandoned approaches, or how particular challenges were solved can help to see how much the student has engaged with the work.

It is not expected that supervisors (or thesis examiners) will use AI detection software on candidates work.

How to address suspected inappropriate use of GenAI

The process outlined on the following page has been developed in collaboration with the University's Research Ethics and Integrity team. It provides guidance to HDR supervisors on how to respond to instances of possible inappropriate HDR student use of GenAI in work related to their program of study.

- **This process is intended to provide guidance to HDR supervisors if, when reviewing their student's work, they suspect that GenAI may have been used inappropriately.**
- **The process is intended to support decision making and is not a visual representation of policy.**

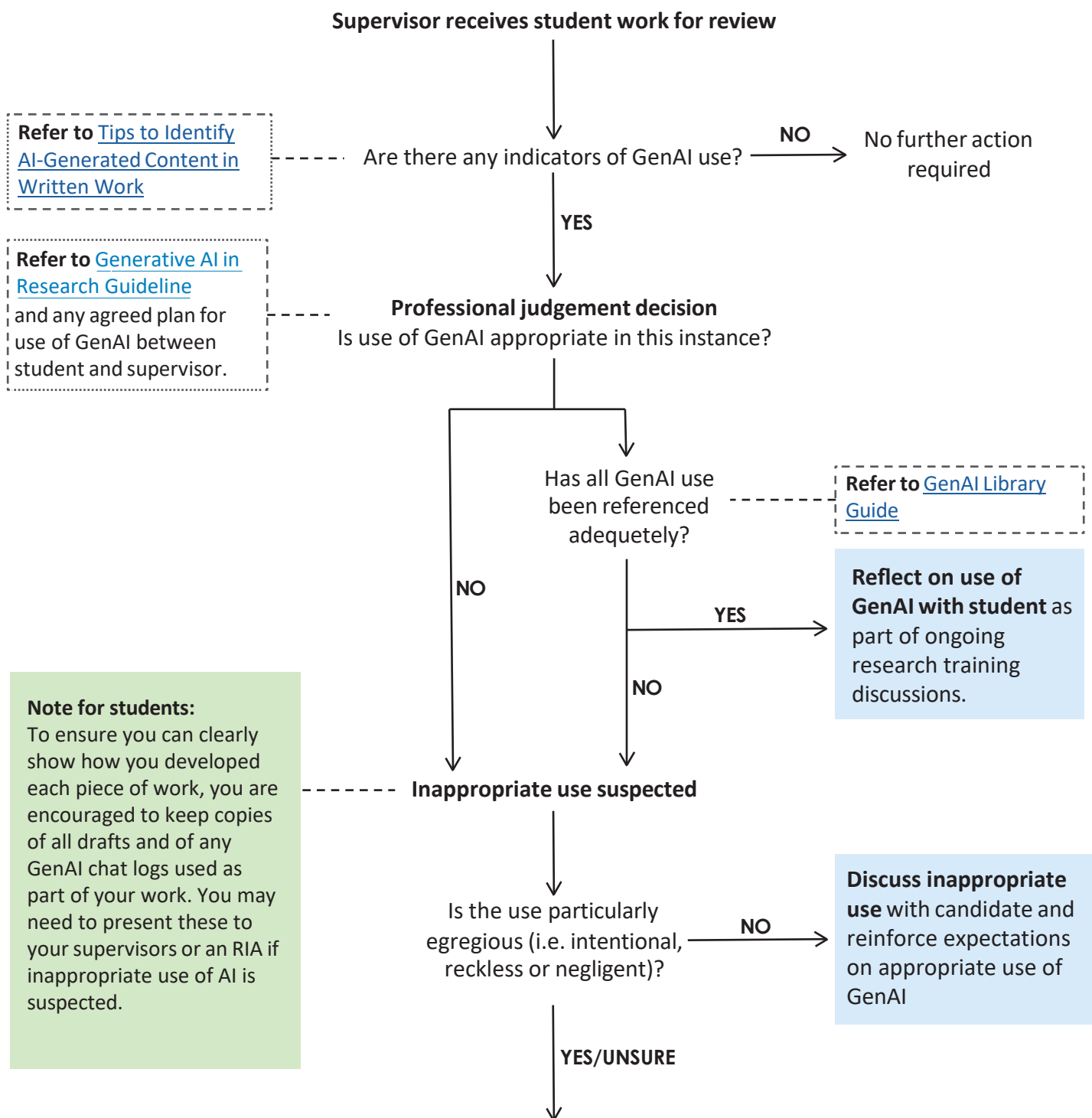
It is an expectation that students and supervisors have a formal discussion about the use of GenAI as part of the student's thesis per the guidance in this document. Any use of GenAI by a student as part of their HDR work should be discussed with their supervisor(s) and disclosed in a transparent manner.



What should supervisors do?

Contact your Deputy Head of School – Research Training (DHoS-RT) or Research Integrity Advisor (RIA) if you are not sure how to respond to instances of possible inappropriate HDR student use of GenAI in their HDR work.

How to address suspected inappropriate use of GenAI



Contact your DHoS-RT or RIA for advice:



Contact your DHoS-RT or [an appropriate RIA](#) for advice on how to proceed in cases of suspected or confirmed egregious misuse of GenAI by a HDR student.

If you are unsure if the use of GenAI is appropriate, your DHoS-RT or RIA will be able to provide further advice on how to determine appropriateness.

Contacting your DHoS-RT or RIA for GenAI advice relating to a HDR student does not automatically lead to any kind of formal investigation or consequences for the student.

Responding to non-egregious misuse

If you suspect that a student has misused GenAI and the use is not egregious (i.e. intentional, reckless, or negligent), approach the situation as an opportunity to discuss inappropriate vs appropriate use and reinforce expectations.

As part of these discussions, explore *why* the student used GenAI inappropriately. There may have simply been a misunderstanding of the expectations, which is why it is important to have clear, documented discussions setting expectations of use. However, there could be an underlying issue or stressor such as academic pressure, time management challenges, lack of confidence in their own abilities, personal stressors affecting their work etc.

Understanding their motivation helps you to provide targeted support. Students struggling with stress or time management may benefit from counseling services or workload adjustments. Those lacking confidence might need more frequent check-ins or structured guidance. Students struggling with perfectionism may also need a reminder that they are not expected to be turning in perfect drafts of their work, and that messy iterations are part of the learning process and important for developing their own research skills.

7. Tips for Students on Providing Evidence of Appropriate GenAI Implementation

This section provides advice to HDR Candidates on how to document and provide evidence of appropriate GenAI implementation in their studies. This is designed to help students who are concerned about receiving, or have received, questions about the appropriateness of their GenAI use in their research. These questions may come from a supervisor, be raised as a research integrity concern, come from an examiner, or from an external body such as a publishing entity. Regardless of the origin of the request, the underlying principles of how to approach a response remain the same.

As part of following the guiding principles outlined in this document, all students are encouraged to:

<input checked="" type="checkbox"/>	Keep clear records of communications with supervisor(s), industry or research partners, or funding bodies regarding GenAI use, including copies of any protocols or agreements made, and amendments to agreements. Following any verbal discussions resulting in GenAI decisions, students are encouraged to follow up with an email to their supervisor to confirm their understanding and to be kept as a digital record of the decision.
<input checked="" type="checkbox"/>	Document any discussions with other authoritative figures who advise on appropriate GenAI use. (Note: This advice should always be confirmed with the HDR supervisor)
<input checked="" type="checkbox"/>	Keep copies of draft versions of each piece of work to show its development where the dates of the drafts can be verified. This is not just limited to literary works, and should include any coding, data analysis, ideation, images, conceptual frameworks etc.
<input checked="" type="checkbox"/>	Keep copies of chat logs with GenAI, including recording the software version used at the time (e.g. ChatGPT 4o, Claude 3.7 Sonnet), and document any validation steps taken during critical analysis of the output.
<input checked="" type="checkbox"/>	Be completely transparent in reporting of GenAI use in all research outputs (including for all sections of the thesis)

In most cases, following the above steps will provide Candidates with sufficient evidence to respond to questions or allegations of inappropriate GenAI use.

Where GenAI misuse is alleged or confirmed, such as use beyond what was agreed with your supervisor or permitted by relevant policies or guidelines, it is always best to be honest and transparent.

If students are still concerned or require further assistance about how to respond, they should seek advice from their supervisor or Research Integrity Advisor.

8. Resources and References

University-provided GenAI resources of particular interest to HDR students and supervisors may be found on the [University's AI Tools Guide](#), as well as on [HDR-HQ](#).

Supervisors may also find additional GenAI resources and updates on the [Academic Integrity, Artificial Intelligence, and Standards Working Group \(AASWG\)](#) page, and on the [AI Community of Practice](#).

References

The University of Newcastle recognises the tremendous collaborative effort, from both research and higher education sectors globally, in developing institutional responses to the impact of GenAI in research and on HDR students. In addition to sources linked throughout the document, this guidance has been developed with reference to the following resources:

1. Andersen JP, Degn L, Fishberg R, Graversen EK, Horbach SPJM, Schmidt EK, et al. Generative Artificial Intelligence (GenAI) in the research process – A survey of researchers' practices and perceptions. *Technology in Society*. 2025;81:102813. doi: <https://doi.org/10.1016/j.techsoc.2025.102813>.
2. ExplainAI: An AI study by Wiley. Wiley; 2025.
3. Dai Y, Lai S, Lim CP, Liu A. ChatGPT and its impact on research supervision: Insights from Australian postgraduate research students. *Australasian Journal of Educational Technology*. 2023;39(4):74-88. doi: 10.14742/ajet.8843.
4. National Symposium on GenAI Graduate Skills and Employability: Australian Technology Network of Universities; 2025 [Available from: <https://www.atn.edu.au/events/national-symposium-on-gen-ai-graduate-skills-and-employability/>.]
5. Work Trend Index Annual Report. 2025: The Year the Frontier Firm is Born. Microsoft; 2025 April 23.
6. Levanon G. Generative Artificial Intelligence and the Workforce. The Burning Glass Institute; 2025.
7. Generative Artificial Intelligence Use in Graduate Research Training: Australian Council of Graduate Research; 2024 [Available from: <https://www.acgr.edu.au/good-practice/good-practice-guidelines/>.]
8. Australian Code for Responsible Conduct of Research. Commonwealth of Australia, Canberra: National Health and Medical Research Council, Australian Research Council and Universities Australia; 2018.
9. International Energy Agency (IEA). Energy and AI. Paris: IEA; 2025.
10. Messeri L, Crockett MJ. Artificial intelligence and illusions of understanding in scientific research. *Nature*. 2024;627(8002):49-58. doi: 10.1038/s41586-024-07146-0.
11. Knöchel T-D, Schweizer K, Acar O, Akil A, Al-Hoorie A, Buehler F, et al. Principles for Responsible AI Usage in Research. Open Science Framework; 2024. doi: <https://doi.org/10.31234/osf.io/g3m5f>.

12. Eacersall D, Pretorius L, Smirnov I, Spray E, Illingworth S, Chugh R, et al. Navigating ethical challenges in generative AI-enhanced research: The ETHICAL framework for responsible generative AI use. J Appl Learn Teach. 2025;8(2). doi: <https://doi.org/10.37074/jalt.2025.8.2.9>.
13. Guidelines for editing research theses. Institute of Professional Editors; 2019.

This document was developed using Claude Sonnet 3.5, 3.7 and Claude Opus 4. These tools were used as a writing assistant to support drafting and editing processes. All AI-generated content was critically reviewed, fact-checked against authoritative sources, and revised by human authors to ensure accuracy, appropriateness, and alignment with institutional policies. The authors take full responsibility for the final content, including any AI-assisted portions.

Updates to document:

Version	Published	Updates
1.1	24 September 2025	Amendments to reflect advice on strengthening information in relation to privacy laws.