Artificial Intelligence and Homework - Just a challenge or an opportunity?

KOVÁCSNÉ PUSZTAI Kinga

Abstract: Artificial intelligence is gaining increasing popularity and is being applied in an ever-growing number of fields. This process presents new challenges for educators, raising important questions: Should AI be embraced and integrated into education, or should its use be restricted? Are students relying on it to complete homework assignments? Is there a need to rethink traditional approaches to homework? To address these questions, a study was conducted among university students to assess their knowledge of, attitudes toward, and usage patterns of ChatGPT. The investigation continued within the framework of an Algorithms and Data Structures course, focusing on the extent to which students are able to complete assignments using artificial intelligence. In response to these findings, modifications were implemented with the primary goal of discouraging the direct use of ChatGPT for homework. The effectiveness of these changes was then evaluated based on student feedback and performance metrics.

Keywords: Artificial Intelligence, homework, education, ChatGPT, algorithm

1. Research Questions

This study was guided by the following research questions:

- How familiar are students with ChatGPT and how frequently do they use it for educational purposes?
- Can typical programming homework problems be solved using ChatGPT, and if so, how accurately?
- How do student-generated solutions compare to those generated by ChatGPT?
- What modifications to homework design can reduce reliance on AI while still supporting student learning?

2. Methodology

2.1. Student Survey

Anonymous online surveys were distributed among university students to assess their awareness, usage patterns, and opinions regarding ChatGPT. The questionnaire included both closed- and open-ended questions.

2.2. AI Performance Analysis

Homework problems from the "Algorithms and Data Structures" course were entered into ChatGPT (versions 3.5 and 4.0) to evaluate its ability to solve them. Tasks ranged from simple array manipulations to complex recursive algorithms.

2.3. Student Solution Comparison

Student submissions were compared to ChatGPT-generated solutions to evaluate similarities and determine possible AI usage.

2.4. Homework Redesign

Assignments were restructured using online quiz platforms (Canvas) with partially pre-filled structograms to limit AI-generated responses. The participation and performance rates were compared with those of previous years.

3. Background: ChatGPT and AI in Education

3.1. Characterization of artificial intelligence

Before discussing the impact of AI and ChatGPT on education, it is necessary to define these concepts.

*"**Artificial Intelligence** (AI) is a general-purpose technology that has the potential to: improve the welfare and well-being of people, contribute to positive sustainable global economic activity, increase innovation and productivity, and help respond to key global challenges. It is deployed in many sectors ranging from production, education, finance and transport to healthcare and security."* (OECD, 2024)

*The **ChatGPT** (Generative Pre-trained Transformer) is a chatbot developed by the OpenAI artificial intelligence research lab that uses interpretive models to automate continuous communication, enabling it to instantly and interactively process input.* (Roose, 2022) ChatGPT aims to provide natural, human-like responses to a variety of questions and conversation topics. The AI has been trained with a huge amount of text data, enabling it to understand and respond to a wide range of questions, including:

Figure 1: Logo of ChatGPT (Wikipedia, 2024)

- Talking about science, technology, art, history, etc.
- Help with problem solving: Math problems, programming questions, language learning.
- Creative ideas: writing stories, poems, game ideas, etc.
- Everyday questions: travel tips, recipes, product recommendations, etc.

ChatGPT is able to continuously learn with newer versions to provide more accurate and useful answers.

Scholars often distinguish between strong and weak AI (Wang, és mtsai., 2024). Strong AI, also known as Artificial General Intelligence (AGI), can perform any intellectual task that a human can do. It has self-awareness, consciousness, and the ability to understand and reason about the world. AGI can set its own goals, learn autonomously, and solve problems in many areas. In contrast, weak AI, also known as Narrow AI, is designed to perform specific tasks (e.g., language processing, translation, image recognition, playing games). It does not possess self-awareness, consciousness, or general understanding, and is unable to set its own goals or express real intentions. The weak AI operates using machine learning models, statistical patterns, and predefined rules. The ChatGPT is a weak AI.

3.2. History of artificial intelligence

The history of ChatGPT began with the founding of OpenAI in December 2015 by Sam Altman, Greg Brockman, Elon Musk, Ilya Sutskever, Wojciech Zaremba, and John Schulman. (Szabó, 2023) ChatGPT has only a 6-year history. (Héja, A ChatGPT története, 2024) Its main milestones are:

1. GPT-1 (2018): This is the first-generation model that introduced basic language capabilities, but at that time its knowledge and usage options were still very limited.
2. GPT-2 (2019): OpenAI has publicly released the GPT-2 model, which has become much more sophisticated and orders of magnitude more efficient. GPT-2 was already able to generate texts with a grammatical structure and context that were almost human-level.
3. GPT-3 (2020): GPT-3 represented a significant leap in the performance of artificial intelligence. It had over 175 billion parameters, which allowed it to respond to user requests with much greater precision and versatility.
4. ChatGPT (2022): Based on GPT-3.5, ChatGPT has been more specifically released as a chatbot, providing answers in various applications, such as technical assistance, learning aids, and creative ideas.
5. GPT-4 and improved versions of ChatGPT (2023): This version has brought significant improvements in context handling, reasoning and problem-solving. It is able to follow longer conversation chains, provide better examples and solutions, and respond more flexibly to user needs.
6. ChatGPT multimodal capabilities (2024): ChatGPT-4 is now able to process and understand images, so it can help with image analysis, graphics generation, or even answering art and visual questions. This takes interactions to a new level, as it can now provide help based not only on text but also on images.

3.3. Advantages and Disadvantages of artificial intelligence

The most used areas of ChatGPT are code writing and text generation (Tamas, 2023).

- It makes it easier for programmers to write, improve and optimize code, saving them time.
- We can specify the topic and the desired length of the text and ChatGPT will generate a meaningful text of the specified length for us on the given topic.

AI tools also have an impact on education. Although AI is not yet widely used, more and more educators are getting to grips with it and using it in education. Using ChatGPT has many benefits, such as (Perry, 2024.) (Varsik & Vosberg, 2024) (Owoc, Sawicka, & Weichbroth, 2021):

- Personalized learning: Designing a learning plan based on the student's knowledge and finding the best way for them to learn. ChatGPT can help the student by offering personalized answers and adapting to the student's level of understanding. It is able to generate additional practice exercises similar to the one that caused the difficulty, thus helping the learning process.

- Continuous availability, immediate response: ChatGPT is available 24/7, so the student can ask questions or ask for help at any time, even late at night.
- Content creation: It can also make the work of teachers easier, as it can create high-quality educational material (presentations or exercises) in seconds.
- Correction: It is now very easy to edit automatically graded, primarily quiz tasks. But AI tools are also starting to appear that help teachers correct essays.
- Keeping professional knowledge up to date: AI could also assist teachers with continuing professional learning.
- Administration: Assistant for creating and grading classes.

As an artificial intelligence, ChatGPT naturally has certain weaknesses and limitations that are worth keeping in mind. Some of these are (Plag, 2023) (Portfolio, 2023) (OpenAI, 2024) (Agarwal, Sharma, & Goswami, 2023) (Chauhan, Khaliq, & Nayak, 2025):

- Lack of knowledge update: ChatGPT does not have an active connection to the internet, so its knowledge is always up to date up to the last update date.
- It often returns statements that appear true at first sight but are false.
- The answers are based only on data and patterns, not human perceptions, feelings, and experiences.
- There may be linguistic inaccuracies or loss of context in long conversations which may lead to inaccurate answers.
- It does not always succeed in solving complex reasoning or creative tasks well.
- In a specific field that is linked to another discipline, its knowledge is limited and ChatGPT is unable to understand the connections.
- It is not reliable in citing sources.

4. Results

4.1 Students' opinions on the use of artificial intelligence

An anonymous online questionnaire was used to research students' opinions on the use of artificial intelligence. A total of 35 students completed the questionnaire. Among them, only one respondent (2.9%) had never used ChatGPT, while 30 students (85.7%) had only used the free version so far, and 4 students (11.4%) reported having a subscription (Figure 2/1).

The second question aimed to assess students' self-reported familiarity with ChatGPT. On a 5-point scale, the average rating of their knowledge was 3.94, with a standard deviation of 0.9; both the mode and median were 4 (Figure 2/2).

In the following question, the degree of liking for ChatGPT was evaluated (Figure 2/3), resulting in an average score of 3.6, a standard deviation of 1.09, and a mode and median of 4.

Finally, satisfaction with ChatGPT's answers was assessed (Figure 2/4). This question received the lowest average score of 3.37, with a standard deviation of 0.77 and a mode and median of 3.

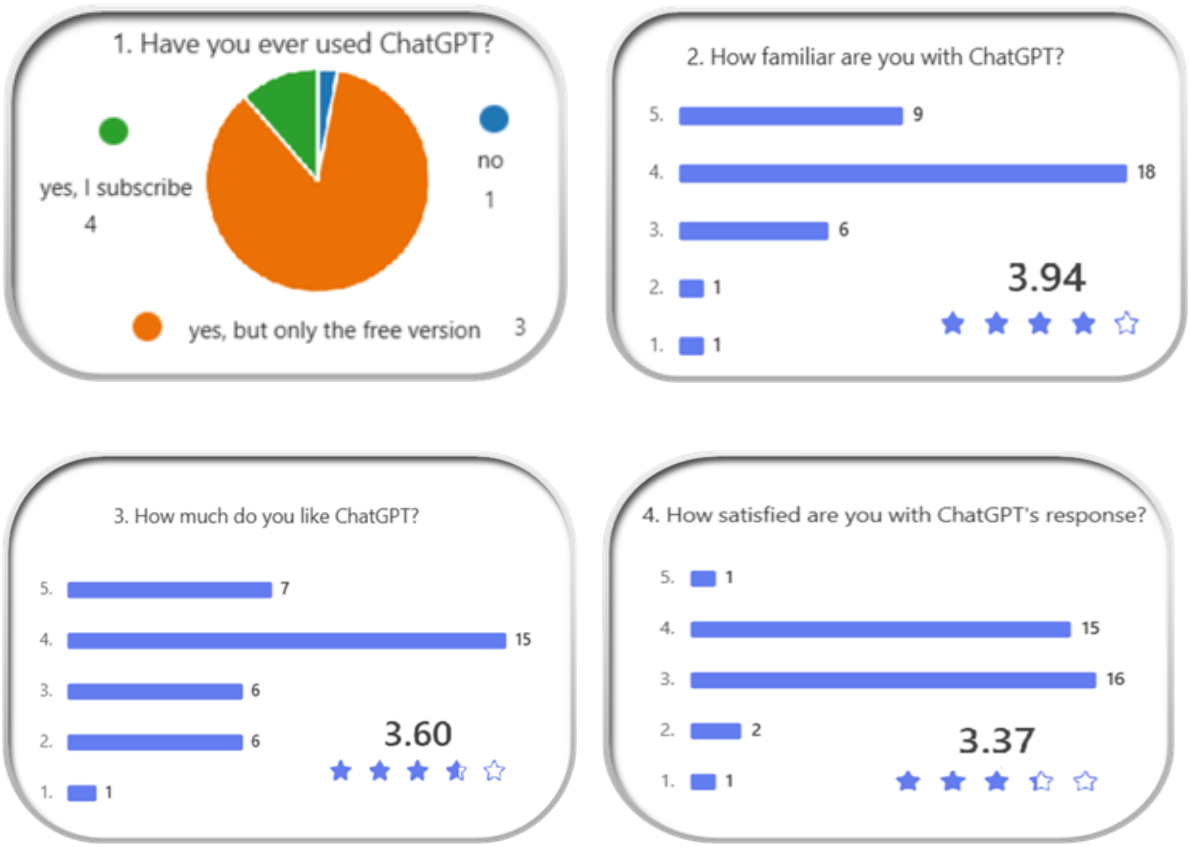

Figure 2: Questions from questionnaire

The other questions in the questionnaire were open-ended, which the students were not required to answer. Nevertheless, 29 responded to the question of what ChatGPT could be used for. Of course, the answers included: for anything, for learning, for brainstorming, for finding errors, for solving simpler, monotonous tasks, or for answering general questions.

The next question addressed whether students had ever received an incorrect answer from ChatGPT. A total of 30 responses were recorded, with all but one respondent indicating that they had encountered such errors. Most responses referred not to isolated incidents but to recurring inaccuracies. According to the majority, mistakes were most commonly made in mathematical questions. Other reported problem areas included programming tasks, information retrieval, computational theory, more complex or extended queries, overly specialized tasks, and logic problems. Two particularly noteworthy opinions were shared:

- *"For quite a large number of questions asked in Hungarian, it is better to ask in English. Or, if you are not sure, it is worth asking the question again in a different way in a different chat window."*
- *"... I usually test with Canvas quizzes. Regardless of the subject, only about 50% of the questions are answered correctly. So, you don't really know the theory at university level."*

In the final question, students were asked to share their general opinion about ChatGPT. A total of 26 written responses were received. The following selection summarizes the students' perspectives:

- *"It is not suitable as a substitute for human work or art, but it can be good as a tool"*
- *"Overall, it has a raison d'être, and humanity is moving forward, but it should not be expected to work miracles, as "lay people" think."*
- *"It is a good tool, but it is not a divine blessing, and it won't take away our work, thankfully."*
- *"It is a good thing, depending on what expectations one has for it. Entertainment? Perfect. Serious help or learning? It is still far from it."*
- *"It can be useful help if one knows how to use it properly. However, it can be harmful if someone uses the answers without interpretation."*

Based on the answers to the questionnaire, I think my students know and use ChatGPT, but they know its limits. They do not yet think it can replace human thinking, but it is an excellent tool for brainstorming or solving routine tasks.

4.2. AI Capability in Solving Homework

As a first step, homework assignments were attempted using the free version of ChatGPT. Initially, ChatGPT 3.5 was utilized, which was later replaced by version 4.0. The homework tasks all involved the creation of structograms. Among the assignments, some were solved correctly by ChatGPT, while others were answered incorrectly.

A simple task involving only an array data structure was tested first. The assignment was: *"Given an array of n long integers, find the section of the array with the maximum possible sum. Create the most efficient (i.e., Θ(n)) solution!"*

ChatGPT produced a broadly correct algorithm in C#, but was unable to generate a structogram. Nevertheless, the code output could be highly useful for students completing such tasks. Based on the style of some student submissions, it appeared plausible that ChatGPT had been used as assistance.

Next, a more specialized task involving a stack data structure was tested. The problem was: *"Given a sequence of up to n long letters and '#' symbols, determine whether the sequence is mirrored — that is, whether it can be decomposed into odd-length palindromic subsequences with the middle character being the only '#' in each."*

Initially, ChatGPT failed to solve the task. After providing both a valid example and a counterexample, the model was able to generate a working solution, though it did not use a stack as expected. The resulting solution consisted of 28 lines and multiple functions, in contrast to the preferred 8-line, single-function approach. When explicitly asked to use a stack, the ChatGPT model was significantly simplified and came closer to the expected solution, although the solution remained incorrect. Through continuous refinement and feedback on the basis of errors, a working version was ultimately generated (Figure 3), although it still differed from the preferred solution (Figure 4). In this case, it was clear that students would not be able to complete the assignment properly using ChatGPT.

```
Function IsMirrored(text):
    stack = Stack()

    i = 0
    while i < length(text):
        if text[i] != '#':  # Push non-'#' character onto the stack
            stack.push(text[i])
        else:
            # Check the next characters against the stack content
            i += 1
            while i < length(text) and text[i] != '#':
                if stack.isEmpty() or stack.pop() != text[i]:
                    return "not mirrored"
                i += 1

        i += 1

    # Check if the stack is empty
    if not stack.isEmpty():
        return "not mirrored"

    return "mirrored"
```

Figure 3: ChatGPT's answer

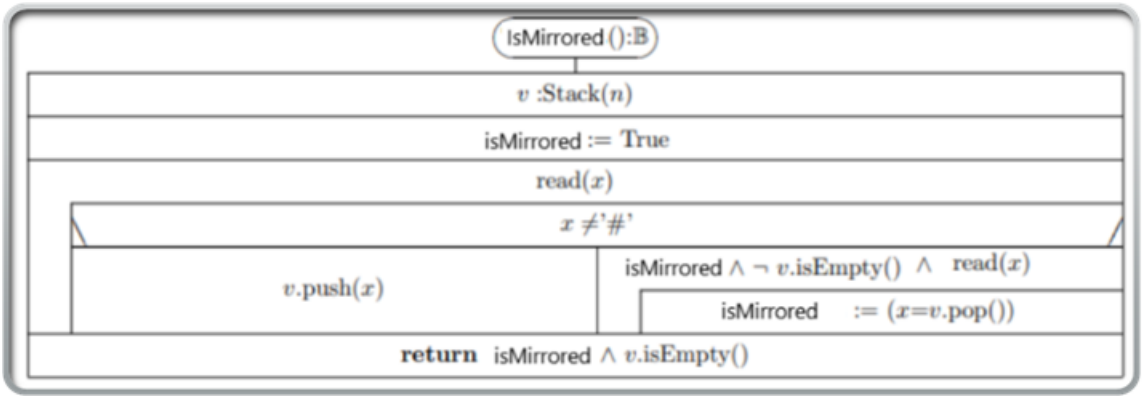

Figure 4: The expected solution

In further experiments, similar limitations were observed. For tasks requiring specific data structures such as queues or linked lists, ChatGPT often avoided using them in its initial responses. However, with more targeted prompting — such as *"Use the operations of a queue to determine the nth row of Pascal's triangle"* or *"L1 and L2 are two-way cyclic lists containing strictly increasing numbers. Write a function to return the intersection of these sets in a new list without modifying the originals"* — more appropriate implementations could be elicited.

A recurring issue was that ChatGPT's solutions tended to be significantly longer and more complex than expected, often opting for iterative methods even when recursive solutions would have been shorter and clearer.

In version 4.0, ChatGPT showed improved ability to generate structograms, although the format still did not fully match the version taught in class. Figure 5 presents ChatGPT's solution to a problem, while Figure 6 shows the expected version. These examples illustrate that although the

solutions are not identical, one of ChatGPT's major benefits is its ability to offer starting points for students who may have no initial idea how to approach a problem.

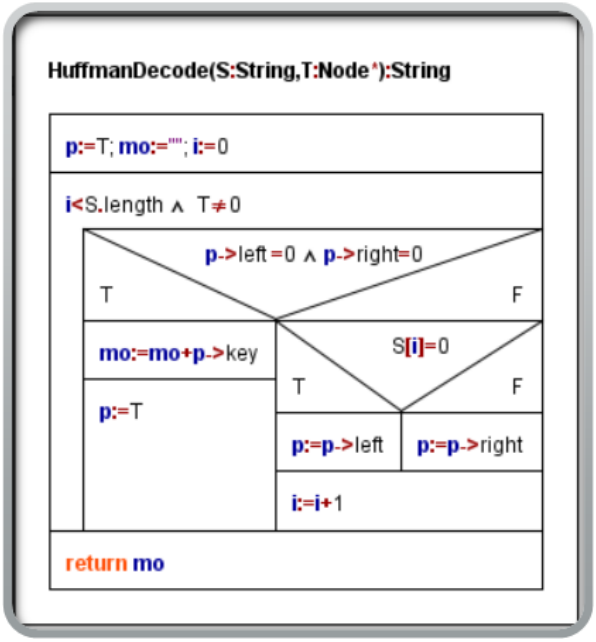

Figure 5: The expected solution

```
+-------------------------------+
| Start                         |
+-------------------------------+
| Inputs                        |
| - Encoded text                |
| - Huffman tree                |
+-------------------------------+
| Initialize variables          |
| - current_node = root node    |
| - decoded_text = ""           |
+-------------------------------+
| Iterate through encoded text  |
| - Loop for each bit:          |
|   +-------------------------+ |
|   | If bit == '0'           | |
|   |   current_node = left   | |
|   |   child                 | |
|   +-------------------------+ |
|   | If bit == '1'           | |
|   |   current_node = right  | |
|   |   child                 | |
|   +-------------------------+ |
|   | If leaf node            | |
|   |   decoded_text +=       | |
|   |   current_node character| |
|   |   current_node = root   | |
|   +-------------------------+ |
+-------------------------------+
| Output result                 |
| - decoded_text                |
+-------------------------------+
```

Figure 6: ChatGPT's answer

4.3. Comparison Between Student and AI Solutions

An additional objective was to examine the similarity between students' solutions and those generated by ChatGPT. For this purpose, a particularly suitable exercise was selected:

"Given a general tree in linked binary representation, where keys are integers. Construct a recursive algorithm that prints out one of the largest keys from each sibling group!"

The task could be approached in two ways: either iteratively or recursively, to identify the maximum value among sibling groups. ChatGPT opted for an iterative approach, resulting in a relatively lengthy solution, in contrast to a fully recursive alternative. The complexity of the task made it likely that students would consider using ChatGPT as a source of assistance.

A total of 12 students submitted solutions to this task. Among them, 2 students (16.6%) produced answers that matched ChatGPT's solution. Six students (50%) adopted a partially iterative approach, which differed from ChatGPT's but shared a similar logic, while 4 students (33.3%) submitted entirely recursive solutions.

Given that students prefer the iterative approach rather than the recursive one, it appears likely that the 6 students who deviated from ChatGPT's version were working independently. These results suggest that while ChatGPT may serve as an initial source of inspiration or a brainstorming tool, the majority of students appear to refine the ideas further and arrive at individual solutions rather than directly copying the ChatGPT"s output.

4.4. Effectiveness of Homework Redesign

Given that ChatGPT can be effectively used to solve homework assignments — provided that sufficient patience and guidance are applied — attention was directed toward exploring ways to eliminate the possibility of students completing such tasks with its assistance. To address this issue, quizzes were developed and implemented using the Canvas platform. (Alternatively, similar quizzes could be created using Moodle or any number of free online quiz-generation tools.)

In the quizzes, each task was presented alongside a partially completed graphical structogram that students were required to fill in. (See Figure 8.) The creation of these tasks is not so time-consuming, typically requiring only 10–15 minutes to edit.

As shown in the figure, the structogram provided to students was not entirely blank. To facilitate clarity in completing the structogram, key elements such as the function header and variable names were pre-filled. Experience in relevant courses indicates that many students struggle with constructing correct headers. By embedding the correct header within the exercise, students are repeatedly exposed to the appropriate format, allowing them to become familiar with it and practice its application. This repetitive exposure supports improved performance when similar tasks appear on formal assessments.

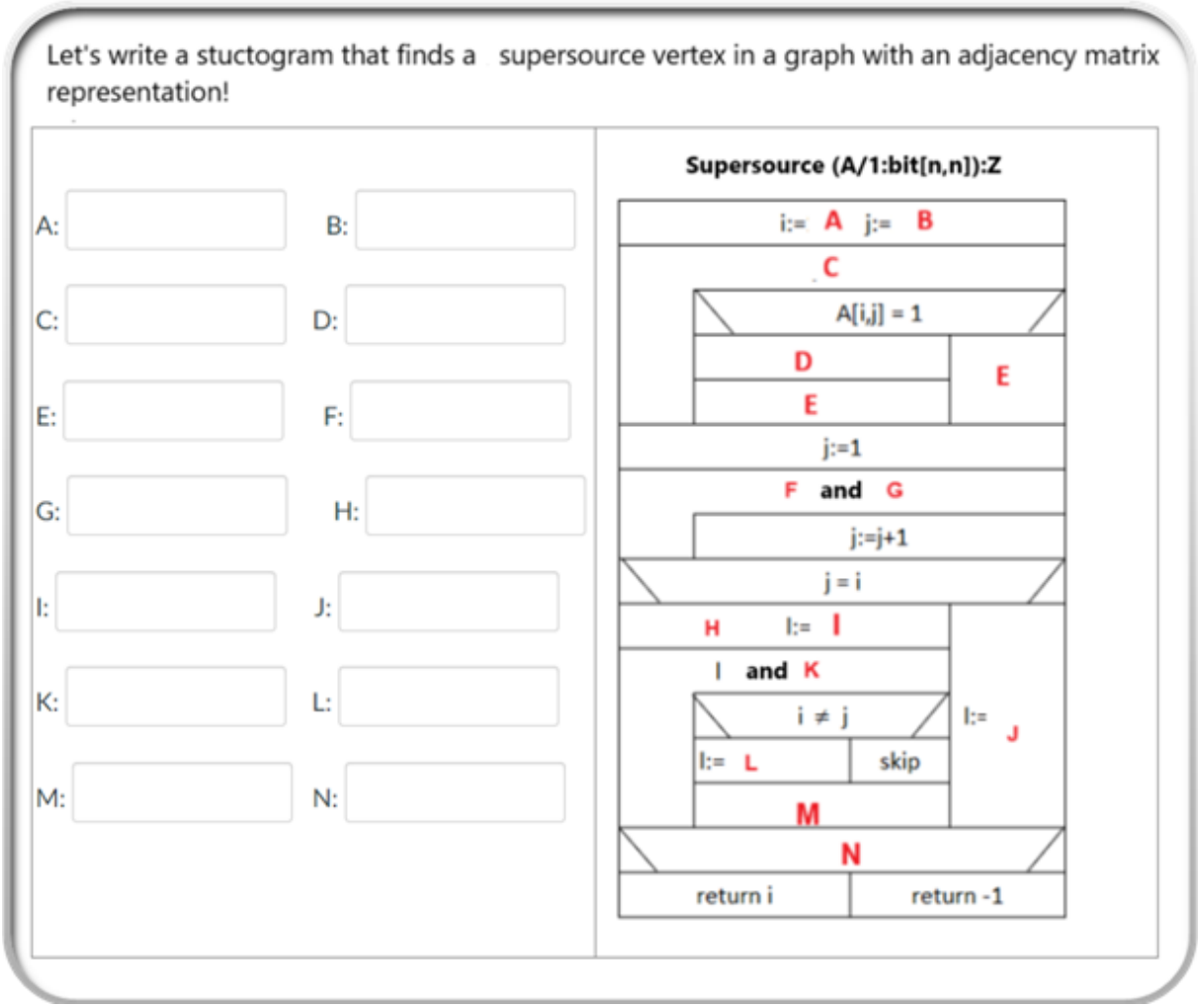

Figure 7: Example of modified homework

Homework assigned using this method proved significantly easier to evaluate, although full automation of the correction process was not achievable. This limitation was primarily due to inconsistencies in students' use of spacing and capitalization.

Nonetheless, the correction process yielded valuable supplementary information. It became possible to observe who attempted the assignment, how many times they engaged with it, and the amount of time spent on each task. A notable number of students viewed the exercise without submitting a solution. However, a marked increase in participation was observed compared to the previous academic year, when no structogram outline was provided.

For Homework 1, 49 out of 66 students viewed the assignment and 23 submitted a solution, resulting in a participation rate of 39.39%. In contrast, during the previous year, when students were not given an algorithm framework, only 10 out of 61 students submitted solutions, corresponding to a participation rate of 16.39%. A similar trend was evident for Homework 2: in the current year, 41 out of 66 students accessed the task and 28 completed it, yielding a 42.42% participation rate. The previous year's data show that only 9 out of 61 students (14.75%) engaged with the same task.

Although time-on-task data could not be directly compared with previous years, the current analysis—based on 58 submitted solutions across three homework assignments—revealed an average time investment of approximately 15 minutes per problem (see Figure 8). The largest group

of students (17, or 29.31%) spent between 5 and 15 minutes, while 15 students (25.86%) completed their tasks within 1–5 minutes, and 13 students (22.41%) required less than one minute. Notably, a quarter of the students took longer: 10 students (17.24%) spent between 15 and 60 minutes, and 3 students (5.17%) spent more than one hour on their assignments.

Both the time spent and the number of completed solutions served as indicators of task difficulty. As shown in Figure 9, Homework 1 emerged as the easiest, with an average completion time of 7.67 minutes. Most students completed it within 0–15 minutes, and none exceeded one hour. Homework 2 presented a moderate challenge, with an average time of 15.52 minutes. Most students required 5–15 minutes, and 2 students spent over an hour. Homework 3 was the most demanding, requiring an average of 21.95 minutes; most students spent 15–60 minutes, and one student exceeded an hour. This task also received the fewest submissions.

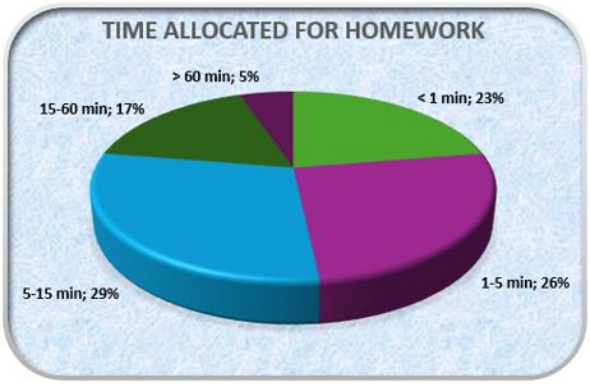

Figure 8: Time allocated for homework

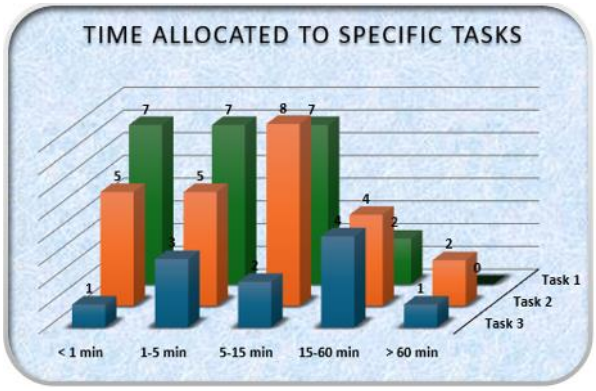

Figure 9: Time allocated to each task

Finally, students' opinions were gathered through an anonymous online questionnaire (Figure 10), completed by 10 respondents. Of these, 5 preferred the quiz-based version, while the other 5 favored the traditional format. The traditional homework was perceived as more difficult than the quiz-based assignments. Among the textual responses, one stood out as representative:

"In quiz tasks, you have to think less, because the extreme cases can already be guessed from the structogram skeleton; you don't have to figure out how many cases to handle or where. On the other hand, the downside is that if your thinking doesn't match the 'expected' logic, it can take a very long time to figure out the solution—even if you could otherwise solve the task without assistance."

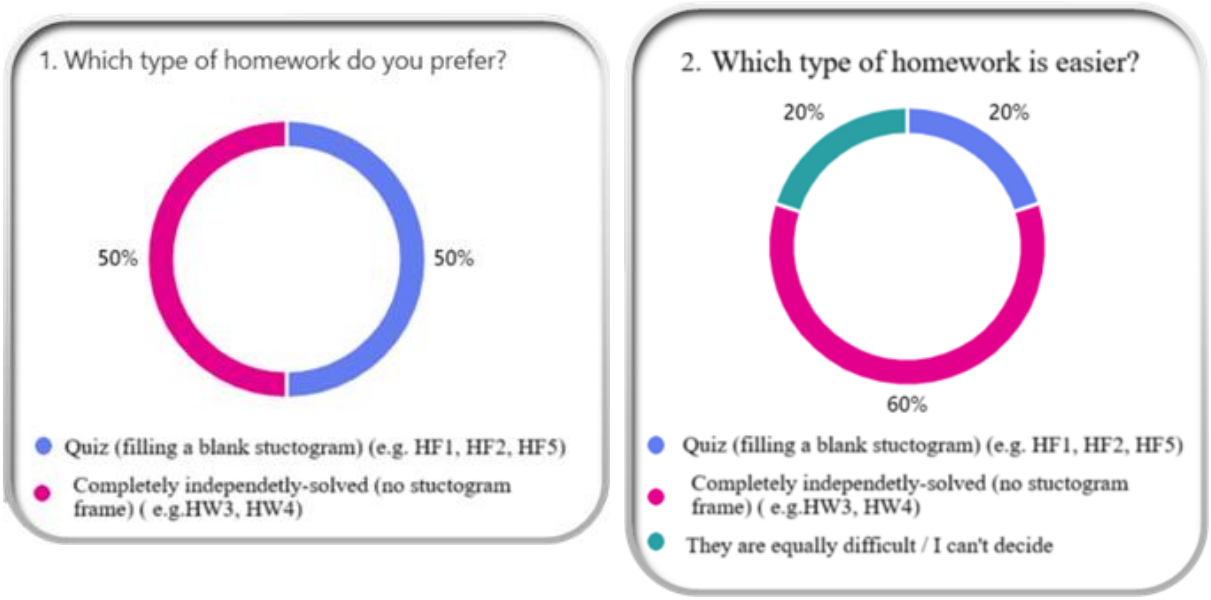

Figure 10: Comparison of task types

5. Summary

Artificial intelligence is increasingly pervading our world, growing in popularity and being used in more and more fields. Education should not be left out of this process, as our students belong to the age group that is most easily to learn, like and use new tools. This was confirmed by a survey I conducted among my second-semester students, aged 19-20. The survey shows that the students like to try ChatGPT, almost all of them have encountered the limits of artificial intelligence, but it is excellent for brainstorming.

Artificial intelligence is increasingly permeating various aspects of everyday life, gaining popularity and finding applications in an expanding range of fields. Education should not be excluded from this transformation, especially considering that students—typically aged 19–20 in early university semesters—represent a demographic that quickly adapts to, enjoys, and readily adopts new technologies. This trend was supported by the results of a survey conducted among second-semester university students, which revealed that while students are eager to experiment with ChatGPT and find it useful for idea generation, most are also aware of its limitations.

This study aimed to investigate the impact of the increasing presence of artificial intelligence on education. Given the vast number of ways AI can be integrated into the educational process, the scope of the investigation was limited to a specific area: homework completion. The primary focus was to assess the extent to which students use AI tools, particularly ChatGPT, in solving assigned tasks.

Initially, the ability of artificial intelligence to solve homework problems was examined. Particular attention was paid to the similarity between AI-generated and instructor-expected solutions, and to the comparative complexity of the outputs. The assignments in question involved algorithm design, typically offering multiple valid solutions. While problems based solely on array data structures were successfully handled by AI, more complex data structures such as stacks, queues, or linked lists proved more challenging. Although these structures are recognized by the AI, it tends

to avoid using them, often opting instead for more elaborate array-based solutions. Additionally, the AI tended to prefer iterative solutions, even in cases where recursive approaches would have been more concise or easier. Nevertheless, ChatGPT proved highly effective in helping students initiate problem-solving by providing ideas.

Subsequent analysis focused on the degree of similarity between student-submitted solutions and those generated by ChatGPT. Findings indicated that only a minority of students reproduced the AI's output verbatim. However, a significant portion appeared to have used the AI's suggestions as a foundation for independently working through the problems.

In response to these observations, modifications were introduced with the goal of reducing the likelihood of students directly submitting AI-generated solutions. One such measure involved the creation of quizzes using the Canvas platform, wherein students were provided with partially completed structogram templates. These templates required students to focus on logical construction rather than starting from a blank slate. Though the creation of such quizzes required only a modest time investment, their correction process proved more efficient compared to traditional homework. Furthermore, quiz submissions included time-tracking, which offered additional insights into student performance and indirectly reflected task difficulty.

The impact of these changes was then evaluated using performance data and student feedback. Where applicable, comparisons were made to a previous cohort that had not received structogram templates. Results demonstrated a nearly threefold increase in participation for quiz-based homework relative to traditional assignments. This finding aligned with students' feedback, which indicated that tasks without provided scaffolding were perceived as more difficult.

In summary, artificial intelligence presents both challenges and opportunities in education. Although its use will likely continue to increase, homework tasks can still be designed in ways that exceed AI's current capabilities. In such cases, ChatGPT will not solve the homework problem, but it will be a valuable tool to help students brainstorm. In other words, with careful design and transparency in assignments, an AI application like ChatGPT can be effectively integrated into the learning process.

6. Bibliography

1. Agarwal, M., Sharma, P., & Goswami, A. (2023, June 26). Analysing the Applicability of ChatGPT, Bard, and Bing to Generate Reasoning-Based Multiple- Choice Questions in Medical Physiology. *Cureus, 15*(6). doi:https://doi.org/10.7759/cureus.40977
2. Chauhan, A., Khaliq, F., & Nayak, K. R. (2025). Assessing Quality of Scenario-Based Multiple-Choice Questions in Physiology: Faculty-Generated vs. ChatGPT-Generated Questions among Phase I Medical Students. *International Journal of Artificial Intelligence in Education*. doi: https://doi.org/10.1007/s40593-025-00471-z
3. Héja, E. (2023). A ChatGPT története. *Érintő Elektronikus Matematikai Lapok, 29*.
4. Héja, E. (2024). A ChatGPT története. *Magyar Tudomány, 185*(6), 815-828. doi: https://doi.org/10.1556/2065.185.2024.6.11
5. OECD. (2024, 05 03). *Recommendation of the Council on Artificial Intelligence,*. Retrieved 04 14, 2025, from OECD Legal Instruments: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449

6. OpenAI. (2024). *ChatGPT*. Retrieved 10. 25., 2024., from https://chatgpt.com
7. Owoc, M. L., Sawicka, A., & Weichbroth, P. (2021). Artificial intelligence Technologies in Education: Benefits, challenges and Strategies of implementation. In *IFIP advances in information and communication technology* (pp. 37-58). doi: https://doi.org/10.1007/978-3-030-85001-2_4
8. Perry, C. (2024., 06. 19.). *ChatGPT az oktatásban: Mik az előnyök és hátrányok?* Retrieved 10. 29., 2024., from Undetectable AI: https://undetectable.ai/blog/hu/chatgpt-az-oktatasban/
9. Plag. (2023). *A ChatGPT hiányosságainak és korlátainak megértése*. Retrieved from Plag: https://blog.plag.ai/hu/understanding-the-limitations-of-chatgpt
10. Portfolio. (2023). *ChatGPT: minden amit tudnod kell a forradalmi -orulőrültségről*. Retrieved 10. 25., 2024., from https://www.portfolio.hu/global/20230123/chatgpt-minden-amit-tudnod-kell-a-forradalmi-oruletrol-5922
11. Roose, K. (2022). The Brilliance and Weirdness of ChatGPT. *The New York Times,*.
12. Szabó, M. (2023). *A ChatGPT rövid története: Hogyan jutottunk el oda, ahol ma tartunk*. Retrieved 10. 25., 2024., from chatbossteam: https://www.chatbossteam.com/blog/a-chatgpt-rovid-tortenete/
13. Tamas. (2023, November 24). *A ChatGPT használata : Előnyök, Hátrányok és Jövőbeli Kilátások*. Retrieved 10. 28., 2024., from Internetes Pénzkeresés: https://internetespenzkereses.hu/szoftverek/a-chatgpt-hasznalata
14. Varsik, S., & Vosberg, L. ,. (2024). The potential impact of Artificial Intelligence on equity and inclusion in education. *OECD Artificial Intelligence Papers, 23*, 51. doi:https://doi.org/10.1787/15df715b-en
15. Wang, S., Wang, F., Zhu, Z., Wang, J., Tran, T., & Du, Z. (2024). Artificial intelligence in education: A systematic literature review. *Expert Systems with Applications, 252*(A), 124-167. doi: https://doi.org/10.1016/j.eswa.2024.124167
16. Wikipedia. (2024, 10. 03.). *ChatGPT*. Retrieved from Wikipedia: https://hu.wikipedia.org/wiki/ChatGPT

Authors

KOVÁCSNÉ PUSZTAI Kinga
Eötvös Loránd University,
Faculty of Informatics, Department of Algorithms and their Applications, Hungary,
e-mail: kinga@inf.elte.hu

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