

Genie of the magic lamp or collaborative genius? Reflection on the use of generative Artificial Intelligence in the teaching-learning process in communication design

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Abstract: Although Artificial Intelligence (AI) has inherent limitations, it unleashes unparalleled transformations in various creative fields. With the proliferation of AI devices, obtaining sophisticated, fascinating, and immediate results has become accessible to any individual, regardless of effort, commitment, or involvement. There is a latent concern about the discrepancy between the investment of effort applied and the resulting quality, a disparity that is incomparable to other technological situations in history. These questions form the basis of this study, where we are guided by the conviction that, as design teachers, we face a real 'Pandora's box' in the context of creative teaching. The students were asked to carry out a project using digital AI tools, complemented by a questionnaire on AI in the creative process of Communication Design. A total of 180 North Portuguese students were assessed, between January and February 2024: mean age of 22.6 years ([17, 53]): 55% male, from design courses, 1st, 2nd, and 3rd year (53.3%, 33.89%, 12.78%). The results show that only 14.4% use AI to create images with any frequency, with 2nd and 3rd-year students using it the most. The 'research phase' is the most researched (33.8%), but it is in the sketch phase that 3rd graders look for it the most. 'Text' and 'concrete images' are the most researched development phases (32% vs 19.9%). Third-year students tend to use AI more than first-year students, except for 'texts', where there are no significant differences. Students agree that AI is changing their relationship with images (75.6%) and that it will change 'our' relationship with them (66.1%). In this context, it is urgent to integrate AI into education and curricula so that they are used critically and creatively.

Keywords: Generative Artificial Intelligence; AI; digital image tool; communication design; design teaching; creative process.

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ORGANIZERS:



PARTNERSHIPS:



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ARTIFICIAL INTELLIGENCE

Unparalleled transformations in various creative fields;

Sophisticated, fascinating and immediate end results;

Accessible to any individual, regardless of effort, commitment or involvement;

Discrepancy that emerges between the investment of effort applied and the resulting quality.

These were some of the issues that sparked our interest in developing this study. And the conviction that, as design teachers, we are facing a real 'Pandora's box' in the context of creative teaching.

Genie of the magic lamp or collaborative genius?

METHODOLOGY

1

PEDAGOGICAL ACTIVITY

Digital AI imaging tool: **Dall-e**

4 Design Higher Education classes

Three class sessions (3h each) - total 9h

Quiz

2

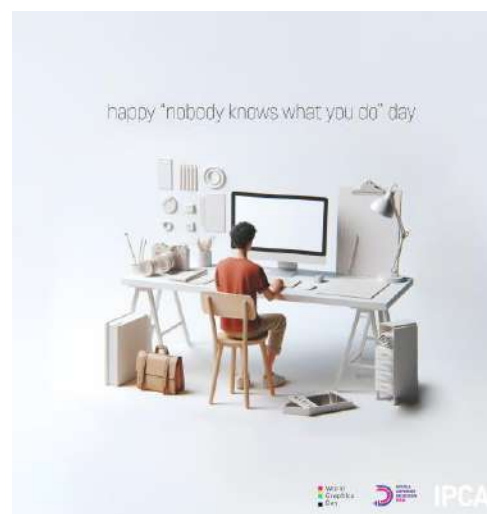
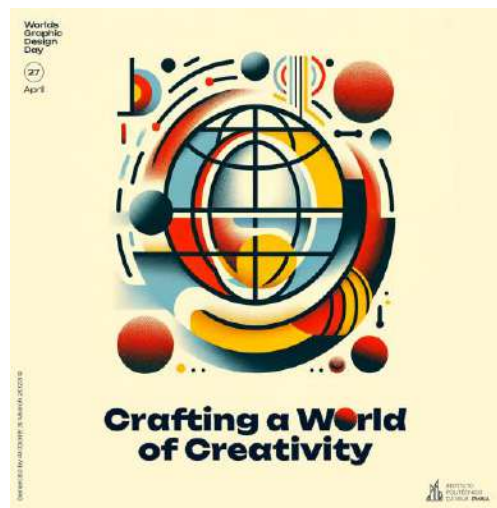
SURVEY

7 schools Higher education

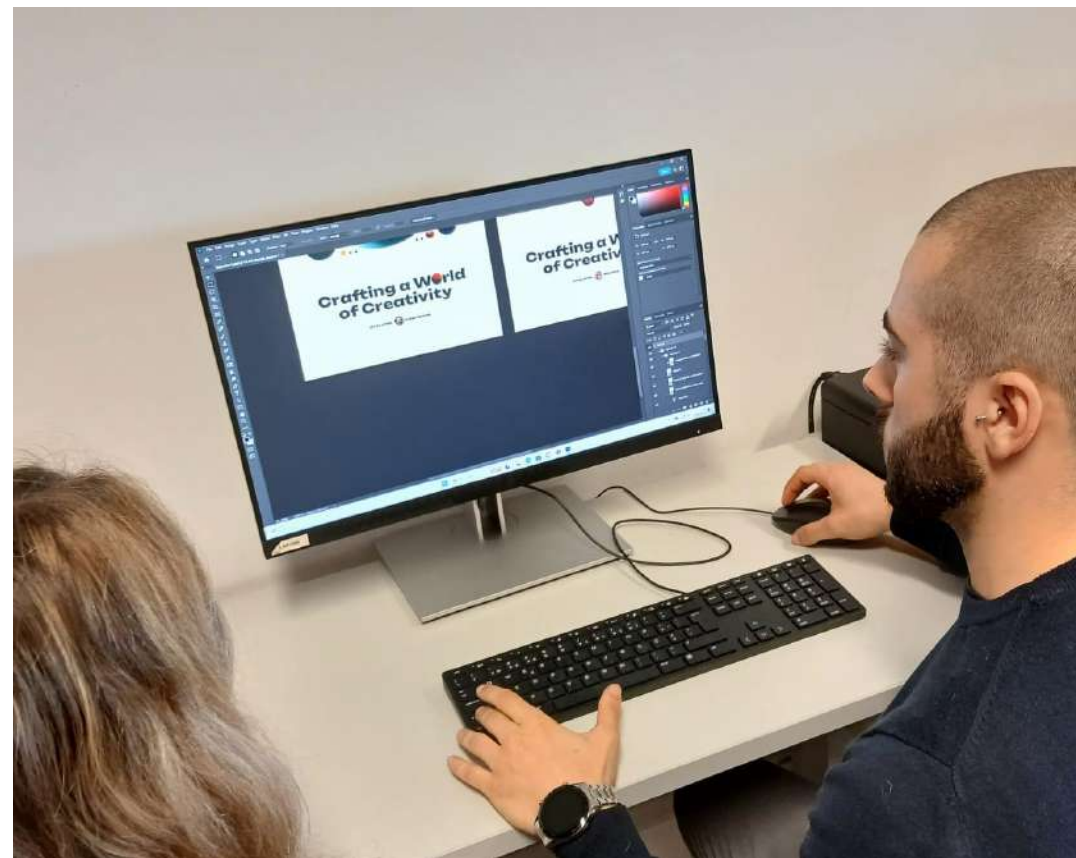
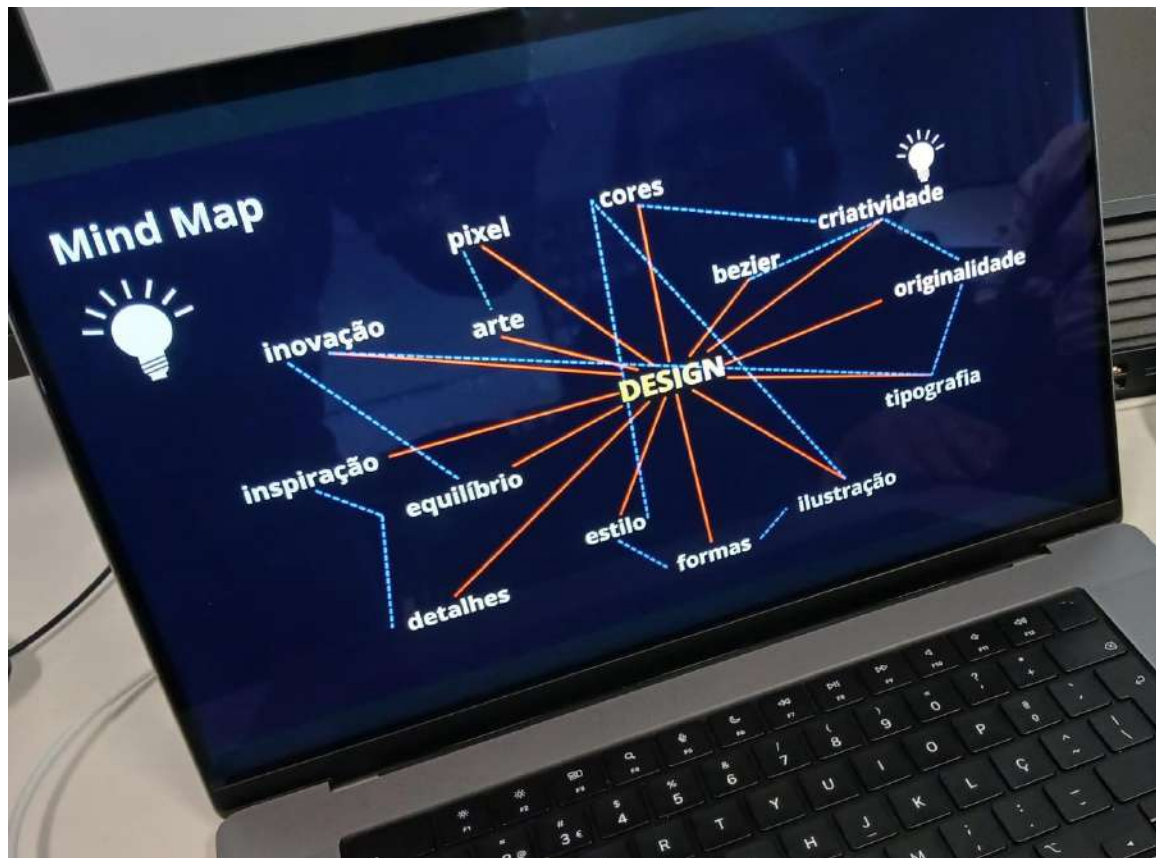
180 answers

1

PEDAGOGICAL ACTIVITY SOME RESULTS (CREATIVE POSTS)



PEDAGOGICAL ACTIVITY SOME EVIDENCE



PEDAGOGICAL ACTIVITY SOME EVIDENCE

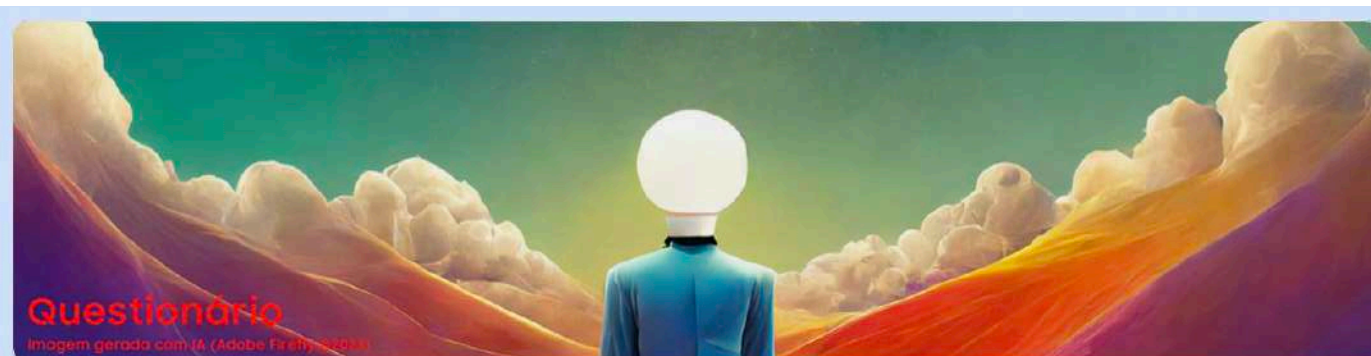


2

SURVEY

7 schools Higher education

180 answers



A Inteligência Artificial (IA) em projetos de Design de Comunicação

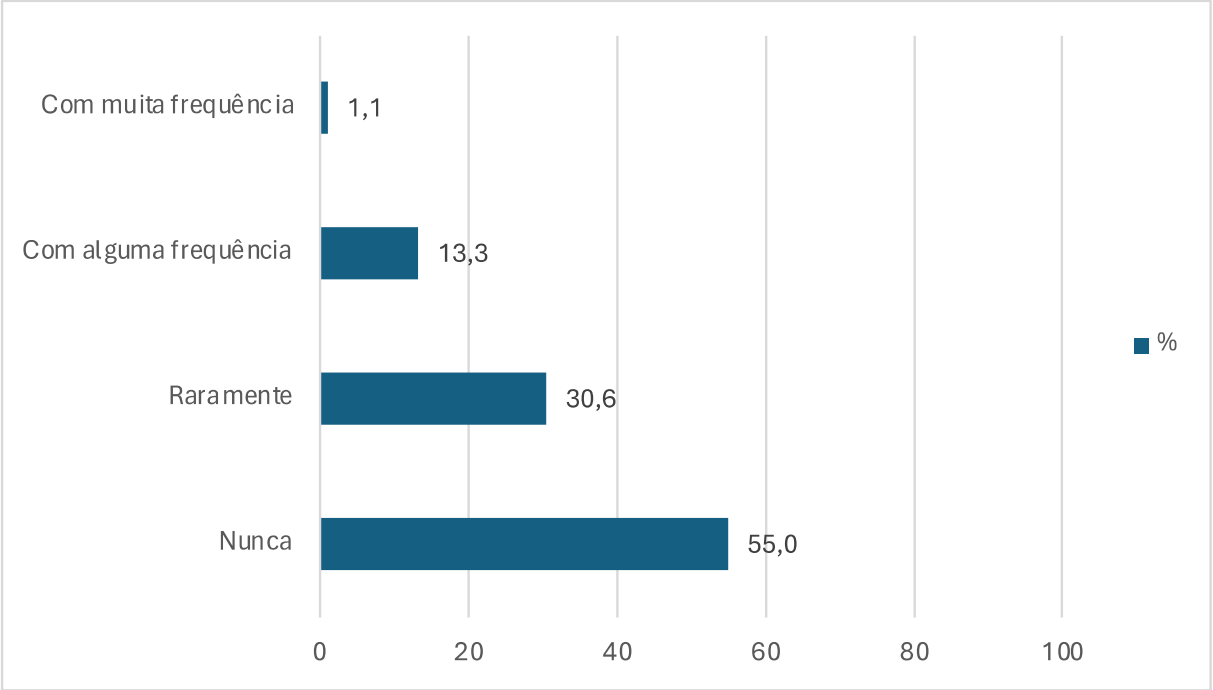
Contributos do uso da IA Generativa no ensino-aprendizagem do Design de Comunicação.

Para preencher este questionário precisa cerca de 15 minutos.

Este estudo é sobre o uso da IA no processo criativo em Design de Comunicação. A sua colaboração é valiosa e imprescindível para a investigação neste âmbito, pelo que solicitamos que as suas respostas sejam sinceras e ponderadas.

Os dados pessoais deste questionário são totalmente confidenciais e apenas utilizados para fins académicos.

How often do you create AI-generated images for school projects?



	n	média	DP	p
1.º Ano	96	1,40	0,672	<0,001
2.º Ano	61	1,77	0,804	
3.º Ano	23	2,04	0,706	

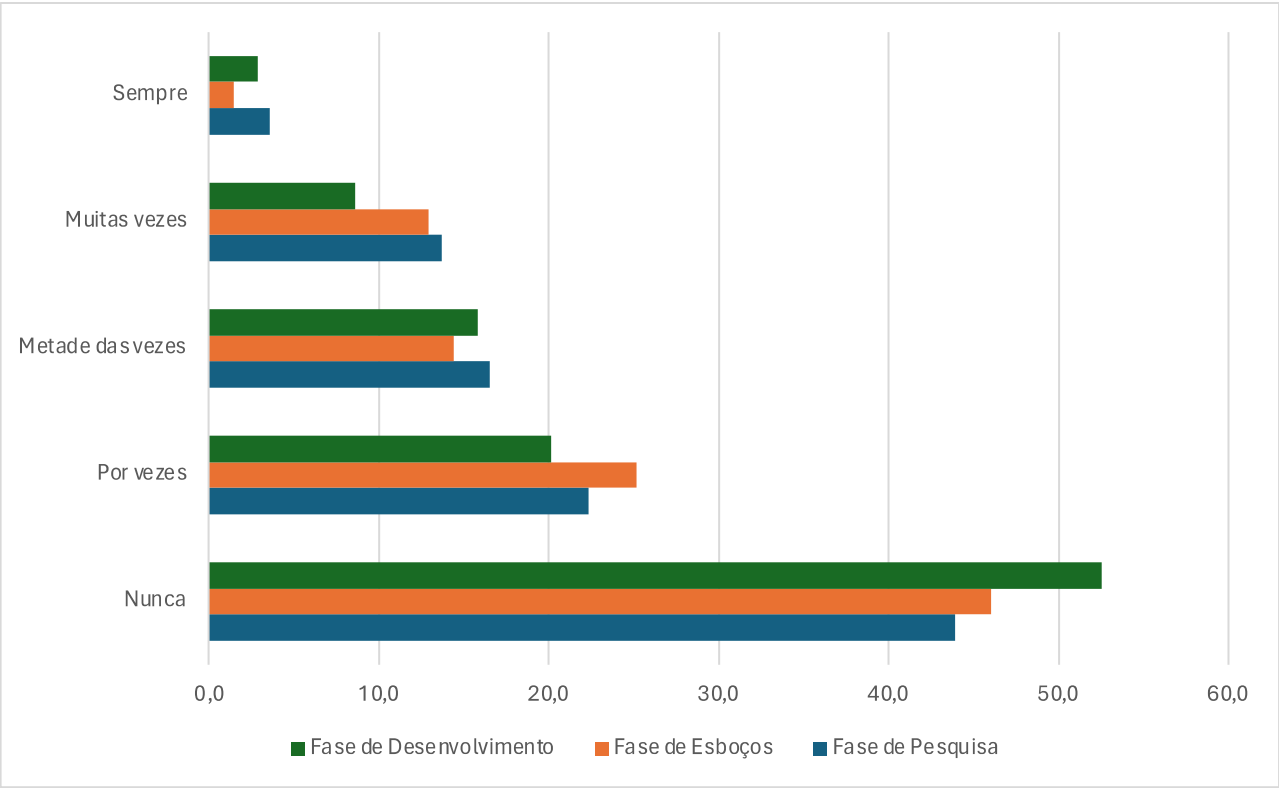
There are statistically significant differences in the frequency of creating AI-generated images in school projects, depending on the year of attendance. Students in the 3rd and 2nd grades use AI-generated images more frequently than students in the 1st grade.

When using generative image AI, classify the following statements.

		n	Média	DP	p
Q12_1 [Os resultados gerados estiveram de acordo com o seu objetivo?]	1.º Ano	64	2,52	1,098	0,785
	2.º Ano	53	2,58	0,929	
	3.º Ano	19	2,68	0,885	
Q12_2 Os resultados obtidos modificaram a sua ideia inicial?	1.º Ano	66	2,27	1,210	0,605
	2.º Ano	53	2,38	1,004	
	3.º Ano	20	2,45	0,945	
Q12_3 [Sente que consegue descrever aquilo que imagina?]	1.º Ano	65	2,54	1,324	0,224
	2.º Ano	53	2,85	1,116	
	3.º Ano	20	2,95	1,099	
Q12_4 [Sente-se frustrada(o) com os resultados?]	1.º Ano	66	2,15	1,099	0,323
	2.º Ano	53	2,28	1,007	
	3.º Ano	20	2,45	0,945	
Q12_5 [Costuma editar/tratar as imagens obtidas com outros softwares?]	1.º Ano	65	2,08	1,303	0,044
	2.º Ano	53	2,26	1,318	
	3.º Ano	20	3,00	1,556	

There were statistically significant differences in the frequency of editing and processing images with other software depending on the year of attendance. Third-year students tend to do this more often than first-year students.

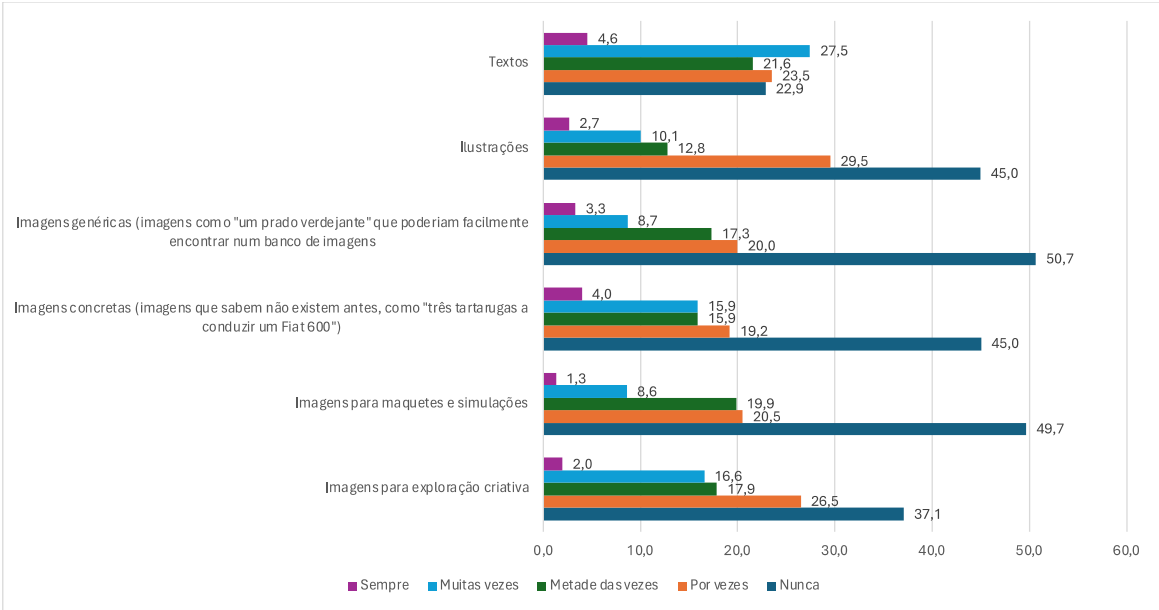
In the design projects you've already developed using generative image AI, please rate its frequency of use in the following phases.



		n	média	DP	p
Q14_2 [Fase de Esboços]	1.º Ano	67	1,81	1,145	0,032
	2.º Ano	52	2,06	1,110	
	3.º Ano	20	2,40	0,995	

In the design projects they have already developed, there are significant differences in the frequency of use of generative image AI in the sketching phase, depending on the year of attendance The 3rd year students did it more often than the 1st year students.

In the process of developing a design project, rate the frequency of use of AI for the following content. Use a scale of 1 (never) to 5 (always).



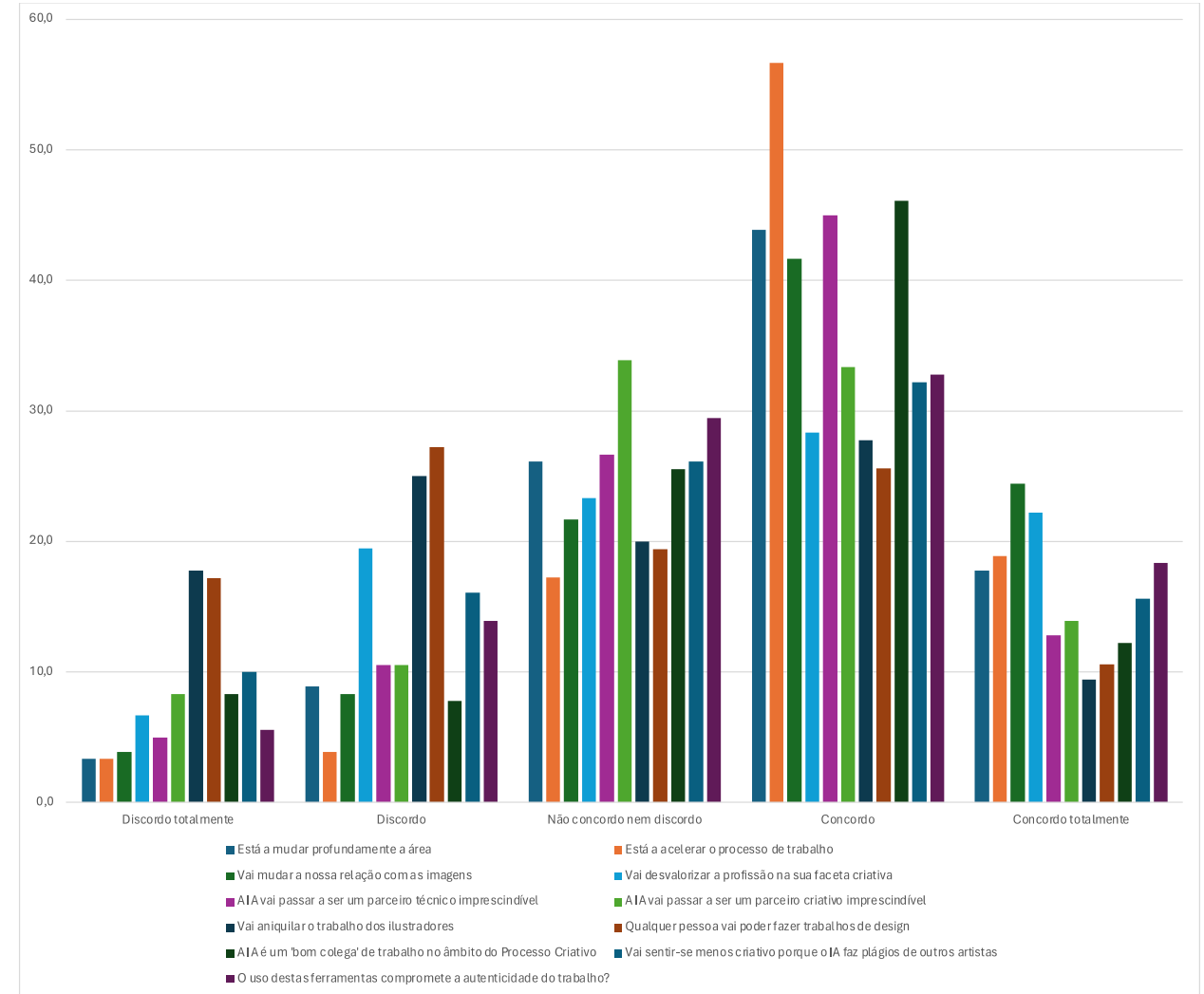
		n	média	DP	p
Q16_2 [Imagens para maquetes e simulações]	1.º Ano	76	1,71	1,017	0,027
	2.º Ano	54	2,06	1,106	
	3.º Ano	21	2,29	1,102	
Q16_3 [Imagens concretas (imagens que sabem não existem antes, como "três tartarugas a conduzir um Fiat 600")]	1.º Ano	76	1,84	1,233	0,002
	2.º Ano	54	2,41	1,237	
	3.º Ano	21	2,57	1,207	

It can be seen that the frequency with which students use AI in the process of developing a design project varies according to the year of attendance in the stages of images for creative exploration, images for models and simulations, concrete images, generic images and illustrations.

When compared to 1st graders, 3rd graders use AI more frequently for images for creative exploration, images for models and simulations, concrete images and generic images. On the other hand, 2nd year students use AI for illustrations more often than 1st year students.

In the process of developing a design project, rate the frequency of use of AI for the following contents. Use a scale from 1 (never) to 5 (always).

There are significant differences in the level of agreement depending on the year of attendance in the parameters: “Will you devalue the profession in its creative facet”; “Will you feel less creative because the AI plagiarises from other artists”; and “Does the use of these tools compromise the authenticity of the work?”.



In the process of developing a design project, rate the frequency of use of AI for the following contents. Use a scale from 1 (never) to 5 (always).

		n	média	NP	p
Q24_4 [Vai desvalorizar a profissão na sua faceta criativa]	1.º Ano	96	3,60	1,165	0,033
	2.º Ano	61	3,25	1,178	
	3.º Ano	23	2,96	1,397	

Compared to 3rd year students, 1st year students think/agree that AI will devalue the profession in its creative aspect;

		n	média	DP	p
Q24_10 [Vai sentir-se menos criativo porque o IA faz plágios de outros artistas]	1.º Ano	96	3,48	1,187	0,021
	2.º Ano	61	3,11	1,066	
	3.º Ano	23	2,83	1,435	
Q24_11 [O uso destas ferramentas compromete a autenticidade do trabalho?]	1.º Ano	96	3,65	1,056	0,023
	2.º Ano	61	3,18	1,088	
	3.º Ano	23	3,30	1,259	

The 1st year students, compared to the 3rd year students, consider/agree that "You will feel less creative because IA plagiarises other artists"; the same is true when compared to the 2nd year students.

First year students, compared to second year students, consider/agree that the use of these tools compromises the authenticity of the work.

Conclusion

A world of constant transformation requires individuals to adapt continuously and be open to new languages, expecting a quick, efficient response in return. In this context, there is an urgent need to integrate artificial intelligence into teaching and programme content so that it can be used critically and creatively.

THANKS :)

