

# SEDA Autumn Conference 2024



**Session Title:** How is Generative AI being used in multimodal learning, teaching and assessment in higher education contexts?: A scoping literature review.

**Session Type:** Research Papers (20 minutes)

**Main presenter(s):** Dr Tünde Varga-Atkins, University of Liverpool

**Co presenter(s):** Dr Sam Saunders (University of Liverpool), Sue Beckingham (Sheffield Hallam), Professor Peter Hartley (Edge Hill), Nayiri Keshishi (Surrey), Dr Nataša Lackovic (Lancaster), Dr Lina/Na Li (XJTLU, China), Dr Isabelle Winder (Bangor) [presenters on the day T

**Session Summary:** This paper will outline findings and conclusions from the initial scoping literature review exercise that forms a part of the first phases of the wider Generative AI and Multimodal Learning Project. The session will discuss the methodological approach to the literature review, outline the involvement of students and staff through international partnership with universities in China, and discuss the interim findings of the review.

**Session Outline:** This session discusses the context and interim findings from the literature review of our SEDA-funded Generative AI and Multimodal Learning project (SEDA, 2024). Multimodal learning is a way of teaching that uses different semiotic modes in one communication (e.g. text, images, sound, video, touch and gestures) to create extra meaning.

We outline research question(s) and discuss how these were constructed - 'How is Generative AI used in multimodal learning contexts in higher education contexts with students and educators?'. We discuss our PRISMA literature review methodology (Tricoo et al., 2018) using databases, Scopus and Web of Science, to establish relevant literature, aided by student research assistants from Xi'an Jiaotong Liverpool University (XJTLU) in China. We then highlight how the project team explored this corpus to answer both the overall research question and emerging sub-questions:

What are the common and/or established learning designs of multimodal learning using GenAI?

What types of multimodal artefacts are being generated, explored, evaluated by GenAI tools?

What type of GenAI tools are being used and by whom?

What are the outcomes and impact of the use of GenAI for multimodal learning? Is there any evaluation present? Are there any benefits?

What are the opportunities and challenges of using GenAI for multimodal learning in HE? For example, do we need further training, upskilling, improved access to technology, or improved policy on using GenAI?

What are the inclusivity, sustainability and ethical issues of using GenAI for multimodal learning?

Studies so far tend to fall into one of three categories: technical development on multimodal creation; semantic models and frameworks; and evaluation of GenAI use. There is an important role for educational developers here - encouraging and supporting further development and collaboration. Finally, we discuss and invite comments on our next steps, in light of the review.

## References: References

SEDA. (2024). SEDA small grants holders 2024 [website] Last accessed 13 Sep 2024: <https://www.seda.ac.uk/research/research-and-evaluation-small-grants/grant-holders/2024-grant-holders/>

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., et al. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473. <https://doi.org/10.7326/M18-0850>