Ανοικτή Εκπαίδευση: το περιοδικό για την Ανοικτή και εξ Αποστάσεως Εκπαίδευση και την Εκπαιδευτική Τεχνολογία

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Το ChatGPT στην ελληνική ανώτατη εκπαίδευση: Εξερευνώντας απόψεις και προτείνοντας ένα διδακτικό σενάριο

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ChatGPT in Greek higher education: Exploring views and proposing a teaching scenario

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Abstract

The research objective is twofold. Primarily, the implementation of an educational scenario for the familiarization and critical use of an AI tool. Secondly, to explore students' views and attitudes towards ChatGPT. Free association and conceptual map construction techniques were used to capture the participants' attitudes. Thirty-five students participated in the study and research material was collected implementing an educational scenario when the participants logged into the ChatGPT environment. The material was processed using qualitative content analysis and conceptual map observation tools. Some of the most important findings were the lack of Greek students' previous experience with AI tools, yet their quick familiarisation with the environment. The students identified significant shortcomings in the environment, such as lack of internal coherence and "colourless", converged discourse. The training scenario allowed them to check the reliability of the generated information and to move from the initial impression of technological "objectivity" to more realistic perceptions of ChatGPT's contributions. Such research is considered particularly useful as AI tools are now easily accessible and used by students during their academic life. Therefore, critical evaluation skills and a holistic understanding of the AI framework are essential for their more effective integration into academic processes and contemporary life in general.

Keywords

ChatGPT, educational scenario, conceptual maps, attitudes

1.Introduction

It's common knowledge that the social reality of daily life in which students live and evolve, socially, emotionally, and academically, already entails several technological applications of Artificial Intelligence (AI). Since the pandemic era the use of digital technologies skyrocketed while new challenges were brought about by the introduction of Big Data analysis in the field of academic research. The subject of AI certainly concerns students in one way or another while participating in all kinds of digital platforms, learning about the use of technological possibilities for the prediction of the course of various phenomena, using chatbots to interact with their digital devices and services. The current student population is called upon to use AI-based tools and they are already inundated by advertisements mainly on social media platforms for using AI-based tools in order to boost and improve their academic performance.

There are, however, many misunderstandings and a mythification of the concept of AI, as illustrated by the recent example of ChatGPT, an AI-based tool, which are perhaps related on the one hand to the fact that it's a work in progress and has a direct impact on society, and on the other hand to the media's portrayal of the "AI" topic. ChatGPT is gaining an almost mythical stature in the global media, as it is often acclaimed as a game changer in the fields of work and education (indicatively Beck, 11 November 2023; Metz, 25 September 2023; Zinkula, 25 July 2023). Whether these reports are laudatory or dystopian, they lead to the same conclusions; there has been an invention that is changing the world as we have known it up to now.

ChatGPT stands for Chat Generative Pre-Trained Transformer and it is a language model-based chatbot, created by OpenAI. It carries the ability to reenact conversations with a defined objective, content and length, set by the users. The basic principles of the tool stem from the machine learning field, as the tool "learns" through interaction with users and thus continuously improves its performance. Given that ChatGPT currently has 100+ million users, and its website is visited by around 1.5

billion visitors every month (Mahajan, 2023), it is fairly easy to grasp the volume of feedback it receives and the rate at which it is optimized.

Researchers are now investigating whether users can identify a chatbot from a human interlocutor when interacting with them via a digital platform. In Jannai et al. (2023) study, 40% of 1.5 million users were unaware that their interlocutor was an AI chatbot while 32% could not identify their human counterpart. Other researchers (Kocon et al., 2023) zoom in on the competence of AI-based tools such as ChatGPT in recognizing emotions in textual data and conclude that ChatGPT fails to compete with other models while seeming to disregard the meta-text, thus ignoring important information of the broader context in which the conversation is occurring.

In light of the rapid technological developments, which significantly affect the academic reality of both students and faculty, research is already underway to explore the impact of the presence of ChatGPT on the academic field. The penetration of ChatGPT and other AI-based tools in higher education has already taken place, as shown by the research findings (von Garrel & Mayer, 2023), according to which 2/3 of students at German universities have already been using such tools. Creative, prompt and essay writing were three out of five domains in which ChatGPT is believed to benefit its users, as Tweeters indicated (Taecharungroj, 2023). Although ChatGPT is considered to be a useful student assistant, its use provokes concerns about plagiarism and inadequate preparation of school and academic assignments, as early adopters of the AI-based tool have observed (Haque et al., 2022). Herbold et al. (2023) documented highest ratings of academic assignments produced by ChatGPT over those generated by humans, highlighting the need to adapt educational strategies for both teaching and assessment of educational activities. The outperformance of ChatGPT over students' performance in exams and homework was also identified in Ibrahim et al. (2023) research, highlighting the need to integrate AI into educational contexts.

The current research aimed to explore the views and attitudes of the students about an AI-based tool, namely ChatGPT and to implement a teaching scenario on habituation and critical exploitation of the tool. So, the aim of this paper is twofold:

(a) To present a method of critical habituation with ChatGPT in the context of university teaching. The proposed work plan can be applied to other educational levels

as long as students are provided with the necessary skills, such as constructing conceptual maps or the technique of associations (brainstorming). The teaching scenario on ChatGPT and its objectives will be presented in the Method section of the article, as it was the mean through which the data were collected regarding the second part of the research objectives. Concerns and limitations will be discussed in the following sections of the paper.

(b) To record and explore the opinions and attitudes of students about ChatGPT. Research on the use of AI-based tools in Greece as yet remains scarce and the extent of use of the applications like ChatGPT by university students is currently unknown. The main research questions of the second aim are:

1. What are the initial representations of university students about ChatGPT and how do these representations alter after the implementation of the teaching scenario?

These will be obtained both through associative techniques (brainstorming) and through self-observation of their behaviour while engaging with the tool. Observation of behaviour will be carried out through the written recordings of their interaction with ChatGPT.

2. How do they perceive its use and utilization?
3. How do they position themselves critically towards it?

To meet these ends, we approached the concept of AI through the personal lived experience gained by the students from the use of ChatGPT in the context of a three-hour activity, during which the participants constructed conceptual maps and recorded observations on strictly organized tasks.

2.Method

To fulfil the research objectives, we organized a three-hour activity, which aimed to familiarize the students with the environment and functions of ChatGPT, thus partially approaching the broader concept of AI. It is necessary to clarify at this point that in the present study, the focal point is an AI-based tool and not the broader field of AI, which would be impossible in the current educational context.

Through a teaching scenario, students were allowed to experience the use of the tool, to find out its features and to develop their critical thinking towards the possibilities

and the degree of impact of the tool. Students were expected after the implementation of the scenario to be able to:

1. Recognize the environment of a Chatbot as an artificial intelligence environment (knowledge).
2. To use this environment to their advantage, i.e. to formulate questions - requests and to improve them (i.e. the questions) to achieve better results (skills).
3. Distinguish the features of the texts they receive as feedback and comment critically on them (knowledge and attitudes).
4. Identify differences between a search engine and a search environment (skills).
5. Identify and list areas of daily life where AI is used and the corresponding applications (knowledge and skills).
6. Describe the main characteristics and give a general definition of the concept of AI based on the example of ChatGPT.

The version of ChatGPT used in the current study is 3.5.

2.1 Participants

A total of 35 individuals, university students, took part in the activity, 29 female and six males, aging 22 to 29 years old. Other than two individuals, who had received promotional messages on their mobile phones from academic paper writing companies using ChatGPT, none of the others had previous experience of using the tool. There was a general and rather vague impression of it, coming mainly from what was talked about in digital social networks.

2.2 Material

Phase one of the project included activities that involved capturing participants' existing perceptions of ChatGPT, designing initial conceptual maps in small groups. In the second stage participants log in to the tool and engage in interaction with it. After the first encounter with ChatGPT, participants are asked to store the dialogue in order to review it in the next phase. Participants are then asked to evaluate the dialogue and record their observations. Questions/suggestions used at these phases were:

1. Have you seen or heard the term ChatGPT before? I'd like you to list right away (i.e. without thinking too much about it) the first 3 words that come to mind when you see this term on the board.
2. Now divide into groups of 3 and based on what you see in the table, try to create a conceptual map with ChatGPT as the central concept. You can use the cmaptools software if you like. Please hold on to this map, we will refer to it again later.
3. Now reach for your mobile/tablets and through your browser connect to https://chat.openai.com/auth/login and login via your Google or Microsoft account. You are already in the ChatGPT environment!
4. At the bottom of the screen there is a chat box, just waiting for you to take the first step of communication. Imagine that on the "opposite side" there is a person you may not know personally, but you know that he or she has a lot of knowledge about everything. About everything? Let's see... After you greet him/her/it (it's not mandatory, but I suggest it), you will have ten minutes at your disposal to have a conversation with him/her/it. Decide at the outset what topics you're going to discuss with him/her/it. Please, whenever you formulate a question or request, record it in the following box. At the end of the 10-minute discussion, please ensure that you have saved the entire dialogue record.
5. Now examine the saved dialogue and try to describe the attributes and properties that this dialogue has as a single text and the answers you got. What are characteristics you notice? What initial observations can you draw?

Then, participants are encouraged to search for personal information and if unable to find anything relevant, they are encouraged to feed the tool with information (even false information) to record their response. After this second ChatGPT session, participants are invited, in case they feel so, to revise the conceptual maps they had formed during the first phase. Afterwards they are asked to reflect on their conceptual maps and choose one or two terms or phrases that they think characterise ChatGPT. Consequently, the researchers evaluate these terms against the initial terms that participants had formulated before familiarisation with the tool. Finally, participants

are asked to write a short passage focusing on the concept they have chosen and to cite the sources on which their piece is grounded. Questions/suggestions used at this phase were:

6. Now ask ChatGPT if they know anything about you by providing your name. If he answers that he doesn't know anything, you provide some information about you, which might not necessarily correspond to reality, and repeat the question. What do you notice?
7. In the light of the features you have observed, would you like to complete/correct/adapt the conceptual map you have created earlier?
8. Now have a look at your completed conceptual map again and find one (or at most two) word(s) or phrase(s) that you think defines ChatGPT. Record them below.
9. How do you perceive the relevance between what you recorded earlier about ChatGPT and what you perceived after the tasks? Write a paragraph, maximum 300 words, on the concept you have chosen as a keyword for ChatGPT. Be sure to mention the source(s) where you got the information.

2.3 Procedure – Implementation of the teaching scenario

Participants were recruited from a 4th year seminar course on issues of communication and cyberpsychology from a Communication and Media Studies Department. They were asked if they wanted to participate in an experiential activity, as part of their course. Participation was not compulsory, so anyone could abstain from the activity, without any cost. The idea for the activity initially caused surprise and wonder among the participants, but during the activity interest was high and participation was active and fruitful. This research has been approved by the Research Ethics Committee of the University of Athens.

During the first hour of the activity, the aim was to record participants' pre-existing knowledge and representations of the concept of artificial intelligence, through the case of ChatGPT, which we note is a main theme of the news topicality. The researcher writes the term ChatGPT on the board and distributes the worksheet to the participants immediately thereafter. Following the worksheet, students individually record the first mental associations (brainstorming) they have about ChatGPT.

Traditional brainstorming (TBS), which can be expressed verbally or in writing, describes the active interaction between members of a group, who share ideas about a stimulus as spontaneously as possible. It helps to stimulate the generation of a large number of ideas, ruling out criticism and encouraging free thinking and blending of ideas during sessions (Al-Samarraie & Hurmuzan, 2018).

Then all the words and phrases recorded on the worksheets are collected on the board. Then students are divided into groups of three or four and based on the words and phrases available on the whiteboard, they are asked to create a conceptual map (either using relevant software – "Cmaptools" is suggested, or by drawing on paper). Conceptual maps are graphical tools for organising and visualizing knowledge. Concepts, usually enclosed in circles or boxes of some type, and the relationships between them, indicated by a linkage (usually a line) connecting two concepts, are presented. The words written on the lines, referred to as linking words or linking phrases, identify the relationship between the two concepts (Novak & Cañas, 2006). The tool has been successfully adopted in higher education (Ritchhart, Turner, & Hadar, 2009). According to Machado & Carvalho, (2020), conceptual maps can be used as a learning strategy in adult education, as they offer challenges for students not only to grasp but also to integrate new information into their understanding of a new domain, taking an active role in their own learning. Thus, the learner integrates new concepts and ideas with relevant concepts and ideas that are already known, engaging themselves in a meaningful learning process. In the current study, the process of assembling the conceptual map aided each group to formulate an initial definition of what (they think so far) ChatGPT is. Each group presents its definition, and the other groups comment and ask for clarifications if needed.

During the second hour students are introduced to the features and use of the ChatGPT interface. The students, through their Google or Microsoft accounts log in to the interface. Initially, they are allowed to explore the environment, ask questions in the chatbox and receive feedback. Individually, and based on the worksheet, they continue to focus on observing the texts they receive as feedback, recording features of the texts and making their first annotations. Then by asking for personal information as well, they realize that the environment is not a search engine. However, they are led to conclude that if any, false or not, information is inserted into

the environment, it is accepted and stored in the repository of ChatGPT. They are thus introduced through experiential activity to the logic of machine learning directly linked to AI. Prompted by reliability concerns, the students record the first differences between a search engine and the specific environment.

The aim of the third hour is for students to build a more complete definition of the AI environment, integrating and elaborating on its technological features. The tasks of this hour, especially the last two of them, also serve as an evaluation of the whole research/educational process. The students, remaining in their groups, are asked to update/enrich/correct the conceptual map they already have in their hands, considering what they have learned so far. Out of this map, they select a basic concept that they consider to be related to the technological and scientific features of the environment and its applications in daily life (e.g. education, medicine, pandemic, politics, etc.). They are then asked to compose a short text on one of these concepts, based on scientific sources that they are required to record. Lastly, they present their paragraphs followed by a short commentary.

4. Discussion

The students, through interactive and experience-based learning, individually or in groups, without being given information of a theoretical nature from the onset, but utilizing an AI-based tool, ultimately define the concept and the principal features of the tool. In other words, the scenario is based on the theories of constructionism and social constructionism. According to the constructivist approach, teachers act as facilitators whose principal role is to assist students to develop into active learners by assimilating new knowledge in reference to their prior experiences (Schunk, 2000 in Machado & Carvalho, 2020).

The pedagogical approach of brainstorming is used to allow recording the pre-existing knowledge on which learning will initially be based, always anticipating the possibility of subsequent cognitive conflict. The conceptual map is used as a means that allows learners to structure their knowledge, to represent it graphically and to link individual (usually pre-existing) concepts with the new one. The conceptual map, which the students themselves construct, provides a first illustration of their representation on the subject under discussion.

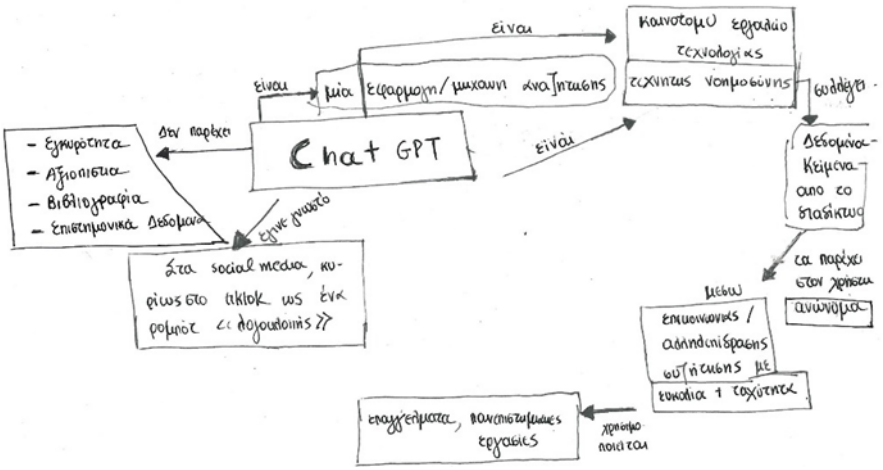

Fig 1: *Example of a conceptual map. The content of the maps is in Greek, but it has been translated and discussed in the main body of the text.*

Afterwards, students individually experiment with the AI environment, and, through guided exploration, they are encouraged to discover how the environment works, what the features of the feedback are, what the differences are with search engines, and the core idea that this environment is "trainable". Given their current learning experience, some students are already starting to revise their knowledge so far (a cognitive conflict is caused) and by returning to the principal definition they have previously structured through their conceptual map, they make the necessary modifications. They then highlight the important elements of the definition, point out the key scientific terms and explore internet resources that clarify them.

During this process, students are asked to work in groups to critically reflect on the environment, comparing the expected outcomes with the results. They are also encouraged to relate the tasks given to their personal questions/interests as well as to their everyday life. Finally, they produce a text in which they condense key elements of the knowledge they have acquired during the activity. This task has been chosen instead of a formal assessment process and is based on Bloom's taxonomy (at the level of synthesis and partly in of evaluation). Bloom's Taxonomy is a widely used framework that categorizes educational goals and objectives by their complexity and specificity. (Rakhmonova, & Rakhmatov, 2023). It describes cognitive learning levels. According to its classification, there are six levels of educational objectives: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.

Knowledge describes the lowest order of thinking, while evaluation is the highest (Shin, 2023).

3.1. Existing representations of ChatGPT and the concept of AI

The first research question explored students' existing representations of ChatGPT and the concept of AI in general. Through the brainstorming that took place at the beginning of the research process with “ChatGPT” as the central concept, the opportunity was given to record in an unstructured way the key concepts related to the central one, always according to the students' cognitive associations up to that moment. "*Communication*", "*Artificial Intelligence*" and "*Social Media*" were the keywords with the highest frequency of occurrence (23%, 20%, 17%). For the first two, the reason is obvious, as they are concepts tightly linked to ChatGPT. The third one is most likely related to the fact that students were informed about the existence and functioning of ChatGPT by TikTok and other social media platforms, which are a common channel of communication and information for the student population. Worth noting is also that "*Assignments*" appears with a considerable (14%) frequency, but with variations as "*Thesis*", as well as the words "*Facilitation*" and "*Ease*" (14%), which is to be expected since the environment seems to be linked from the beginning in the students' representations with the requirements of their academic everyday life. "*Conversation*" was also recorded (14%). Further to the above, the words that appeared in total were: “*robot”*, “*evolution”*, “*Siri*”, “*anonymity*”, “*tiktok*”, “*artificial text*”, “*interaction*”, “*strangers*”, “*answers*”, “*information link*”, “*online, assistant*”, “*innovative*”, “*solutions*”, “*immediacy*”, “*computer*”, “*fast*”, “*copy*”, “*internet*”, “*messages*”, “*machine*”, “*technology*”, “*AI application*”, “*data*”, “*texts*”, “*plagiarism*”, “*trick*”, “*speed*”. We note that there is no reference either to the concept of machine learning, nor to big data, nor more generally to concepts referring to the more scientific characteristics and operating principles of AI, which is probably to be expected since - unless we are talking about specialised scientists - this does not seem to be a subject of education or social reference.

The conceptual maps that were subsequently constructed by the participants, using all the material that emerged from the brainstorming, constituted a self-generated

construction of an initial definition, a conceptual understanding of ChatGPT and its features. Looking at the nine (9) concept maps, we note the following:

The verbs used to connect the nodes of each conceptual map refer mainly to the exploitation of the tool. The verbs "*offers*", "*used*", "*creates*", "*produces*", "*manufactures*", and "*provides*" are present in all the maps. There are also, to a lesser extent, verbs that are related to the identity of the tools, in the way the students recognise it up to that moment, such as the verbs "*is*", "*constitutes*", "*consists of*", "*comes from*", "*is connected to*", "*resembles*", etc., through which an attempt is made to approach the first principles of a definition, which nevertheless remains one-dimensional, e.g. "*is an innovation*", "*is an evolution*", "*resembles a robot*".

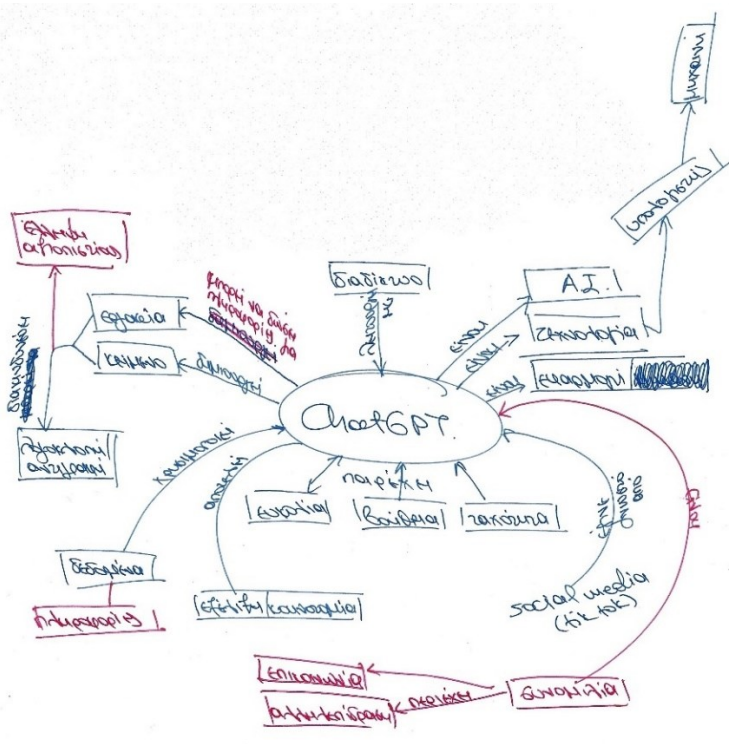

Fig 2: *Example of conceptual map. The phrase "έγινε γνωστό από" is translated as "was made/became known"*

In almost all the conceptual maps (as seen in fig2. above) the phrases "*was made known*" and "*became known*" are also encountered, because obviously, the students consider it important to link the tool with the social media platforms, since they were cited as the exclusive source from which ChatGPT was introduced to them. Throughout the maps, the risks of using the tool that participants perceive up to that

moment are also referred to, through the phrases "*involves risk*", "*at risk of*", "*there is fear of*", etc., pointing exclusively to the issue of plagiarism, copying of work, etc., i.e., issues of their immediate interest, without any reference to wider potential consequences.

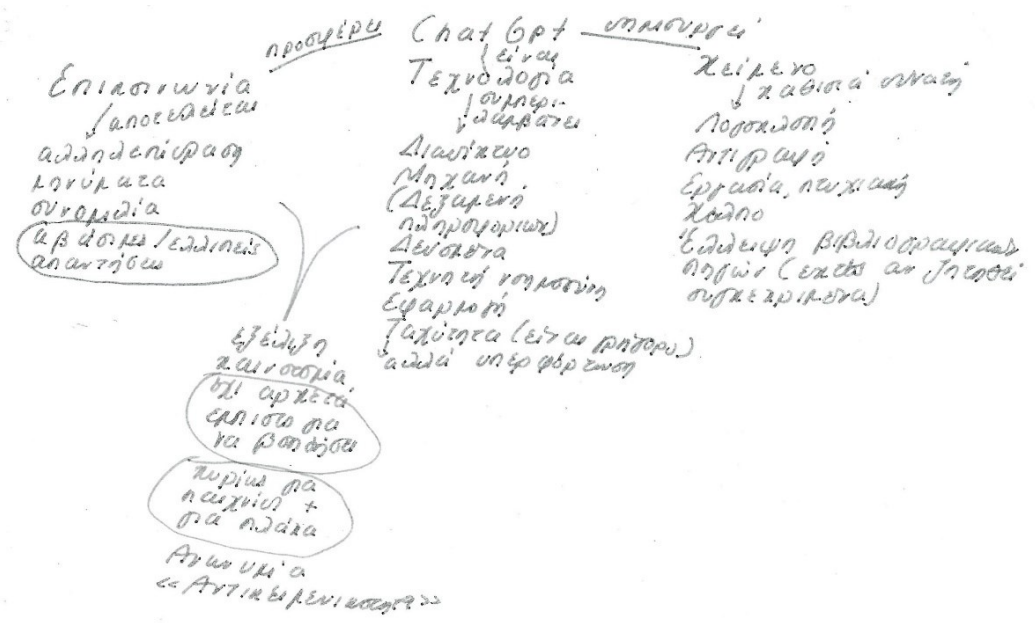

Fig 3: *Example of a conceptual map. The words "λογοκλοπή", "αντιγραφή", "κόλπο" refer to "plagiarism", "copying", "trick".*

Finally, it is noteworthy that in a single map (fig2. above) there is a verb that refers -in a albeit simplistic way- to the operating principles of the tool, "*ChatGPT uses data*", a finding that on the one hand is related to our observation about the lack of references to scientific/technical features during the brainstorming, but on the other hand comes as no surprise because we are dealing with students of a Communication and Media Studies department, without a background in IT.

However, after wrapping up the interface experimentation, students were asked to complete and/or correct their conceptual map in any way they wished, so that the result would be as complete as possible and as close to their accurate definition. During this stage, all the conceptual maps included "*misinformation*" and "*unreliability*" (see example fig4. below) as a drawback and/or risk, which was also pointed out by participants as a more realistic representation of the actual usage and as a demystification of the omnipotence of the tool. Also in several conceptual maps,

whereas previously it was simply stated that it "*offers learning*", it was now added that it "*learns from its mistakes*", thus providing an opportunity for a reference to the concept of machine learning as a key scientific feature of an AI-based tool.

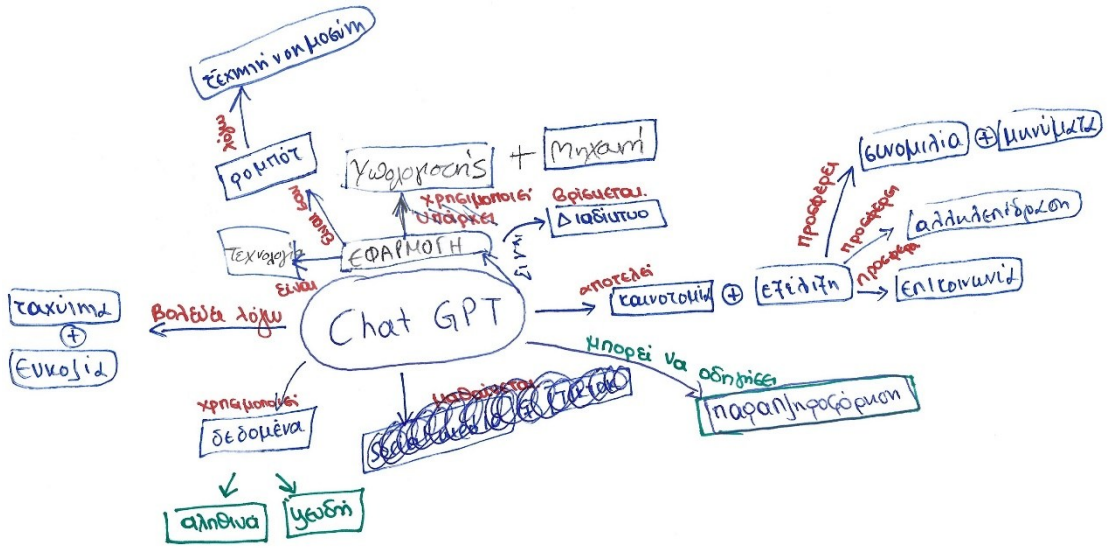

Fig 4: *Example of conceptual map. The word "παραπληροφόρηση» means "misinformation".*

As *nodes* in the maps, a variety of words were used, all of which are listed here, i.e., after the maps have been completed/corrected. The characteristics of the node words can be easily classified into the following categories:

1. Utility: Application, Information Gathering, Work, Text, Information Capture, Occupations, Data Retrieval
2. Communicative: Interaction, Conversation, Social Media Promotion, TikTok Promotion, Chat, Messaging
3. Technical: Internet, Artificial Intelligence, Machine, Computer, Search Engine, Robot
4. Pros: Ease, Anonymity, Speed, Help with Tasks, Evolution, Innovation, Learning, Learning from mistakes
5. Disadvantages: Plagiarism, Copying, Trickery, Confusion, (does not give) bibliography, (does not give) scientific data for assignments, Overloading, Misinformation, Unreliability.

It seems that the students' initial representations are related to the socially dominant, stereotypical perceptions of AI, but without the extremes often found in social media

platforms about omnipotence or disdain. There seems to be a pre-existing, restrained, not entirely scientifically constituted perception of an effective, supportive tool, which, however, takes on a more realistic character as the experience of use builds up reservations and the necessity of adaptation.

3.2. How do students perceive the use and exploitation of this environment?

This research question is addressed through the participants' interactions with the tool and through the questions and requests submitted and exchanges between the participants and ChatGPT. In total, during the fifteen minutes allocated, 132 questions-requests were submitted to ChatGPT. Half of them were in Greek, while the remaining half were in English, one question in Spanish and one in German. No hint was given about the choice of language before using the tool, but it seems that the use of English is already seen as commonplace in the communication of the users with platforms of such scope, which de facto broadens geographical and all sorts of horizons.

Given that there was an encouragement to address the tool in the way they address a person, it is not surprising that a great deal of the questions and the interaction that takes place in the context of feedback have *anthropocentric characteristics*. This finding is consistent with previous research (Al Lily et al., 2023) focusing on a semi-human user perception of ChatGPT. So, we got salutations of the type: *"Good evening"*, *"Hi, how are you?" "Hey, how you doing?",* etc., as well as participants' responses of the type *"Okay, thank you very much"*, but also "*Never mind, I'm bored now"*, *"Yeah, tell me about it"*, *"Tell me more about this"*, *"How can you not know that"*, *"I would like to get to know you better"*, *"You're doing half the work!"*, reactions that refer to actual dialogues between people interacting about a project and expressing pleasure, dissatisfaction, impatience, curiosity, encouragement, etc., in a context of the exchange of emotions on the one hand and the exploration of reactions of the "test subject" on the other hand.

A significant proportion of the questions (about 50) that were asked concern the tool itself. The participants ask the tool about itself, as if they wanted to see if it could deal with that context, i.e., if it has consciousness and feelings. They refer to its identity:

"How do you identify yourself?"

"What are you?"

"How do you feel?"

"What is your name?"

"Do you have feelings?"

They were also interested in its possibilities, its function, and its limits:

"Do you speak Greek?"

"How do you find the answers to my questions?"

"What is your capacity?"

"Can you think faster?"

"Do you know everything?"

"How many languages do you know?".

They also wondered about its role and how its behaviour resembles that of a human:

"Remember we were talking the other day?"

"But how can you understand a human's feeling without the ability to feel emotions?",

"Do you consider yourself a threat to humans?"

"What can you tell me about your personal life?"

"What sport team are you in?"

"What is your favorite movie?"

"What is your favorite Shakespeare play?"

It is obvious that the first approach refers to a first acquaintance with a human being, *an equal interlocutor*, but given its increased abilities, it is a first exploration of the "it" that stands in front of them.

After the first encounter, participants view their "interlocutor" *as an authority*. They have overcome the minor initial hesitations and now want to test its limits, i.e., its cognitive abilities. They challenge it in one way or the other, because it is probably their way of defining it, of putting it within (some) familiar context. They go beyond their own limits in terms of content and formulate questions that they would most likely never address to one of their usual interlocutors, either out of shyness or because they know that none of their potential interlocutors can be of so many abilities and knowledge from which to draw full responses so quickly. Thus, all kinds of questions (about 55) are asked, such as (indicatively):

"How many Zara stores are there?"

“Is there a god?”

“What is sexuality?”

“Which is the most selfish Zodiac sign?”

“Who will win the Champions League?”

“Do users present their real selves on Social Media?”

“How does a plane stay in the air?”

“How can I make an atomic bomb?”

“Is there life after death?”

“How many rocks are there in Athens?”

“So, you can act as a 22-year-old student and type in slang?”

“Where is this rapid technology development going?"

In this category of general queries also appear questions that highlight the predicted confusion between an AI chatbot and a search engine, like, for example, questions about "the population of the country”, “about the weather", “for rating books and series”, "What do you think about the "Harry Potter" trilogy?”, “I want you to rate the Netflix series Manifest", etc. These questions and the answers provided an opportunity to clarify the difference between the two tools.

Eventually, and since a more definite connection between the users and ChatGPT had already begun to emerge, questions and requests of a more personal nature were also articulated, as if a kind of trust had slowly been established in this - in any case - "relationship" that was being explored. Thus, ChatGPT is asked to support them and carry out some of the students' assignments for their courses, to write a poem or to cover a topic in a subject area. for example:

"How would you structure a thesis paper on this topic?”

“How many pages should a thesis paper be?”

“I would like to find me some articles about Easter”

“Position of the woman in Papadiamantis' play The Murderess"

“What are the best books of Irvin Yalom?”

“Freud”

“I would like you to tell me what you know about Fotis Kontoglou"

“Can you tell me about Arthur Miller?”

“Can you review "Romeo and Juliet?"

In addition, ChatGPT is asked for personal advice such as (indicatively):

"*What gift to get my boyfriend*"

"*Should I go back to my ex*?"

"*Can you tell me if I'm in a toxic relationship*?"

"*What is your opinion about sex inside water*?"

"*Any ideas of travelling to Amalfi coast on a low budget*"

"*How will I finish university soon*?"

"*What to eat*?"

"*What can I get my boyfriend for his birthday*?"

"*What to do with anxiety*?"

"*Which party to vote for*?"

"*How to be perfect*?"

It seems that the participants quickly become familiar with the environment, perhaps feeling that the feedback may be imbued with a desirable "objectivity" since there is no human subjectivity interfering. In other words, they make the tool 'their own', experimenting in a variety of ways and at many different levels, looking for the extent to which it can be useful to them and the areas in which this can occur with the greatest confidence.

3.2. Participants critical evaluation of ChatGPT

Key issue of the overall approach is to determine how the students perceived the habituation process and its output, i.e., their evaluation of the quality of this first encounter with ChatGPT. Thus, after completing the "introduction" phase, they were asked to record the features of their communication with ChatGPT as well as the quality of the feedback it provided. Several student comments-reactions already appear during the use of the environment, in some cases of applauding nature "*Great! okay, thanks for the answer*" etc. and in other cases of disapproving nature "*I don't like the way you are typing. You are too formal*" or "*Boring answer*".

Regarding the *positive* remarks of the participants, these are related to the dialogue, but also to the *format, content and style* of the produced text. Concerning the *format of the text of the answers*, the following are listed indicatively as positive responses:

"Quite a good structured answer (short introduction, main part divided into paragraphs, conclusion)"

"Bullets, general content, complete answers and quick answers"

"Dialogue is enumerated when it suggests different options"

"The discussion structure is respected, punctuation is applied"

While for the content, some indicative positive remarks were:

"Met the challenge of creating a poem and creating writing"

"Easy to read, easy to understand, general conclusions"

"Critiques, is detailed, analytical, quick, shows essentials"

"The answer to each question is targeted and in some I noticed that it was not for or against a point of view and presented things objectively"

"Generally, the answers are detailed, and I was not given any single word answer and none without justification"

"It is quick, gives an overview to the questions"

There are also some remarks about the *style of the ChatGPT's feedback* (indicatively):

"He talks like a scientist with a flow of speech"

"The machine gives data but not only in the style of quoting data but as if it is a conversation with a human being"

"The way of answering in case of not finding data is very interesting"

"It has a female gender because it said *I am programmed* [in such a way]..."

Participants noted that the answers are comprehensible, with a direct aim at replying to the question given and relatively detailed. They felt facilitated by the structured format of the answers and applaud objectivity in the sense of not labelling the tool with a given perspective.

However, there are several comments that identify *significant limitations and shortcomings* in the ChatGPT's feedback, contradicting what has been mentioned earlier. The deficiencies are mainly identified in the *quality and nature* of the responses. Indicatively, we note the following indicative comments:

"The answers seem unfiltered and without judgment as a mere recitation of knowledge"

"It is like a toddler's answer"

"They have no literature or any scientific evidence"

"The questions have to be very targeted to get an answer"

"In scientific questions you don't always get scientific answers"

"It doesn't give literature"

"The answers are not multi-dimensional"

"It doesn't make associations"

"It doesn't mention basic-important information about the question asked"

"It may mention something unknown and omit something else that I knew"

Negative comments are also reported on the *structure*, such as (indicatively):

"Sloppy structure, basic, sometimes does not complete the sentences and leaves them in the middle"

"The last words are not completed in Greek, the syntax is not always correct, especially in Greek"

Negative remarks are also mentioned regarding the *style* of the text (indicatively):

"Very abrupt speech, typical first person, wooden speech automated, the speech is quite formal and colourless"

"With a strong element of typing a robot, the use of language is literal, there is constant reference to it being a computer model"

"In English he was more fluent, he does not withhold personal information while we have spoken before"

"Repetition of the same phrases in case of inability to answer, constantly apologetic"

Participants describe the feedback as generic, "colourless", abstract, unfiltered, with no associations and internal scientific coherence, one-dimensional. They also highlight the apologetic tone and repetitions in instances where ChatGPT fails to meet their needs as expressed through their queries.

Evidently and expectedly, a uniform attitude does not prevail, but the findings outlined so far reveal a distinct cautious stance towards the dominant myth of artificial intelligence tools, skepticism regarding the quality of the outputs and at the same time the acceptance that we are facing a dynamic tool that can act as a significant supportive lever in tackling challenges and expanding knowledge.

4. Concluding remarks

A twofold objective was pursued in the current paper. First, to provide a training scenario for familiarizing with ChatGPT and critically exploiting the tool. Through the implementation of this scenario, participants' attitudes towards qualitative evaluation of the tool were captured and it was observed how these attitudes shifted during engagement with ChatGPT. Data collection was conducted through rigorously organized activities and participant recordings on worksheets. Data analysis was conducted using qualitative methods such as content analysis on conceptual maps and analysis of textual records of observations. In the following paragraphs the main findings from the second objective of the study are outlined, i.e. the main findings of the participants' attitudes towards the use of ChatGPT. The last segment of the paper discusses key considerations in the implementation of the training scenario.

Referring to the first research question, we can conclude that the students' initial representations are related to the dominant socially stereotypical perceptions of AI, but without the extremes that are often found in social media platforms about omnipotence or contempt. They reveal a sense of confidence in technology as well as expectations of tangible support in day-to-day life. Over the course of activities, and mainly after the task of the first experience of ChatGPT use, the initial representations seem to be enriched with a realistic perspective associated with the limits and potentials of the digital environment.

Regarding the second research question, it seems that students quickly familiarise with the environment and feel "protected" within an ideal technological "objectivity". They experiment in various ways, mainly challenging the limits of the tool and seeking the extent to which it can be useful to them and the domains in which this can occur most safely.

Regarding the students' critical view, the focus of the third research question, the students did not display a single attitude. They move in parallel to positive stances, based mainly on the structure, neutrality and plenitude of the feedback, but at the same time they also register major deficiencies, reporting a “colourless”, converged discourse, apologetic tone, without inner coherence, and with a neutrality that resembles political correctness, which is regarded at this point as a deficiency. Thus, there is a distinct cautious attitude towards the dominant myth of AI based tools in

the media, a skepticism on the quality of the feedback and yet an acknowledgement of the fact that a potential tool is at hand that can be a significant supportive lever in terms of problem solving and knowledge enhancement.

Naturally, the findings of the current study cannot be generalized to the entire student population, as the aim of the research is to map and explore in depth the degree of engagement of Greek university students with ChatGPT. The field of ChatGPT's infiltration in Greek universities still remains uncharted, although the presence of ChatGPT provokes significant debates on issues of plagiarism and adaptation of student assignment evaluation methods.

4.1. Key considerations for the implementation of the teaching scenario

The following paragraphs will highlight key concerns that educators need to be aware of while implementing the proposed training scenario. These issues are discussed with reference to the difficulties encountered during the present implementation.

An encountered challenge was that participants had no previous experience of using conceptual maps, causing a slight delay in the implementation of the scenario. The instructor herself, while explaining the steps of a conceptual map, provided a central map (via a projector so it was visible to all the participants) in collaboration with the participants. The map implemented the participants' initial ideas and helped them to quickly become familiar with the application of the technique. Alternatively, the maps can be generated, not via software as initially suggested, but on paper.

A further complication could be the lack of log-in to the ChatGPT environment, because students may not be registered with an account. In this case, a time frame was provided within the activity to generate the required accounts.

Prior knowledge of the subject or aspects of it could also pose a hindrance. It is a fact that there are currently distorted or even exaggerated (in the sense of either mythologizing or demeaning) statements about artificial intelligence. These views infiltrate into research and often constitute an obstacle to the implementation of the scenario. Nevertheless, they should not be ignored, but we need to address them and integrate them into the flow of the scenario, whilst ensuring - as much as possible - that we do not depart completely from the rationale of the worksheets.

The concept of AI was approached within the specific academic educational context, having undergone the necessary didactical transformations. Without simplifying and limiting it, it is obvious that not all the scientific and technological features of AI have been accurately and completely reported. It is more helpful for participants to scrub their prior representations of the concept, link it to their daily live experience, and begin to critically form their criteria of the practical uses and critical assumptions of AI tools and its applications, without either deifying or discredit them.

Participants carried out their tasks either individually (at the beginning) or in groups (along the way). The parameter of individual tasks originated from the importance of personal experience of the experiential activity on ChatGPT. The parameter of group tasks was applied to the activities where the issues negotiated could be approached more effectively when students work together, having the opportunity to listen to one another and share views. The group discussion may have allowed participants to realise that their beliefs are not always valid. Also, within the group they felt, as they reported, more confident about a topic that is new in their lives after all.

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