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The Role of Artificial Intelligence in Fostering Information and Media Literacies at the University (Case Study of English Classes)

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Abstract

The phenomenon of Artificial Intelligence (AI) is understudied due to the ongoing and unstoppable process of its development. Consequently, AI literacy will constantly evolve and to be AI literate individuals will have to master not only basic but some new competences. The aim of this paper is to systematize available knowledge of AI to enhance information and media literacies in education with the help of AI concentrating on a few prompt frameworks actively used in English as a Foreign Language (EFL) classes. To achieve this, the authors analysed recent research in this domain, experimented with three prompt frameworks (namely, RACEF, RISEN, and Co-STAR), found out the advantages and disadvantages of AI and denoted prompt frameworks, and summarized the best practices for using them in the classroom. The authors came to the conclusion that AI literacy is embedded in information and media literacies, all these literacies are united by possessing critical thinking skills, and, if taught together, make the learning process beneficial for students and teachers. As for the further perspective of the research, other prompt frameworks can be tested for a range of requests in different settings.

Keywords: English language, artificial intelligence, information literacy, media literacy, prompt framework, media studies, teacher-friendly, student-centered, ChatGPT.

1. Introduction

Artificial Intelligence (AI) has become fashionable nowadays, but its definition is not so straightforward as one might think. In simple words, AI is the ability to perform duties of a human. Among such abilities there may be the collection, storage and use of required information, the search and accumulation of information resources necessary for work, self-training, the production of oral and written texts, etc. Artificial Intelligence refers to systems that appear to have “intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals” (European Commission, 2018: 4).

According to the Glossary of Artificial Intelligence Terms for Educators, AI is “a branch of computer science” whose systems use hardware, algorithms, and data to create “intelligence” to do things like make decisions, discover patterns, and perform some sort of action” (Ruiz, Fusco, 2023). U.S. Department of Education defines AI as “an umbrella term for a growing set of modeling capabilities”, including knowledge-based systems, computer vision, natural language processing, automatic planning and scheduling, optimization, robotics and machine learning. It also outlines three types of AI being narrow intelligence, general intelligence, and super intelligence (U.S. Department..., 2023: 11). In the current study we take the definition, proposed by Silverblatt et al. who defined AI as “an anonymous, technologically based neural network machine

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learning model that employs ChatGPT to assimilate content. ChatGPT is a large language model developed by OpenAI based on the GPT (Generative Pre-trained Transformer) architecture” (Silverblatt et al., 2023).

Nevertheless, there is a growing concern regarding the transparency, explainability, impartiality, accountability, and ethical implications of AI systems. That is why soon we will see the development of not artificial general intelligence that can substitute humans but only narrow AI, able to achieve singular tasks (Shadbolt, 2022).

Possessing basic literacy skills is not enough nowadays. To survive and be successful in our everchanging world people need to apply new skills closely connected with modern technologies and AI. AI literacy has become a crucial element of every educated person, willing to succeed in life and career. Contemporary scholars make various attempts to refer AI literacy to already existing literacies: digital literacy (Gálik et al., 2024; Gálik, Gáliková Tolnaiová, 2022; Long, Magerko, 2020; Yang, 2022), data literacy (Long, Magerko, 2020), information and media literacy (Shnurenko et al., 2020; Turner et al., 2017). According to Turner et al. digital literacy encompasses reading, writing, speaking, viewing, and participating in online spaces skills. These activities require abilities to access, analyse, evaluate, create, and participate with media which constitute media literacy. There is no doubt from the authors’ point of view that digital and media literacy should be taught as one common literacy and their domains can no longer exist in isolation (Turner et al., 2017). With the appearance of AI digital literacy has gained even more importance and this stimulates educators implement AI education from early childhood (Relmasira et al., 2023; Yang, 2022).

Long and Magerko define AI literacy as the ability to critically evaluate AI technologies, communicate and interact effectively with AI, and use AI online, at home and at work. This ability is realized through some competences. They consider that digital literacy is a crucial element of AI literacy, AI literacy overlaps with data literacy, and scientific and computational literacies are not necessary but can complement AI literacy (Long, Magerko, 2020). German researchers formulated different aspects of AI literacy and psychological competences, such as problem-solving, learning, and emotion regulation. In contrast to other scholars, they do not organize all the components of AI literacy in a strict order but consider them to be linked loosely (Carolus et al., 2023). The definition of AI literacy proposed by Laupichler et al. depicts competences including basic knowledge, analytical evaluation, and critical use of AI applications by non-specialists. They do not embrace programming skills in AI literacy as they consider them a separate set of competences beyond AI literacy (Laupichler et al., 2023).

According to Ng et al., (Ng et al., 2021) along with the elementary skills to know and understand, use and apply, evaluate and create, AI literacy includes fostering their societal accountability and ethical consciousness. The researchers embrace data science, computational thinking and multi-disciplinary knowledge into AI literacy. Chinese scholars verified teachers’ AI literacy in four categories: Knowing and Understanding AI, Applying AI, Evaluating AI Application and AI Ethics (Zhao et al., 2022). Tseng and Warschauer (Tseng, Warschauer, 2023) proposed a framework of AI literacy incorporating five components: understand, access, prompt, corroborate, and incorporate. First, students understand the capabilities of AI-based tools and decide when these tools would be helpful for them. Then, they access and navigate AI-based tools to find out their opportunities. Third, students construct prompting to generate correct context. Fourth, they verify the accuracy of the content generated by AI. Finally, students integrate AI-generated content into their own work bearing in mind accuracy and ethics.

Thus, this paper presents a comprehensive and systematic approach to utilizing AI in education to advance information and media competences. We claim that AI makes impact on all other literacies and the formation of abilities necessary for IL and ML can be eased by applying AI. The common thing among all literacies is the presence of critical thinking skills. AI literacy is inseparable from information and media literacy and should be taught together.

2. Materials and methods

This research incorporates both theoretical and empirical approaches and involves several stages. Firstly, we started with critical literature review using the methods of theoretical analysis and synthesis. Secondly, following practical recommendations for teachers of English as a Foreign Language, we formulated several prompts to test them further. Keeping in mind the fact of permanent evolution of AI, AI literacy, and prompt framework engineering, we confined our research

on three of them, namely, RACEF, RISEN, and Co-STAR. Thirdly, as part of the experiment, three prompts were tested on two AI-powered chatbots chosen at random. Fourthly, the results of the experiments were analyzed, compared, and commented on. Finally, after formulating conclusions of the research, we specified main limitations and perspectives for further study.

3. Discussion

AI is gaining popularity in all domains at a dizzying rate. Education likewise attempts to make the most of AI's potential optimize the learning process. Among the main reasons for using AI in education researchers mention the ability to reach educational aims faster, more effectively and at a lower cost, the adaptability of learning resources to students' personal needs and local demands, greater support for teachers (Reiss, 2021; U.S. Department..., 2023). AI can examine students' learning outcomes, recognize their strong and weak points, and prepare tasks and assignments adapted to students' personal needs. Providing feedback on students writing especially in large size classes is frequently time-consuming and monotonous. AI tools and applications can easily free teachers from this task and offer quick response. The role of AI in assessing structured tasks and tests is difficult to overestimate as it can perform it promptly, accurately, immediately, and, based on the results, explain the mistakes and give recommendations for further study.

Some researchers link the ability to use AI tools to students' future career success, highlighting that the lack of such experience will result in falling behind more advanced employees (Ng et al., 2021; Tseng, Warschauer, 2023).

Teachers all over the world face the same problems that cause stress, depression, early retirement, and affect their welfare and quality of life. Thus, in the UK these are extreme workload, lack of flexible pathways in learning, priority of exam preparation over other activities, difficulty in sharing information between schools and colleges, and differences in the quality of education within the country (Baker, Smith, 2019). A recent McKinsey survey revealed that teachers in the USA, the UK, Canada, and Singapore spend only 49 % of their working time interacting with students. The remaining time is spent on preparation, evaluation, and paperwork, which leads to burnout, anxiety, and stress (Bryant et al., 2020). According to Seo et al. (Seo et al., 2024) school teachers in the USA want AI to help them with curriculum development, teaching and facilitating, guidance, and classroom and school management. So, the most promising area for AI is teachers' preparation for classes. By leveraging technology, educators can save time, devising even more effective lesson plans and methods. Teachers can discover and select a range of online learning materials and educational resources. They can also use collaboration platforms to find and access appropriate materials downloaded by their colleagues (Bryant et al., 2020). AI-based writing tools help them communicate effectively in academic and career spheres. Translation help, paraphrasing suggestions, and spelling and grammar checks are clear advantages that these tools can offer (Tseng, Warschauer, 2023).

AI in UK education is already used in three wide categories: learner-facing, teacher-facing, and system-facing. According to the researchers, learner-facing tools allow students to get information necessary for individual or personal needs, identify knowledge gaps, get feedback, or assist in joint work of students. Teacher-facing tools are applied to ease teachers' job by facilitating the preparation to lessons or assessing tasks. System-facing tools serve mainly administrative purposes such as analysing data from reports, organizing timetables, etc. (Baker, Smith, 2019).

Though most researchers admit that the use of AI in education is an inevitable process and advances the educational process, others highlight its limitations and negative effects. The main weaknesses include potential negative outcomes, risks of privacy, security risks, greater surveillance, lack of transparency and trust (U.S. Department..., 2023), absence of sentience and emotional support, unsure technical capacity and reliability of algorithms, the constant human service to proper work of AI (Bryant et al., 2020), educational inequality, a sense of insecurity (Reiss, 2021), biases and false information (Williamson, 2024), dependence on the Internet connection, absence of face-to-face interaction with people, limited availability of some rare books and manuscripts (Aithal, 2023).

There is also a danger of additional workload on teachers as they have to construct new tasks based on AI and educate students on how to do them properly. For example, according to the *Blueprint for an AI Bill of Rights* teachers are supposed to educate students about safe AI use,

supervise them, lend a hand in case when something goes wrong, prepare personalized instructions, work in partnership with colleagues to understand effective prompts, analyse AI-generated lesson plans for faults, avoid over-trusting AI systems, and take part in the design and evaluation of AI systems (U.S. Department..., 2023). In this way the role of teachers is altered from instructor to facilitator and coach (Bryant et al., 2020), thus putting an extra burden on them. Some scholars worry that the higher education system is unable to control the impact of AI on schools and universities. They suppose that the main role in AI development belongs to large corporations possessing big data and this fact poses a threat to the existence of traditional educational institutions (Bates et al., 2020).

Williamson doubts that AI in education is just an advance in technology. He claims it to be “the socially and historically specific result of an accumulation of technical developments, scientific practices, institutional applications, and power struggles” (Williamson, 2024: 98). The importance of social and historical aspects is explained by the diversity of participants involved in education and the variety of their purposes. Because of this, the legal and ethical features of AI should be paid great attention to.

One more risk for education expressed by many researchers is the possibility to substitute teachers in class. To our mind, the dispute if AI technologies can replace teachers is fruitless. Together with the varying world schools and universities also change. Teachers cannot avoid new technologies in their profession, as they should always be at the forefront of current developments. The only way out for them is to learn and apply technologies in the best possible technique. In the future teachers should concentrate on ethical and social aspects in the educational process, leaving routine procedures such as theory instruction and assessment to AI (Flores-Vivar, García-Peñalvo, 2023). Teachers will keep their positions in terms of finding and adapting new materials, giving feedback, settling technical malfunctions, and psychological support (Ji et al., 2022).

The European Network for Academic Integrity admits the existence of advantages and disadvantages in AI in education and to avoid the risks offers commendations on the ethical use of AI in education. The use of AI tools should be acknowledged but cannot be listed as a co-author in a publication. Together with this, the employment of tools and services influencing spelling, proofreading, etc. is acceptable (Foltynek et al., 2023).

Su and Yang established a framework that helps educators in their work with AI. First, they advise setting the hoped-for outcome and correlating it with the possibilities of the AI tool. Second, determine whether the learning process is fully automated or used optionally. Then they recommend carefully consider ethical consequences and their impact on teachers and students. Finally, they suggest to evaluate the effectiveness of the result in terms of achieving the goal (Su, Yang, 2023).

For learners of foreign languages, AI seems to be an easy way to construct essays, texts, letters, and reports. Researchers recognized many ways of utilizing AI in foreign language acquisition. Thus, Pokrivcakova (Pokrivcakova, 2019) acknowledged personalized learning materials, machine translation tools, AI writing assistants (Grammarly, ProWriting Aid, Textio, AI Writer, Textly AI and Essaybot), chatbots (Rosetta Stone, Andy, Mondly, Memrise, etc.), AI-powered language platforms and apps (Duolingo, Busuu, Speexx, Babbel, Memrise, MagiClingua, etc.), intelligent tutoring systems (Word Bricks, CASTLE, I-ETER, Web Passive Voice Tutor, WUFUN (for Chinese university students learning English), Your Verbal Zone (for Turkish students learning English vocabulary), E-Tutor (for learning German as a second language), TAGARELA (for learning Portuguese at the university level), Robo-Sensei (for Japanese), Spanish for Business Professionals (SBP), etc.), adaptive and intelligent systems for collaborative learning support, and intelligent virtual reality.

Spanish researchers (de Vicente-Yagüe-Jara et al., 2023) investigated the impact of AI on university students' creativity while developing writing skills. They compared the level of creativity reached by the AI systems and the students and found out that it differed in terms of fluency, flexibility, and narrative originality. The results demonstrated that AI can facilitate students in writing tasks and verbal creativity. However, the scholars claim that AI cannot be a substitute for human intelligence and creativity.

The appearance of AI chatbots transfigured the educational process. ChatGPT is a form of generative AI that uses algorithms to generate new text similar to what a human might write. It is a language model that applies deep learning to produce human-like responses to natural language queries. ChatGPT is designed to be used in a conversational setting, allowing users to interact with

the model naturally and intuitively. As a powerful AI application, ChatGPT can answer questions, write stories, summarize documents, and compose essays. It can generate lesson plans or be a proofreader in academic writing. With the help of ChatGPT educators can design questions for assessment or develop rubrics for evaluating students' essays. While generating content for a topic, it is also possible to analyse emotional types from the written texts (Hwang, Chen, 2023). S. Aithal and P.S. Aithal (Aithal, 2023) in their research defined several ways of utilizing ChatGPT. They are information collection (Data Mining, Literature Review, Customer Feedback, Social Media Monitoring), and academic information collection (Literature Reviews, Citation Searches, Reference Checking, Information Retrieval). Grewe (Grewe, 2024) mentions creating materials for assessment purposes as one of the most useful employments of ChatGPT. This procedure of creating assessments being labour intensive, mentally hard, and requiring knowledge and experience usually adds extra cognitive load to educators. AI may offer many ideas for checking material, creating exam questions in different formats, or restoring already existing tests. Despite the need to proofread the work done educators save valuable time.

Guo and Wang (Guo, Wang, 2023) examined ChatGPT's possibilities to help teachers evaluate argumentative essays composed by Chinese undergraduate students. They found out that ChatGPT gave a considerably larger amount of feedback than teachers and contained information about content, organization, and language respectfully. Based on these results the researchers advise educators to combine their efforts in generating feedback on student writing with ChatGPT.

Discussing the probable benefits of ChatGPT, Su and Yang (Su, Yang, 2023) claim that they: personalize the learning experience for students, facilitate answering students' questions, create an exciting learning environment, give beneficial suggestions for teachers and useful advice for writing an essay for students. Out of five benefits, only two are for teachers. All these are in line with the results of Chinese researchers Ji et al. They analysed 24 papers connected with AI-integrated language learning published between 2015 and 2021 and found that most researchers did not specify the particular role of teachers in this process (Ji et al., 2022).

Hwang and Chen (Hwang, Chen, 2023) argue that the use of ChatGPT and other generative artificial intelligence (GAI) applications should not be limited to searching for information, communication with learners, personalized assistance or support. They insist on implying a "programming prompt" to guide GAI applications to complete tasks following a sequence of logical instructions. To perform a quality task, the researchers give guidelines for constructing ChatGPT prompts able to acquire the finest responses. They advise being clear and unambiguous in formulating the problem, describing the context, defining the role of GAI, asking questions that require reciprocal conversation and identifying the format of GAI-generated outputs. Bozkurt and Sharma (Bozkurt, Sharma, 2023) give a wider plan for engineering prompts. It involves clear articulation of the prompt's purpose, understanding the model's capabilities, clear and concise wording, setting the context, giving examples, fine tuning and debugging of prompts, format specification, defining key details, testing and iterating, and finally, considering safety and ethics.

According to Gattupalli et al, "Prompt literacy is the ability to effectively formulate, understand, and evaluate prompts to elicit appropriate responses from AI systems. It involves not just the comprehension of the questions or commands given to the AI, but also the evaluation of the AI-generated output" (Gattupalli et al., 2023: 2).

On the other side, we cannot but say about problems while applying ChatGPT. These are high cost, ethical and safety issues, and challenging the existing assessment system (Su, Yang, 2023). Some versions of ChatGPT cannot make a distinction between fact and fiction, verify the information, or cite the sources they use. What is more, ChatGPT usually collects information starting with the most popular sites, thus allowing arranging content from the most popular, not the most reliable sites (Silverblatt et al., 2023).

We think it is necessary to know the existing AI tools and resources, evaluate and choose them according to the aim, understand all their possibilities and apply them during classes. The necessity to create such tools is excessive, as in this case, the burden on teachers will rise tremendously. We consider prompt literacy to be one of the most crucial abilities to liberate teachers from time-consuming tasks and this study will concentrate on the way to produce proper prompts.

4. Results

Instructing students teachers themselves must learn how to use AI properly and become AI literate (Kim, 2022). Meanwhile, the same knowledge can be beneficial for student-teachers-to-be both

for their own learning and developing teaching materials as well as classes and lessons. The tests and examples provided concern learning and teaching English as the authors' specialization is teaching English. However, the principles applied in the study can be used in any subject.

Nowadays prompt engineering is becoming an integral part of digital literacy. To get an appropriate result an individual, either a student or a teacher, has to formulate their request incorporating almost all the aspects of the expected outcome. Otherwise, AI-created materials will be rather general neglecting peculiar requests and requirements of the particular target group. For instance, if we want to create an exercise for practicing the Present Indefinite Active tense, we can formulate a prompt quite easily: *"Create an exercise on the Present Indefinite active tense use"*. We tested this prompt on two ChatGPT (<https://chatgpt.org/chat>, <https://gemini.google.com>).

The first output is generated by ChatGPT (<https://chatgpt.org/chat>) and is presented below:

"Complete the following sentences with the correct form of the verb in the Present Indefinite Active tense:

1. *She _____ (study) English every day.*
2. *They _____ (play) basketball in the park.*
3. *He usually _____ (run) in the morning.*
4. *I _____ (enjoy) cooking delicious meals.*
5. *We _____ (watch) our favorite TV show at 8 PM.*
6. *The cat _____ (sleep) in its cozy bed.*
7. *My brother _____ (work) at a bank.*
8. *The sun _____ (rise) in the east every morning.*
9. *They _____ (take) their dog for a walk in the evening.*
10. *I _____ (read) books in my free time.*

Make sure to conjugate the verbs correctly and use the Present Indefinite Active tense in each sentence".

The exercise above seems to be appropriate as it includes sentences with different pronouns and students can practice challenging 3rd person predicates. Moreover, as the Present Indefinite tense is to be learned by beginners, the vocabulary in the suggested exercise corresponds to their level and embraces everyday English language.

The next step was to ask ChatGPT to check the correctness of the completed exercise and in doing so we made a few mistakes in the predicates intentionally, namely, five of them: 1) *She study English every day*; 2) *I enjoyed cooking delicious meals*, 3) *The cat is sleeps in its cozy bed*, 4) *The sun risess in the east every morning*, and 5) *I reads books in my free time*. Queerly, ChatGPT highlighted only three mistakes: *"There are some errors in the sentences provided: 1) She study English every day – should be "She studies English every day", 2) The cat is sleeps in its cozy bed – should be "The cat sleeps in its cozy bed", and 3) I reads books in my free time – should be "I read books in my free time". Overall, most of the sentences are correct except for a few minor errors"*. Meanwhile, it did not notice the use of Past Indefinite instead of Present Indefinite and neglected misprint in the spelling "risess".

Looking critically at the exercise created by ChatGPT, we made a note of some features. Firstly, the exercise does not offer negative and/or interrogative sentences. It means that a learner initially will not have the opportunity to practice all types of sentences. Secondly, by default, American English is used in the created exercise, *"favorite"* spelling being the signal of it. Thirdly, the second person pronoun is missing too, although some beginners happen to add the suffix -s to the predicate in the Present Indefinite tense. Finally, the exercise does not include any exceptions of the Present Indefinite use, for instance, the use of Present tense instead of Past or Future or the formation of the predicate with such nouns as police, family, etc.

The second output was produced by the extension Gemini by Google (<https://gemini.google.com>) and it turned out to be more thorough as it included several assignments with a number of sentences in each of them such as: "1) Fill in the blanks with the

correct form of the verb in the present indefinite tense (*They _____ (play) soccer every afternoon*), 2) Write sentences using the given words in the present indefinite tense (*I / wake up / at 7 am*), 3) Choose the correct form of the verb to complete the sentences (*It _____ (rain/rains) a lot in the summer*), 4) Make negative sentences from the given positive ones (*We work hard*), and 5) Make questions from the given statements (*He works as a teacher*). Such a sequence of tasks is much more logical and productive from methodological point of view and allows learners to practice different variations of verb forms. The vocabulary is consistent with the English proficiency level of students who get acquainted with the Present Indefinite use rules (for example, *to like, to read, to play, lesson, every afternoon, to eat pizza*, etc.).

The correctness of the tasks completed was also checked by AI as we intentionally made a few mistakes and a misprint, namely, 1) *She like to read books*, 2) *They played soccer every afternoon*, 3) *It is raining heavily outside*, and 4) *The cat catches mice*. AI corrected all the mistakes, even Past Indefinite tense, and gave an explanation of errors but it seemed not to be enough. For instance, ChatGPT in Gemini clarified “*Subject-verb agreement: The verb must match the person and number of the subject. She is third person singular, so the verb should be likes*” and so on but it did not highlight that Past Indefinite tense was used instead of Present Indefinite and it did not explain why suffix *-es* should be used in verbs like *catch, wash*, etc. Although it summarised that the Present Indefinite tense is used for habits, routines, general truths, and states.

Summing up, we conclude that the second experiment by Gemini (<https://gemini.google.com>) is much more efficient and comprehensive although it has some remarks as well. The analysis of such a short experiment warns us to be more critical and scrupulous about the details and leads to the idea of prompt frameworks.

A number of frameworks for prompt engineering can be applied when aiming at English as a Foreign Language class and any other course as it was remarked above. We will consider three prompt frameworks: RACEF, RISEN, and Co-STAR. The important thing about these prompt engineering frameworks is that they can be applied in any subject taught because they give common guidelines for formulating a request for generative AI.

The first acronym RACEF stands for R – role, A – action, C – context, E – example, and F – format. To clarify RACEF prompt engineering framework, we will explain what each component letters stand for. For every component, it is important to describe it in detail as accurately as possible. While defining the role (R), it is necessary to outline the role ChatGPT should take upon itself when creating teaching or learning materials whether it be “an EFL (English as a Foreign Language) teacher’s assistant for adult students in chemistry” or “a World History teacher at a college for arts students”. Action (A) implies a request for specific actions on the part of ChatGPT, for instance, “Generate a lesson plan on the topic of properties of crude oil (density, viscosity)” or “Generate an activity showing the main events in Italy in the XVIth century and their influence on Michelangelo’s paintings”. In this component it is also appropriate, for example, to specify a word limit for a text, create particular tasks (fill-in the gaps, concept-checking questions, matching, etc.), or highlight topical vocabulary or keywords. As for context (C), relevant details for ChatGPT should be added here to refine the output. We can describe the duration of the class, the target audience if they have any peculiarities within their interests, preferences, aptitudes, or learning styles, and any other aspects that specify the setting. The next component, example (E), is not obligatory but desirable. Being knowledgeable about the requirements of the class or learning style of the students, it can be reasonable to offer an example activity for the AI to model. The example can be of any type: exercise, dialogue, activity, mind map, etc. Finally, format (F) indicates how the output will look like, whether it be a complete lesson sheet with ready-to-use tasks or a lesson plan with sequential activities.

Following the RACEF framework, the prompt for ChatGPT was formulated as follows: “*You are a university teacher teaching the general English for a group of students majoring in German as a foreign language. English level proficiency of these students varies from B1 to B2 in one and the same group. Create a plan for 90-minute class on the topic “Environmental protection”. Include warm-up activities, group and individual work. Include all language activities such as listening, reading, speaking and writing (as a homework activity). Some grammar exercises on Indefinite and Continuous tenses should be included as well*”.

The second prompt framework under consideration is RISEN that embraces R – role, I – instructions, S – steps, E – end goal, and N – narrowing. The prompt starts with the role (R). The user (either a teacher or a student) defines the role s/he wants the AI to take. It delineates the

proficiency and the tone of the expected output. Instructions (I) clearly state the task AI is supposed to complete. Steps (S) list a number of steps AI should follow to complete the task. The end goal (E) is about specifying the intention of the output, what the user aims to achieve with the output. Narrowing (N) is indispensable to describe a number of constraints that AI should regard while creating the output.

RISEN prompt framework led to the following framing:

“Role: You are a university teacher teaching the general English for a group of students majoring in German as a foreign language.

Instructions: Create a lesson plan for the class on the topic “Environmental protection” that revises the topic.

Steps:

- 1. Include warm-up activities.*
- 2. Include group and individual work.*
- 3. Include such language activities as listening, reading, and speaking.*
- 4. Include grammar exercises on Indefinite and Continuous tenses.*
- 5. Create a writing activity for the homework.*

End goal: By the end of the lesson, students will be able to discuss general issues concerning environmental protection worldwide, using proper vocabulary.

Narrowing:

- 1. Time-limit: class is 90 minutes.*
- 2. Learner level: English level proficiency of the students varies from B1 to B2 in one and the same group.*
- 3. Technology: Students have their mobile devices and there is a whiteboard in the class”.*

The third prompt framework is Co-STAR where C stands for context, O – for objective, S – for style, T – for tone, A – for audience, and R – for response. Similarly, context (C) provides background information for AI to aim at specific scenario. A more detailed description ensures relevance in the output. Objective (O) defines the task AI should perform to meet the goal. Style (S) specifies the desired writing style ChatGPT will use to align the response with the particular requirements. Tone (T) sets the attitude of the response whether it be formal, empathetic, neutral, etc. Identifying the audience (A) we can tailor the output for the target group to make it more appropriate, meaningful, and effective. The response format (F) defines the structure of the output whether it be a list of activities or a predetermined structure.

Consequently, Co-STAR prompt was formulated as:

“Context: The lesson takes place in a class for students majoring in German as a foreign language with the English proficiency varying from B1 to B2. They have already finished studying the topic “Environmental protection” and the lesson is to review the topic.

Style: friendly, understandable, supporting, interactive.

Tone: supporting and encouraging.

Audience: undergraduate students majoring in German with different levels of English proficiency (from B1 to B2). The total number of students is 12. The format of work should vary from class to small-group, pair to individual work.

Response: A comprehensive lesson plan. The structure of the class that lasts 90 minutes includes warm-up activities, vocabulary exercises, text on the topic with pre-reading, while-reading, and post-reading activities, speaking exercises, and writing activity as homework”.

Thus, keeping in mind the same academic group and setting, we formulated three prompts following three prompt frameworks to test all of them on two ChatGPT (<https://chatgpt.org/chat> and <https://gemini.google.com>) and compared the responses obtained.

The first experiment involved RACEF prompt framework on both AI. Comparing the lesson plans generated by AI, we concluded that both incorporated all language activities (listening, reading, and speaking as well as writing, although ChatGPT integrated writing in the lesson itself but Gemini as homework) with grammar focus and both offered similar lesson structure starting with warm-up activity and finishing with homework assignment. However, the lesson plan generated by Gemini looked more methodological and elaborate. For example, the warm-up activity produced by ChatGPT implied discussing with students their thoughts on environmental protection and the importance of taking care of the environment and afterward asking students to brainstorm different ways they can contribute to environmental protection. Meanwhile, Gemini

formed a rather detailed suggestion: *“Brainstorming: Write ‘Environment’ on the board. Ask students to brainstorm words and phrases related to the environment. Divide the class into two groups and have a short competition to see which group can come up with more words. Mind Map: Create a mind map on the board based on the students’ ideas”*. To cite one more example, Listening Activities generated by both AI turned out to be similar – both included the tasks though Gemini broke them down into distinct steps and entitled them (Table 1).

Table 1. Listening Activity

<i>ChatGPT (chatgpt.org/chat)</i>	<i>Gemini (https://gemini.google.com)</i>
Play a short audio clip about environmental issues and conservation efforts.	Pre-listening: Introduce key vocabulary related to environmental issues (e.g., pollution, climate change, deforestation, recycling).
Students will listen and then discuss in pairs the main points they heard.	Listening activity: Play a short audio clip or video about environmental problems. Students listen to the main ideas and take notes.
Class discussion on what can be done to address the issues mentioned in the clip.	Comprehension check: Ask comprehension questions about the listening material.

Gemini also formulated objectives of the lesson, listed materials (whiteboard/flipchart, markers, handouts (texts, grammar exercises), audio/video clips), offered differentiation for B1 and B2 students, and suggested recommendations to deliver the class (*“Throughout the lesson, provide opportunities for error correction and feedback. Use a variety of activities to cater to different learning styles and keep students engaged. Encourage students to use target language actively in their speaking and writing”*). To sum up, although Gemini created a more detailed and structured lesson plan, none of both AI-provided teaching materials (exercises, audio or video, etc.) and the structure of the lesson plan appeared similar.

The second prompt framework tested was RISEN. In this experiment lesson plans turned out not to be similar – their structures differed. Gemini retained the structure similar to RACEF prompt: Warm-up (10 minutes), Speaking Activity (15 minutes), Listening Activity (15 minutes), Grammar Focus (10 minutes), Reading and Writing (20 minutes), and Homework. Moreover, some activities had much in common (Table 2).

Table 2. Speaking Activity by Gemini

<i>RACEF</i>	<i>RISEN</i>
Group work: Divide students into small groups. Ask them to discuss one of the environmental problems they heard about in the listening activity. They should talk about the causes, effects, and possible solutions.	Group discussion: Divide students into groups of 3-4. Give each group a specific environmental issue (e.g., deforestation, pollution, climate change). Ask them to discuss the causes, effects, and potential solutions.
Feedback: Invite one or two students from each group to share their ideas with the class.	Feedback: Invite one or two students from each group to share their main points with the class.

As for ChatGPT, structures of the lesson plans following RACEF and RISEN prompt frameworks diverged. Language activities were included in the lesson plan by RISEN but they were separated into two blocks: *“1) Language Activities: (30 minutes). Listening: Play an environmental podcast or audio clip and have students answer comprehension questions. Reading: Provide an article or blog post on a current environmental issue for students to read and discuss in pairs. Speaking: Have students participate in a role-play activity where they discuss environmental issues and solutions, and 2) Writing Activity: (10 minutes). Assign a writing task for homework where students have to write a short essay or letter on their opinions on a specific environmental issue and propose possible solutions”*. Meanwhile, in the lesson plan by RACEF language activities were separate step-by-step activities. The salient feature of the RISEN plan by ChatGPT was the activity “Group work” (20 minutes) that implied to *“Divide the students into small groups and provide each group with a scenario related to environmental protection. Have students discuss the scenario and come up with possible solutions or actions to*

address the environmental issue. Each group will then present their scenario and solutions to the class". This group work incorporates all language activities because students have to read the scenario (reading), discuss it (speaking and listening), and present a speech (writing, at least, drafting) but this activity resembles real-life activity changing the focus onto cooperative, sort of creative work. It should be noted here that Gemini adhering to a similar lesson plan structure in both prompt frameworks generated a creative and real-life assignment for homework. It suggested students write a short blog post or social media post about an environmental action they can take in their daily lives. In completing the task, students should use vivid language and persuasive techniques to encourage others to follow their example. Summing up, we add to the previous conclusions that RISEN prompt framework tends to be more process-oriented and learner-centred.

The final prompt framework, Co-STAR, generated similar lesson plan structures by both ChatGPT and Gemini. The structure included all language activities (reading, listening, speaking, and writing) but also incorporated a distinct vocabulary component: *"Review key vocabulary related to environmental protection using flashcards or word matching activities. Have students practice pronunciation and usage of the new vocabulary in pairs or small groups"* by ChatGPT and *"Distribute a handout with a gap-fill exercise using environmental vocabulary"* by Gemini. However, Gemini suggested including a grammar task whereas ChatGPT neglected it. Both AI-generated assignments aimed at working with a text (Table 3), both divided the work into pre-reading, while-reading, and after-reading activities and allocated 25 minutes for each component.

We should also notice that both AI in Co-STAR prompt framework pinpointed the importance of encouraging student participation and interaction, providing feedback, and creating engaging and enjoyable atmosphere.

Table 3. Work with a Text

<i>ChatGPT (chatgpt.org/chat)</i>	<i>Gemini (https://gemini.google.com)</i>
Distribute a short text on environmental protection.	Pre-reading: Introduce a new vocabulary word related to the environment (e.g., sustainability, biodiversity).
Divide the reading into three parts: pre-reading, while-reading, and post-reading activities.	Text: Distribute a short article about an environmental success story or challenge.
During the pre-reading stage, have students predict the content of the text based on the title and images.	While-reading: Students read the text individually and underline key information.
While reading, encourage students to underline key information and discuss comprehension questions in groups.	Post-reading: Divide students into groups of three. Each group discusses the text and answers comprehension questions.
After reading, ask students to summarize the main points and share their thoughts with the class.	

To put it all together, we conclude that all three prompt frameworks are viable and their use is predetermined by the goal. If one needs a structured comprehensive lesson plan, RACEF prompt framework is sufficient. RISEN prompt framework can be applied for a more detailed lesson plan that is process-oriented and learner-centred. In case of more attention to the atmosphere of the class with a specific learning context, Co-STAR prompt framework will work better.

5. Conclusion

In our study, we contributed to better understanding and structuring knowledge available on the topic of AI. We asserted that AI has a great potential to significantly influence the formation and development of information and media literacies. We revealed that AI literacy is closely intertwined with these literacies having critical thinking as the unifying factor.

In education it is crucial to understand, evaluate, and select existing AI tools and resources, realize their full potential, and spread them in the classroom. All these activities require application of critical thinking skills from students as well as from educators. So, prior to instructing students to use AI tools teachers themselves must learn how to use AI properly, making the most of its

benefits and minimizing the potential risks. As AI options are immense, we could not cover all its aspects; accordingly, we embarked on one of its facets – prompt frameworks formulated for EFL class's use. The experiment illustrated that the denoted prompt frameworks are workable and the choice of the prompt depends on particular goals and setting. Thus, the paper gives understanding of a few prompt frameworks, their options, gives examples and their comparison; it can be useful for teachers and students and general audience while formulating requests for AI.

The current research is confined to such limitations as the experiment of three prompt frameworks; with only two AI-powered chatbots; and for creating lesson plans uniquely without teaching materials, handouts, etc. although it is possible to make them by continuing the request. Therefore, the designated limitations outline perspectives for further research.

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