

FROM CONCEPT TO CREATION: THE ROLE OF AI IN EDUCATION STUDIES FOR DESIGN

INTRODUCTION

The paper examines the impact of artificial intelligence (AI) on teaching methodology within design education. Students were introduced to the phases of the design process during lectures and guided to apply one of these phases in the aggregation of their practical tasks. (Table 1: Overview of ID methods defining and structuring the product development process).

METHODS

The lecturers employed online search engines by uploading photographs of the student projects and analyzing the suggested outcomes through systematic observation, searching, and discussion, three major categories of student work were distinguished:



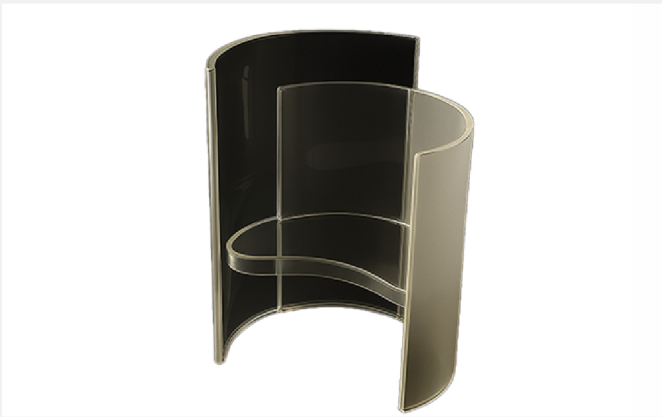


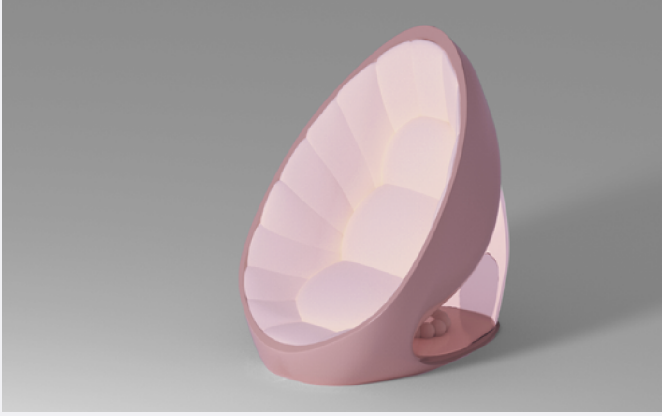










- 1. Resemblance to market products** – projects closely aligned with existing commercial designs.
- 2. Reliance on AI-generated prompts** – projects that demonstrated significant dependence on artificial intelligence tools for idea generation.
- 3. Independent original development** – projects that reflected unique, research-informed concepts created without direct replication.

This categorization provided a structured foundation for designing a questionnaire, which focused on broad thematic segments rather than specific details.

The questions were as follows:

1. Which AI applications did you use?
2. In which phase of the design process did you employ AI, and in what way did it assist you?
 - a. Discover b. Define c. Develop d. Deliver
4. In which category would you place yourself when using AI influence when creating a design concept
 - a. Resemblance to existing market products
 - b. Reliance on AI-generated prompts
 - c. Independent development of original ideas informed by research

RESULTS

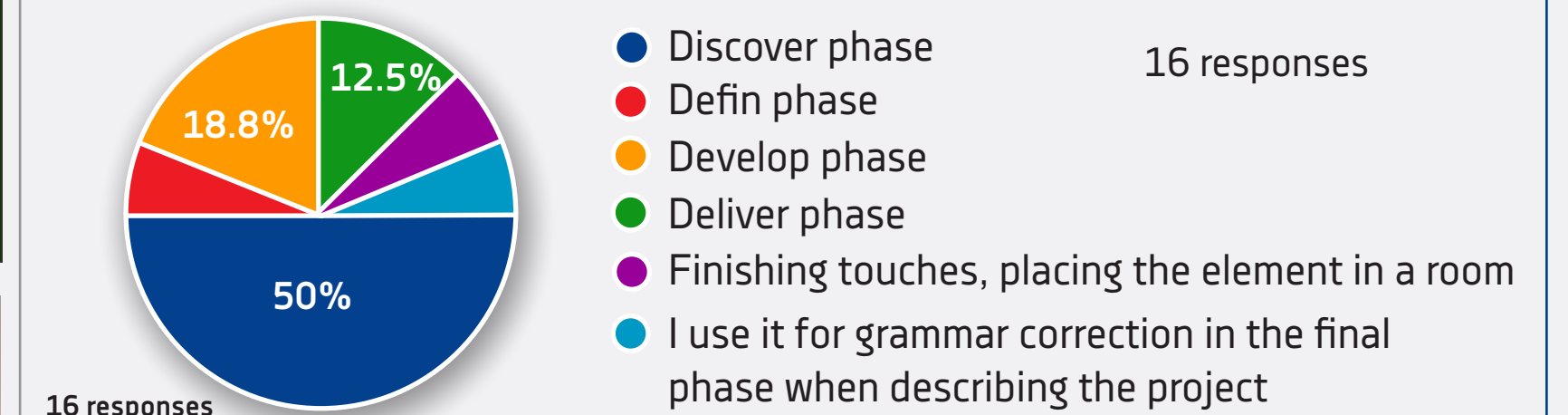
Resemblance to market products	Reliance on AI-generated prompts	Independent original development
		
		
		
		
		
		

The results are presented in two parts: first, the responses to three questions obtained from students, and second, the visual categorization of student tasks as aggregated by the lecturers.

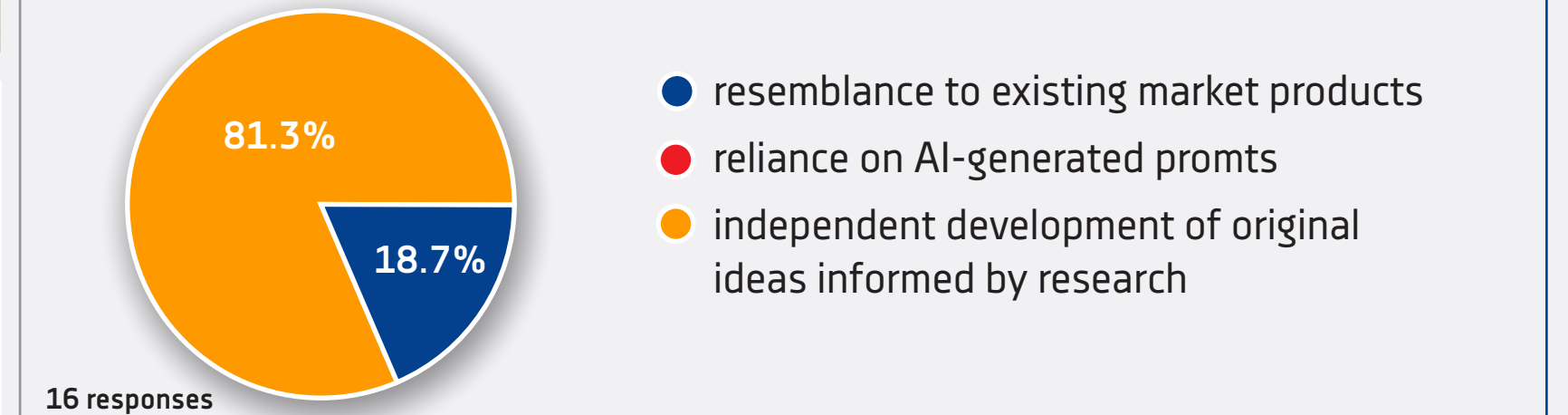
The questionnaire was completed by a total of 16 students enrolled in the Industrial Design course.

The questionnaire revealed that students primarily used ChatGPT, often in combination with other platforms such as Google AI, Gemini, Copilot, and Claude. AI was applied mainly in the Discover and Deliver phases of product development. Most students reported generating original ideas informed by research, while some acknowledged resemblance to market products; none indicated reliance on AI-generated prompts. In contrast, lecturer categorization suggested that student outputs were largely shaped by original ideas and AI prompts, with minimal dependence on market resemblance.

2. In which phase of the design process did you employ AI, and in what way did it assist you



3. In which category would you place yourself when using AI Influence when creating a design concept?



DISCUSSION AND CONCLUSION

Students who emphasized originality mainly used AI in the final stage of product development, while those drawing on market products or AI prompts integrated it throughout. A challenge emerged in aligning lecturer categorizations with student self-perceptions, as discrepancies and inconsistencies were noted. Despite these limitations, the study shows that AI tools are increasingly embedded in design processes, yet students continue to value originality. Future work should refine categorization methods and better connect self-assessment with external evaluation to strengthen insights into AI's role in creativity and learning.