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CRITICAL MEDIA ANALYSIS USINGAI-POWERED CHATBOTS: CONSIDERATIONS AND APPLICATIONS IN EFL CLASSROOMS

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Abstract: Despite the growing body of research on the use of applications of artificial intelligence in teaching and learning, little is known about the impact of classroom teaching strategies on empowering students' as questioners and highly skilled at using AI-powered chatbots. The purpose of the present study was to examine the influence of a direct instruction program ofstrategies foranalysis of argumentation on students' quality of questions asked to AI tools for answers supporting their critically evaluation of media messages. Within this framework, this study examined the effect of explicit teaching about arguments on EFL students' strategic questions asked to AI-powered chatbots (ChatGPT & Gemini(formerly Google Bard))for getting answers supporting analysis of textual content of media texts with the intent to identify bias and clarify ideological perspectives the texts display. This was a one-semester longitudinal study with 88 university students studying in the Department of English at the University of Mascara in Algeria. Conducting pre- and post-tests, the researchers demonstrated a significant positive correlation between a critical thinking course and students' development of ability to construct good questions for answers generated by AI chabots (GPT and Gemini) to infer information for responding critically to media messages. The obtained results revealed that the intervention was effective and the ability of students to ask meaningful questions was increased to a noticeable extent. The researchers concluded the paper with implications for EFL instructions to employ different pedagogical interventions for supporting effective use of AI class.

Keywords: Argumentation; critical questions; media bias; GPT & Gemini; persuasion.

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1. Introduction

Incorporating media texts for L2 learners to learn to read critically has introduced challenging demands for teachers in taking on complex roles to advance higher-order or critical thinking and independent learning. Thus, a call for a thorough grounding in theoretical and pedagogical perspectives of critical thinking is necessary if educational objectives are expected to help students engage critically with media texts. The aim of the present study is twofold. First, it seeks to contribute to a better understanding through theoretical foundations of how to effectively integrate the practice of textual analysis of media texts across EFL curriculum to strengthen students' critical thinking. Second and more specifically, this study seeks to examine empirically the impact of direct instruction on argumentation on students' use of ChatGPT and Gemini in the context of tasks to identify and assess media bias.

Critical thinking skills and media literacy skills are interdependent approaches; critical media analysis cannot be adequately taught or practiced without the cultivation of critical thinking skills. There are plenty of thoughtful, insightful publications that delve deeply into the transferability of critical thinking into analyzing and evaluating media texts (Kellner & Share, 2005). Implementing critical practice through media texts requires appraising message arguments and judging their strength and quality. Many educators and scholars recommend that argumentation is at the core of teaching critical thinking skills which should be context- and problem-based learning (Andrews, 1995; Rapanta, 2019). In his seminal book *The skills of argument*, Kuhn (1991, p. 12) defines an argument as "an assertion with accompanying justification". Similarly, Means and Voss (1996, p. 141) describe an argument as "a conclusion supported by at least one reason". Analysis and evaluation of argumentation can be defined as the task of identifying argument components and their relations in text. The strength of argument is determined by the extent to which it follows a logical structure where each point connects logically to the next. Involved in evaluation of argumentation is assessing how persuasive the argument is in performing a support or challenge a given statement.

In recent years, researchers have shown an increased interest in teaching methods of argumentation. Depending on the nature of learning, teaching methods of argumentation can be classified into explicit and implicit methods. Explicit methods involve clearly and directly teaching the rules, principles, and techniques of argumentation. This often includes formal instruction on logical fallacies, argument structures (such as deductive and inductive reasoning), types of evidence, and strategies for constructing persuasive arguments. Implicit methods involve teaching argumentation skills through less direct means, in which the teacher does not present the rules. The existing literature on meta-analysis showed a significant difference between the effectiveness of these two modes on students' reasoning performances. A growing area of study on education shows that students learn better through explicit methods (Ashman, 2021).

Although there is much evidence that explicit teaching of argumentation for EFL students has generated significant levels of concern around the world, little attention has been paid to research on the topic in Algeria, nor has much been written with regard to how differently the topic is (or is not) integrated into different classroom contexts. Not only central to science and scientific writing is argumentation but also media writing. Not only educational settings but also mass media are important sources of information for people. Accordingly, practice of argument analysis and evaluation should be placed at the center of the learning experience of individuals. All media forms have persuasive practices which rest on argumentation. So if we are to understand the practice of persuasion, we must first grasp

its purpose. In our view, that purpose is best captured by the ability to weigh up the strength and weaknesses of arguments in which persuasion is embedded. Developing the ability of learners to reason, think critically, understand and evaluate arguments in a logical and coherent way allows them to uncover ideology and ' bias ' encoded in media content .

Classrooms where practices of critical media (identifying bias, stereotypes, or persuasive techniques) are occurring require creating problem solving atmosphere in which the term "questioning" has a central function which involves active cognitive processes. Problem-solving is only possible if students can move away from developing knowledge or understanding type of self-asking questions to developing higher order thinking self-asking questions.

Within the context of using AI tools to facilitate EFL student engagement in critical media literacy, the authors of the present paper examine students' critical thinking from two directions: How students learn to use critical thinking skills practices, and how critical thinking practices contribute to develop student self-questioning strategies for evaluating media texts. Existing research recognizes the critical role played by self-questioning strategies in fostering the evaluation skills required for critical reading (Song & Ferretti, 2012). With regard this issue; there has long been a heated debate over whether self-questioning strategies are best taught in isolation or whether such teaching should occur implicitly or explicitly within the context of critical thinking practices (Walsh & Sattes, 2011). This debate has brought into question: "do learners apply skills of questioning to specific situations other than those in which they were first taught? To what extent does transfer from explicit teaching context differ from those obtained in an implicit teaching context? Questions such as these needs to be addressed if we are to understand the intervening role that self-asking questions play during the process of critically reading, of which background experiences and thinking are an essential part.

While there are some studies describing and reflecting on transfer of questioning skills learned in one context to new contexts, there are very few studies that consider ways in which students transfer these skills within a learning context in which they engage in in-depth discussions with AI-powered chatbots (Kurban & Şahin 2024). It should also be noted that much of the work that has been conducted examining the issue has been conducted in Western settings, and no studies conducted in the cultural context of Algeria. Despite the limited published work in this area, no exploration has yet examined the impact of incorporating critical thinking into classroom practice on students' interactions with AI-powered chatbots for performing media text-evaluation tasks.

Acknowledging that teaching critical thinking is a broad topic which may be tackled from various angles, this study focuses on teaching argumentation and its significance role in developing students ' ability to generate questions. There are several AI-powered chatbots that students can use in their learning process. Current educational research sheds light on challenges and open questions as well as possible research directions on the use of AI-powered chatbots (Boutelier, et al., 2024). To take a relatively narrow focus, the current research sheds light on individual differences in employing ChatGPT and Gemini to facilitate learning. To the best of our knowledge, no previous studies exist on examining how teaching students to analyze and evaluate arguments impacts the nature and number of questions which students ask on chatbot website for information to identify persuasion and bias in media messages. The narrow focus on detecting bias and persuasion in the media by examining argumentation is motivated by the fact that identifying socio-centric thinking in the news is a particularly noticeable issue in the context of media literacy and a staple of critical thinking.

2. Literature Review

2.1 Media Literacy Education

There has been a tremendous interest in incorporating media literacy skills into the learning outcomes of L2 course designs, which is easily discernible even in the variety of relevant terminology ranging from 'media literacy (ML)' to 'news literacy (NL)' and to 'media studies (MS)' (Lee et al., 2017). All these terms, though different in terms of scope, denote an understanding of media integration into language teaching to foster critical thinking opportunities for language learners' empowerment. Use of media in foreign language education is not a novel idea. Utilizing newspapers in education dates back to the 1890s, when educators and newspaper professionals recognized the potential of current news materials to hold a significant place in the school curriculum (Cowan, 1978). However, it was until about the 1930's that growing interest in educational use of newspapers and general appreciation of its importance began in response to *The New York Times* offer of free newspapers to schools in America under the "Living Textbook" labeling program. Later, in 1957, it was known as "Newspaper in the Classroom" (NIC) program sponsored by the Newspaper Association of America NAA). Increase in interest in use of newspapers in classrooms has been mainly due to the attention that newspapers can provide students with meaningful comprehensive real-life experiences that link classroom learning to the outside world (Charles & Lange, 1974; Olivares, 1993). Additionally, use of newspapers has been perceived to develop critical thinking skills and increase national and global awareness (Cheyney, 1984; Paxson, 2005).

Starting from late 1990s, with access to broadcast networks and later the internet networks, teachers began to use not only printed newspapers publications but also network media as a tool for teaching and fulfill learning objectives. The interest in use of media texts for language teaching has increased dramatically over the last twenty years going beyond use for fostering the four major language skills towards use for fostering higher-order thinking skills necessary required for effective evaluation of media content in terms of intents and effects (Pailliotet & Semali, 1999; Rogow, 2012; Brown, 1998; Livingstone, 2004). In his seminal paper in the area, Dominguez (2019) anticipated that critical media literacy would become an indispensable part of FL teacher education and that language teachers would need to develop an understanding of how formulating strategies of implementation addressing such skills to cater to the literary needs of students.

Earlier attempts of using media texts to enhance students' learning were defined by educational researchers as being entirely 'restricted' with regard to how the framing of teaching gives rise to higher order thinking skills (Moore, 1991). In this stage, use of media texts in teaching was limited to strengthen reading comprehension with low critical literacy levels and text was seen as "an offer of information". Current practices with the advancements in critical pedagogy challenge the views of use of media texts in class merely as a tool to enrich students' information about what is happening in the world today.

Conceived within the theoretical framework of critical pedagogy, current goals of media literacy merge from and overlap with the field of critical thinking teaching (Vasquez, Janks, & Comber, 2019). Applying critical thinking learning approach to the teaching process of media texts creates two-stage training strategy, each with a lower, a middle and a higher level (McDougall, 2014).The second stage is the stage of making students involved in the development of skills of discerning the author's purpose and point of view represented—skills that require accommodation and insight on the part of the reader. At this stage, critical analysis of media texts includes paying close attention to stylistic differences in articulating attentions. In the advanced or final stage of language teaching,

critical media literacy is observed as the fifth skill along with the four basic ones. This stage applies to learners at the university educational level. When situating the text for analysis in its socio-political context, learners attempt to highlight how the text contains ideological stances and serves to enact or reflect those ideologies. To pave the way towards high critical media literacy levels, teachers' roles are becoming crucial in guiding the dynamics of project-based learning approach that uses critical thinking literacy during the process of teaching (Sperry & Schneider, 2018).

Although using media in language study has long been under investigation with its contribution of offering opportunities for the development of a deeper understanding of language use in different contexts through authentic language exposure, earlier attempts were inhibited by several barriers at the conceptual and implementation levels. Some of such barriers were mainly concerned with the cultural factors that influence the design and implementation of courses. It is generally known that authentic content offers insights into the cultural values of the target language. Clear from this consideration is that understanding cultural nuances in media content may pose challenges for foreign language students for being reared in different cultures. While being involved in examining the interconnections of meanings both inside and outside a text, students might misinterpret the tone or intent of messages due to unfamiliarity with these cultural nuances. In response to this challenge, there have been earlier made attempts aiming at reducing its effects.

Researchers and practitioners in the area of critical media have long been aware of the challenges which teachers face to specify the mechanisms or dimensions of culture that carry their role in learning and are trying their bests to overcome them. In case marked by the absence of such specification, adjusting teaching styles to match student learning needs becomes difficult, if not impossible. It is generally assumed that analytical and evaluative thinking are bound or culture-specific that can only be fully understood within a specific cultural context (Lipman, 1991; Brown et al., 1989). This view implies that people from different cultural backgrounds may bring unique perspectives, approaches, and considerations to the process of critically thinking about media discourse (Gaines, 2010). It is worth noting that successful teaching does not mean engage readers into particular reasoning activities within a prescribed-based reading model to assess how much a media text encodes, reinforces and/or articulates a set of values, but also engage them into self-awareness to gain insights into their own values, norms, and attitudes that may influence their reading. When teachers' pedagogical purposes acknowledge the role of learners' critical self-awareness in setting the context in which critical thinking can occur, then they may create space to foster learning opportunities to engage students deeply in critical media literacy to become conscientious lifelong learners.

Numerous gains are reported for integrating media into curriculum to foster critical thinking (Scheibe & Sperry, 2022). Engaging with media materials can stimulate cognitive processes, contributing to the development of critical thinking skills. As they become involved in the process of evaluating media texts, students engage in the process of implementing reasoning strategies to uncover hidden assumptions, values, ideologies, interpretations, conclusions, and biases underlying news content. When teachers allow students the opportunity to interact with and manipulate media texts in meaningful ways, the learning journey involves particular mental actions crucial in making well-thought-out and discerning evaluations (Higdon, et al, 2024).With critical thinking tools integration, EFL teachers may also use media texts in class to facilitate practicing identification, analysis, and evaluation of use of language to produce colorful terminology and phraseology. This practice is crucial for an adequate reconstruction of argumentative and persuasive discourse.

Despite the numerous benefits of critical media literacy practices in classrooms across English and the Arts, teachers generally struggle when it comes to employing critical thinking strategies to deal effectively with media texts. In being between doubt, uncertainty, and hesitation, teachers' avoidance on such matter is very often due to lack of knowledge, lack of skill, lack of self-confidence, lack of objectivity, or all together with a lack of support from educational authorities. Hence, teaching needs an investment in teacher quality directed towards the objective of developing students' critical, reflective and analytical thinking in a framework of new teaching methods that increase development practices and capabilities essential to manage one's life in the new millennium.

With all these in mind, many departments of education make recommendations demanding requests for qualified courses and/or programs compatible with recent paradigms in implementing methods into teaching environments that can support linking the knowledge, skills, and dispositions that students need to critically interact with issues raised in media texts (Mihailidis, 2014a).One way of paving the way for media education integration into EFL to make learning and teaching of critical thinking more meaningful and transformative is guiding pre-service teachers to become familiar with appropriate methods and referral sources needed to work with students to provide the necessary information and skills for target students. The aim of this study is to make an attempt to bridge the gap between media use and critical thinking in language teaching in EFL classrooms by guiding pre-service teachers studying at the Master's degree level to implement critical media literacy into their situated teaching practices.

2.2 The Need for Critical Media Literacy in Teacher Education Core Curricula

The increasing influence of media on individuals ranging from on paper published textual information to digital diverse multimedia forms has raised several concerns about finding ways of implementing a pedagogy of critical literacy into teacher education (Cubbage 2018), yet the majority of teacher training programs do not accommodate training opportunities devoted for critical media education (Frechette & Rob, 2015). Some of the most common obstacles involved with successful integrating this literacy in the EFL classroom include: (i) difficulty changing to a teaching style that deemphasize lecturing and teacher-centered instruction; (ii) ignorance of alternatives to traditional assessment, and unwillingness to make open-ended assessment or subjective assessment an integral aspect of evaluation; (iii) insufficient time to create space into courses for deepened critical thinking skills; (v) lack of well-established methodological procedures that give consideration to text-reader interaction responsible for the emergence of the activity of interpretation; and (vi) lack of experienced and knowledgeable educators for critical media pedagogy in general (Cubbage 2018) .

In correspondence with the existing obstacles listed above, insufficient training opportunities (or a total absence of training) to use relevant critical thinking teaching methods and techniques could well lead to low level use of media-based texts with a bad high-level design at the various course stages even if the prescriptive wish is to make students gain critical media literacy (Buckingham, 2003).This shortage can be explained by the mere aim to improve knowledge and skills having to do with filtering information and judging its credibility but not to enhance certain types of critical thinking necessary to engage in the process of deconstructing the ideological discourses of mass media in the coverage of socio-political issues. In simple terms, though media can engage learners in learning experiences that foster the development of critical thinking, use of media texts is rarely for the clear purpose of better preparing students for achievement of such purpose, in the proper sense of the word.

Approaches to teaching youth to critically read media texts vary in terms of being breadth-first one to depth-first one (Gillingham, 1993). The breadth-first approach is often adopted for use with novice critical readers because it allows them to explore a wide range of topics and develop foundational critical reading skills before delving very deeply into specific issues to explore the many subjects involved in depth. As they gain more experience and develop their confidence and skills, learners may gradually make transition to more in-depth reading approaches.

Adoption of a "critical approach that allows for media literacy can also vary in terms of being integrated or fragmented approach. In a fragmented approach, educators might focus solely on teaching discrete skills such as identifying bias, analyzing persuasive techniques, or evaluating sources without an attention to show students how these skills connect or interact with each other within the broader context of media literacy. To effectively teach critical media literacy, educators should adopt an integrated approach that connects theory with practice, emphasizes interdisciplinary learning, and encourages students to critically engage deeply with media in meaningful ways. This integrated approach has the advantage to help students develop a comprehensive understanding of media's role in society and equips them with the skills needed to navigate and critically evaluate media messages in diverse contexts.

In pursuit of critical media literacy goals, various processes for use in teaching have been proposed, such as using project-based oriented courses to support & enhance students' learning experience (Friesem, 2019), implementing authentic practices in context within situated learning environments (Egbert, 2006), creating self-reflective learning opportunities to build up a repertoire of deep learning skills, using digital portfolios (Van Olphen, 2007), and forming communities of practice for effective critical media implementation (Hanson Smith, 2016).Using these processes requires from learners to behave differently from doing in the traditional classroom. Despite the variety of building approaches and processes for media integration in English language teaching, most contemporary pedagogies in teacher education programs leave teachers on their own to dig the path to success in the manner of teaching through a 'do it yourself' stance on how to adapt courses to one context, which may result in frustration along the process of applying practices.

Based on rapid advances in what is known about how people learn and how to teach effectively, Sperry & Scheibe (2022) examine the core concepts and central pedagogies that should be centered at the heart of any teacher education program. Their seminal work tackles the following questions: "how can we teach students to distinguish true statements from those that are false, misleading, or manipulative?", How can we help them develop the skills needed to identify biases and stereotypes, determine credibility of sources, and analyze their own thinking and its effect on their perceptions?" The tackling of these questions best occurs while engaging themselves into the process of leading a class into decoding of media document(s) through in-depth analysis using a constructivist approach at the core of teaching. The two experts authorities in the field, Sperry & Scheibe label the framework into which their activities are inserted "The Constructivist Media Decoding" (CMD). Drawing from their decades of experience as teachers, consultants, and media literacy advocates, the authors explain how to reach diverse learners through: (1) developing and facilitating CMD activities in the classroom and in virtual teaching environments; (2) implementing CMD across the curriculum, at all grade levels; (3) connecting CMD with educational approaches; and (4) incorporating CMD into assessments. Outcomes through CMD would make students acculturated into a community of critical thinkers within which become empowered to navigate a complex media landscape that surrounds them, and become productive citizens of society.

3. Methodology

3.1 Study Context

To examine the effects of using artificial intelligence applications using ChatGPT and Gemini for developing students 'critical analytical skills and diagnosing their perceptions of using these technological tools for analyzing media texts, a quasi-experimental design was carried out with English students at the University of Mascara in the North-West of Algeria for a semester of 12 weeks during the academic year 2023-2024. Two topics were chosen as learning targets: (1) evaluating the argument and specific claims in a media text; and (2) identifying authorial stance (bias and persuasive intent) in a media text on a controversial issue. The rationale for selecting these two subjects for the study was two-fold. Firstly, to contribute to ongoing debates on the importance of integrating the development of critical thinking skills into reader-response strategies demanded by the gap created by increased 21st century literacy skills. Secondly, these subjects have been usually rated as key skills that EFL learners mostly need to overcome obstacles and go beyond reading comprehension level and develop the skills necessary for interacting with authentic and challenging texts.

The authors of the paper adopted a pre-test/post-test/delayed post-test design, with different treatments for the two groups involved. While participants of the experimental group received explicit teaching methods for critically evaluating arguments prior to practice and corrective feedback, a control group received exposure to the practice materials but for comparative purposes no explicit training was included. During problem solving tasks, both experimental and control groups were instructed to generate questions addressed to ChatGPT and Gemini to elicit responses to media text prompts for use as a means to critically responding and drawing conclusions. Accordingly, the following research questions were developed to pursue in the study:

RQ1: How does teaching critical thinking impact the nature and number of questions which students ask on AI websites for information to identify persuasion and bias in media messages?

RQ2: What are the students' perceived advantages and limitations of using AI technology for help to identify persuasion and bias in media messages?

Answers to the first question were based on collecting and analyzing data utilizing statistical methods, which enabled determining learning gains from the comparison of two Post-tests (immediate and delayed) and a Pre-test undertaken by the Implicit Teaching Group and the Explicit Teaching Group. For the sake of getting reliability, the tests were graded by two expert raters who had prior experience with teaching linguistics in the context of EFL and prior knowledge relevant to critical reading and literary criticism. Raters′ grading decisions were based on use of rubrics that contained evaluative scales to assess the quality of the output of each individual. The second research question was addressed via the use of a questionnaire. It was hypothesized that while using AI-powered chatbots learners who had received explicit instruction in argument evaluation would generate higher-quality critical questions while critically analyzing media texts compared to learners who had not received such instruction.

3.2 Participants

The study was carried out among two groups of students at the Master level, studying at the Department of English at the University of Mascara. Eighty eight subjects were randomly assigned for being subjects into to one of two groups— experimental (n=44) and control (n=44) groups. The researchers of this paper did not employ a test to measure their language proficiency, but the level of the majority of them was at the post intermediate level as reflected in their self-assessments. With regard to the participants' L1 background, all the students were native Arabic speakers, with the exception of three students who were bilingual in Arabic - Tamazight. 70 % of the subjects were female and 30% male, with ages ranging from 22 to 36 years old. By the time the experiment was launched, all students had completed one semester of study and were commencing their second semester. Though they studied discourse and pragmatics as one of the components of their curriculum, these students had no prior courses in critical thinking and critical media analysis. They had no prior experience with act of engagement in evaluation of arguments. Incorporating discourse and pragmatics in teaching had only a descriptive character, lacking practical orientation. With regards to use of web-based artificial intelligence, at the time of the experiment students had already been using ChatGPT as a tool for certain assignments and home works.

3.3 Procedures

Throughout the study, there were three data collection stages. First, it was a pre-test, i.e. analyzing media messages. In the test, the participants' task was to find evidence from text to make predictions and inferences about the author's intention or purpose, and draw conclusions about hidden assumptions within media texts. The teacher′s task (authors of the paper) was to predict those aspects of the text that would create problems for a lay reader to perform textual interpretation, that is, someone without getting explicit instruction on ways of thinking and reading critically. The pre-test took place one week before the treatment to ensure that the levels of the two groups were comparable at the outset of the experiment. The first administered post-test was undertaken immediately after the treatment, and the second took place after a two-month summer holiday (the beginning of the following semester) for the sake to evaluate the long-term effects of the treatment. For the tasks of post test assessment, students′ performance was fulfilled employing Chat GPT and Google Bard. Both pretest and post-test materials consisted of three pairs of newspaper texts taken from English publications on public health issue.

The training sessions devoted to the control group consisted of work taking a position that value student-centric approach to learning to nurture autonomous thinking amongst individuals. Its practice occurred when the students were encouraged to read texts with their own reader-based hypothesis or perspective in mind to arrive at interpretations determined by their personal knowledge and experience and level of capacity for reflection on the underlying logic of a text vis-à-vis the tackled issue. The alternative approach, within which were molded the sessions delivered to the treatment group, consisted of work taking a position that value a teacher-directed approach. The sessions sought to explore whether, and determine the extent to which, explicit teaching of the strategies of analysis and evaluation of arguments could facilitate students′ ability to generate meaningful questions for use in chatting with chatbots for depth examination of media texts. Based on existing models, the authors of this paper assigned different objectives to each session, but all the sessions were underpinned by one emergent theme: critically evaluating argumentative reasoning.

3.4 Instruments

Two types of measures were designed for the purpose of the present study, i.e. (1) measures of quality of questions that students generate for drawing their own conclusions and making textual evaluation, and (2) a questionnaire targeting the subjects' perceptions and attitudes towards the use of some applications of Artificial Intelligence for decision making in interpretation and evaluation of media texts (in this case public health issues in the news media). For the sake of validity, data obtained from these examinations were supplemented by results of observations and peer evaluations carried out during the treatment. In order to triangulate the data, the responses of the participants in the questionnaire were verified via semi-structured interviews. All the instruments applied in the research are described more thoroughly below.

One way to foster deeply engagement with textual content for critical evaluation is to encourage students to compose and answer their own questions. It is asserted that most learners, particularly those with critical thinking difficulties, do not know how to ask appropriate questions directly related to their objectives of reading. Accordingly, the current study argued for the value of a combination of explicit teaching of critical thinking and students' self-questioning to engage at a deeper level when interacting with media texts to uncover bias and persuasive intent.

To examine how readers' interpret media texts and practice critical evaluation of them, the tests were composed of two parts— comprehension part and critical thinking part. For the contents of each of the tests, they had to read two media passages on the same topic, and then had to answer comprehension questions in a multiple-choice format followed by a summary of information presented in each text in a way distinct from personal opinions or judgments. The second part gave them written instructions that asked them to engage in a conversation with Chat GPT and Google Bard to evaluate each text on an objectivity/bias scale, and then describe on the answer sheet why and how they made their evaluations. On a separate sheet of paper, students were asked, immediately following test-taking, to write in full their conversations with Chat GPT and Google Bard. The participants were split into two groups, and both groups were given the same tests.

To investigate whether engaging students in the process of deconstruction of arguments had an effect on their use of AI chatbots for responses to questions helpful in uncovering bias in news texts, a questionnaire asked experimental participants to respond to questions about their opinions towards the role of being taught the evaluation of the strength of arguments on their use of Chat GPT. A second questionnaire was administrated to both experimental and control groups taking the form of two open-ended questions inquiring about perceived utility and usefulness, and perceived ease of use of artificial intelligence (AI) for enhancing learning in the context of critically evaluating news texts, followed by an invitation to share any feelings and ideas related to the use of AI in teaching.

3.5 Treatment

In order to explore the impact of argument-based teaching on students' critical analysis of media texts, it was essential that the researchers adhered jointly to take careful decisions on the appropriate set of educational support strategies. They took great care to cooperate with each other for designing the lesson plans and working on the pedagogical materials. The media texts were selected with great care from current and highly controversial topics. The texts were supported by tasks voice their own interpretations.

This training program lasted twelve weeks and consisted of three distinct stages that encompassed distance and face-to-face training. The focus of this program lied in the development of learners' skills by doing semiotic, content and discourse analysis while engaged in the process of examining media texts, each as linguistic –semantic entity. The training made students engaged in tasks that required them to determine an author's point of view in a text and analyze how the author uses language to advance that point of view or purpose. Accordingly, they had to determine the main idea of the text and then determine which arguments support it. The lessons also involved tasks where students were required to respond to statements embedded in a given text to indicate whether they validate or challenge their worlds' views. All the tasks asked students to refer to the text for evidence to support their answers. After students completed the tasks for each pair of texts, they had to compare the two texts in terms of the ways in which language is used to present a point of view. The teacher's job was to find out why the students came to their answers and to ask them to provide information from the texts that justified their answers which was a form of involving students in their own chain of reasoning. The teacher had to make sure that to keep students' answers open enough to include various opinions and justifications, thus not directing students to only one correct answer.

Differently from the control group for whom the teacher did not provide meta-cognitive awareness, students in the experimental group learned how to evaluate and analyze arguments and practiced this in analyzing short passages. The teacher divided the syllabus into two main sections, with a number of sub-units. The first half of the class focused primarily on deconstructing arguments in order to make their evaluations. The second half focused primarily on identifying emotive language in order to determine and classify the issues raised and the point of view presented in given passages. The relationship between argumentation and emotion is based on the assumption that the interplay between the two can lead to more effective communication and persuasion. Thus, it is assumed that the reader must have the capacity to perceive the interplay between the two to decode texts in the light of evidence of authors' use clues to shape the interpretations and actions of readers.

To stimulate their critical thinking skills, the students were introduced to central concepts in argumentation and models of forms in which arguments might be developed. Then, they were introduced to the parts of Toulmin's argument structure using examples. The various teaching devices included extensive and illustrated list of logical fallacies along with an explanation of the flaws in their reasoning, most of them collected from publications of leading experts in the field. After being challenged through a wide range of activities on which the Toulmin approach was put to work to learn how to analyze and evaluate arguments, the students were given repeated opportunities to identify the use of emotive language and value judgments in argumentation. A wide range of thinking tools was adapted from textbooks by leaders in the field of literacy and language arts education.

Along all phases of the learning experience, students participating in the program received a rubric of self evaluation of their own answers. To receive critical commentary on their performance, their meta-cognitive knowledge and skills in applying the strategies needed to perform a task was raised via discussions. The main teacher's task in this case was to prompt students to use particular reasoning strategies for the tasks they were engaged with.

To increase students understanding of course material and cognitive engagement in learning, the design of the course included engagement of students with higher-order questions for use in their interaction with cognitively challenging texts from up-to-date issues on controversies over public health. The following themes have been dealt with (1) legalization of drugs, (2) banning plastic straws, (3) electronic cigarettes, (4) mental health

disorders, and (5) the public health challenges arising from global climate. Newspaper texts on these themes have been chosen by the authors with a view of being fertile areas for controversy. Listed below are some of the questions used to reinforce their learning with an explanation of the rationale of each.

Table 1.

Reading Questions and Rationale to Engage Students' with Arguments in a Thoughtful and Analytical Way

N	Question	Rationale
1	Describe the main arguments being made in the text and the specific claims used to support it.	To grasp how each part of the passage relates to the main idea and the author's overall purpose
2	Trace and evaluate the author's specific claims, determining whether the evidence is relevant and sufficient enough to support his claims.	Discerning the strength of arguments, understanding the relationship between evidence and claims.
3	Analyze the reasoning that the author uses in support of his argument and explain any flaws or discrepancies that exist in his reasoning.	To reveal the underlying structure of reasoning, identifying and scrutinizing the form and content of arguments.
4	Identify any irrelevant evidence introduced by the author and explain how this evidence weakens his argument	To distinguish strongly relevant from weakly relevant and irrelevant evidence within a given argument in a text of discourse.
5	Which of the following best describes the weak point in the argument above?	Recognizing weak points in arguments allows for the refinement and improvement of arguments, leading to better-informed conclusions.
6	Which one of the following statements best strengthen the argument?	By answering this question, students can find the answer choice that provides the most compelling support for the argument's conclusion.
7	Can you present the strongest arguments against your position?	By answering this question, students can think beyond simply supporting one "position" (which may not always be applicable) and consider alternative viewpoints.

Articulating and expanding ideas through questions may take several forms with varying abilities, from the point at which everyone's ideas are acknowledged (brainstorming), to the point at which students are immersed in interactive situations and take initiatives in negotiating forms of different explanations or solutions to a problem (epistemic practices) .Though questioning facilitates both the process of brainstorming and the articulation of epistemic practices, one must not ignore differences between knowledge-based questions and evaluation-based questions if one is to explain differences in measurable learning outcomes

4. Results

Inter-group and intra-group comparisons, mainly through pre and post-tests, were used to confirm whether the experimental treatment had a positive effect on students' learning skills. T-test and ANOVA were the main data analysis methods used for that purpose. The pre-test data were compared between the con and ex-groups of students. They were compared with a regard to their ability to construct good questions for answers generated by AI chabots (ChatGPT and Gemini) to infer information for responding critically to media messages. Based on Bloom' taxonomy, students' answers were grouped into categories in a classification from quality questions that range from reflecting lowest to highest order thinking. The T-test results showed that there was no significant difference between the two groups (p=536). The post-test data were compared between groups, and the T-test results showed that there was a significant difference in performance between the two groups (p=000); and the pretest and post test data of the experimental group were analyzed comparatively, and the T-test results showed that there was a significant difference between the pre-test and post-test of the experimental group p (=000). The specific data analysis results of the pretest scores and the post-test scores between the control and experimental groups are displayed in Table 2. Moreover, at the same time, Table 2 is used to showcase the data analysis results between the pretest and post-test scores of the experimental group.

Table 2.

T-Test for Test Scores of Students before and after the Intervention

Measurement	Class	Mean	Std Deviation	Std. Mean Difference	Sig. (2-tailered)
Post-test	C-Group (N=40)	3.13	.31	0.06	.536
	E-Group (N=40	3.24	.52	.09	
Post-test	C-Group (N=40	3.15	.29	.09	.000***
	E-Group (N=40	3.44	.63	.13	

Note[1]: the level of significance was set at < p .05
Note[2]: E-Group =experimental group, C-Group=Control group

Compared to implicit teaching of argumentation, statistical t-test results show that there is a significant effect of implementing explicit instructional procedures on analysis and evaluation of arguments leading to empowerment of students as questioners within a path of developing skills in reasoning through critical thinking skill-building course.

Questions involved in an inquiry of critical thinking help students develop necessary reasoning skills to overcome challenges. In order to avoid undesirable effects of the pretest, scores from the pretest were used as a co-variate and the data collected were analyzed using ANOVA. Results demonstrated no relationship between the pretest and post-test (p=.296). Under the premise of controlling for the pre-test (p= .000), results showed positive effect of the use of explicit teaching of arguments on students' level of questions asked to GPT and Gemini in the context of tasks to evaluate media texts.

The obtained results have suggested that using of AI chatbots effectively in education settings are directly linked to students' ability to generate intelligible questions designed for a desired purpose to tackle an issue, and then using responses to those questions to frame more detailed questions. Students' weaknesses in critical thinking skills limit the potential benefits of AI. So, to improve in such skills students need to practice thoroughly. Previous studies on the issue have confirmed that there is little use for critical thinking unless it is accompanied by practice within the context of explicit direct instruction (Bruce, 2003). Practicing does not only improve learner' skills, but it also helps them to both identify and push their limits.

By the end of the study and to find out evidence of students' self-perceptions of their ability to transfer skills acquired from the course to generate questions asked to AI chatbots, a response questionnaire was distributed to students in the class on the last day of the semester. The following two questions were asked: (1) "How do you rate the help of your course (analysis and evaluation of arguments) in getting the ability to generate questions to examine media text and comment on your perception of the author's slant on the topic?", and (2)"Did the course "analysis and evaluation of arguments" improve your ability to assess whether ChatGPT & Gemini are providing accurate or reliable responses to question for your use to critically respond to published media texts?

Based on data obtained from responses to the first question, 35 % of the subjects in the treatment group responded with "excellent" to the first question. In their responses, 51% selected the option "very good", with 10% choosing "good" and only 4 % selecting fair. As can be seen, the choice of option "poor" was not selected by any member of the group. Compared to the subjects' responses in the treatment group, 2% of the subjects in the control group responded "excellent" to the first question. Only 9% selected "very good", with 28 % choosing "good" and 32 % selecting fair. As can be seen, the choice of the option "poor" received 5% of respondents' answers.

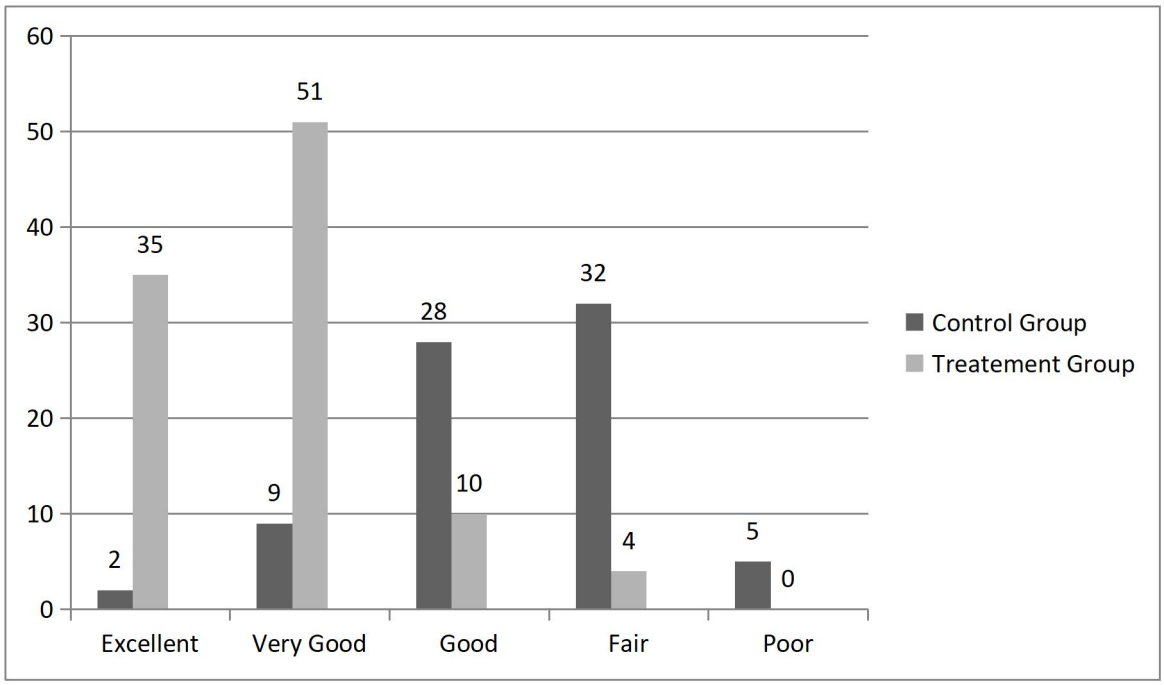

Figure 1.

Percent of Treatment and Control Group Responding to Question 1

Based on data from responses to the second question, 76.5 % of the subjects in the treatment group responded "Yes" to the first question. 11.8% selected the option "No", with 11.8% choosing the option "Not sure". Compared to the subjects in the treatment group, 17.5% of the subjects in the control group responded with "Yes" to the second question. As can be observed on the table, 27.5% selected "No", with 10 % choosing "Not Sure".

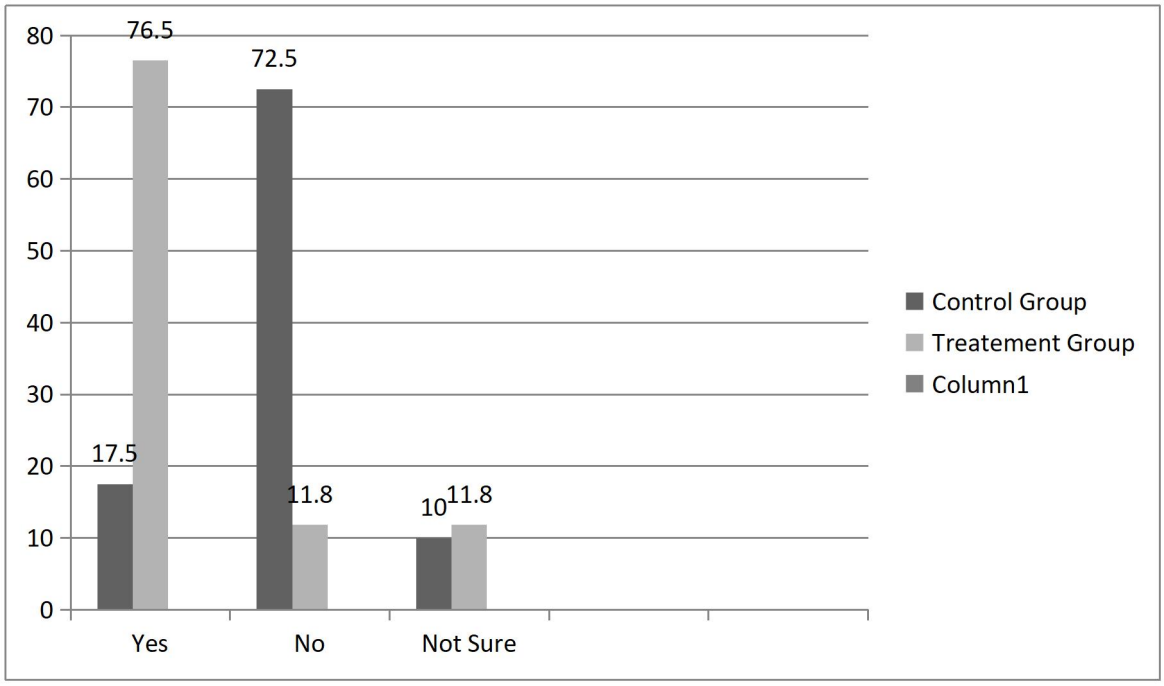

Figure2.

Percent of Treatment and Control Group Responding to Question 2

The treatment appears to have a significant positive effect on how subjects rated the first question, with higher percentages choosing "excellent" and "very good" compared to the control group. The absence of "poor" responses in the treatment group suggests that the treatment might have effectively improved the perception or experience related to the first question compared to the control group. It is also worth noting that there's a significant difference between the treatment group (76.5% "Yes") and the control group (17.5% "Yes") for question 2. This suggests the intervention might have had an impact on students' performance.

3.6 Discussion

The present study explored whether explicit instruction with opportunities to perform in-depth analysis and evaluation of arguments facilitated EFL learners' use of chatbots while critically evaluating media texts. The results of the tests indicated that only the students whose evaluation of arguments were with consideration of divergent views and awareness of their own bias showed a significant increase in their use of the right kinds of questions to produce a more complete picture of textual analysis of news articles, with the aid of information generated by ChatGPT and Gemini. This result confirms findings from previous studies that found advantages of explicit teaching of argument skills in educational settings (Mercer & Llittle, 2007, Zohar & Nemet, 2002; Felton, 2004; Kuhn et al, 2008). However, unlike studies which found that familiarity with various forms of argumentation to be more effective than familiarity with devices to enhance the persuasive capacity of argumentation (Simon & Osborne, 2006; McNeill & Krajcik, 2008), knowledge and familiarity alone are not enough here to increase generating questions to unveil authorial stance and intention. Such result

obtained from the whole nine sessions of the experiment, though scores of the experimental group were higher than the comparison group that received implicit instruction.

An interesting question then, is why did practice and familiarity with devices to enhance the persuasive capacity of argumentation help more than practice and familiarity with forms of argumentation these EFL learners to ask targeted questions for identifying bias, and understanding the persuasive techniques employed by media makers? By practicing with various rhetorical devices and persuasive strategies, students can better raise questions of rhetorical choice. This awareness allows them to give thoughtful consideration of the arguments being made in a text in favor of author's intention. Questioning the author's arguments can help readers evaluating the strength of the arguments and identifying any gaps in the arguments of what they are reading, thereby identifying bias and what makes an argument persuasive. In one study conducted by Hammer (2011), data demonstrated that students equipped better to uncover underlying arguments and counter-arguments , and reared within an educational context in which the study of rhetoric took a central to their academic formation interacted better with media texts. In a similar vein, Pessoa (2017) conducted a study investigating the correlation between the development of thinking skills and teaching argumentation explicitly through tasks which increase awareness of their purpose and their linguistic and rhetorical features.

The main argument put forward for the inclusion of the explicit teaching of argumentation into media studies for L2 learners relies on two basic assumptions about the acquisition and application of critical thinking. The first is the possibility that the form or content of media news might in some way be ideologically determined, as has recently been put forth by the science of discourse. The second is the possibility that ideological bias might in some way make media content influential, creating willingness to consider new perspectives, even if they challenge one's existing beliefs and assumptions. Accordingly, as L2 learners develop critical thinking, more processing space is available to make language–ideology connections.

Divorcing the explicit teaching of argumentation from the implicit teaching during the translation of critical thinking into practice did not appear greatly improved these EFL learners' development of their ability of generating questions at the deep level of thinking for answers by AI chatbots. During use of ChatGPT and Gemini for support of critical analysis of media texts, implicit teaching of argumentation helped students devoting more attention to comprehension at a superficial level rather than having to spend a lot of cognitive energy on identifying individual arguments and how combined with each other to strengthen one another. In contrast, stressing the practice of explicit and implicit argumentation in a unified framework contributed to students' learning process. Such kind of practice through a variety of activities allowed students make up their own minds and devote more attention to a desire of developing deeper-level text comprehension through the act of generating questions leading to reasoning both within and beyond the newspaper text being read.

5. Implications for EFL Teaching

The findings of this study have important implications for EFL teaching. They can make significant contributions to identifying the potential impact of quality teaching and learning experiences on appropriate use of AI technology on educational spaces and learning environments to facilitate teachers' work and enhance students' learning. There has been substantial research undertaken on the practical role that AI-based chatbots tools play in classroom teaching and learning experiences (Kohke, et al., 2023; Watcharapol, et al., 2024) ; however, researchers largely ignored the impact of quality education on the "correct" use of artificial intelligence aiming to perform communication to solve issues and challenges

encountered along the path of learning process. Therefore, the current study attempted to fill the gap by studying the impact of supporting EFL students to think deeply about arguments on their use of ChatGPT and Gemini for analyzing media massages and identifying authorial bias and persuasive intents.

Results obtained from such examination imply first that AI-based chatbots can be used as a tool for promoting critical media analysis among EFL students and developing their critical analytical skills. According to this research, web-based learning can offer learners the opportunity to engage with many chatbots in immersive and interactive ways. No one can afford to ignore that use of AI-chatbots for educational purposes vary from student to student, based in part on their abilities but also on their own unique characteristics. The appropriate involvement of learners with AI-chatbots in the learning process requires establishing guidelines for efficient use (Kurban & Şahin 2024).To reduce the incidence of cheating via AI-chatbots, students should be instructed to explain their answers rather than blindly copy out an answer that has been generated.

Second, the use of AI-chatbots in learning is challenging because computers traditionally require unambiguous questions to understand users' true intentions. AI-chatbots cannot give users the most accurate answers for their questions if the received questions are ill-formulated and ill -posed. The quality of well-formulated questions with clear objectives rely a lot on learner's previously acquired skills and awareness of their strategies that get in the way of their learning process. In fact, they rely on skills which foster critical thinking. Hence, the authors of the present paper argue that educational curriculum should foster and encourage these skills as much as possible.

The results from this study, as has already been indicated, suggest that explicitly teaching argumentation helped EFL students generate context specific questions for use to generate answers from AI system with the goal of finding evidence to support authorial bias and persuasive intent in media texts. Students cannot decide on techniques of making inferential judgments about the degree of bias or lack of bias in specific media texts without having been studied argumentation and knowledge of Logic, so their question-generation strategy depends heavily on students' strength in a particular area of critical thinking, on constant guidance from teachers. It's crucial to emphasize that AI and digital technologies shouldn't entirely replace face - to - face teaching.

6. Conclusion

As encouraging as the results of this study are, there are still limitations that must be considered. Though the resulting data show a marked improvement in the post-test, that improvement was limited. Most students have shown improved performance in analyzing and evaluating arguments; however, they generated more text-independent questions than text-dependent questions (text-based questions).This implies that they couldn’t reach the highest levels of critical thinking hierarchy. The process seemed too complicated for them and was expected to take too much time training. Following a method described by Palmer (2016), for example, EFL teachers could help students engage in active practice of deconstruction of arguments and critically evaluate them, then help them apply the newly acquired skills to interrogate a text and dig down into its deeper meaning . The authors of this paper gratefully acknowledge that this is too hard for EFL students in Algeria, but the things which make it really hard, in fact, are lack of consistent practice of reflection and feedback. Accordingly, it is recommended transforming EFL learning with a desire of implementing web-based classrooms within which practice combines teachers’ feedback with specific content from AI-chatbots to solve challenges and reduce difficulties to allocate space

for critical literacy across the curriculum that prepares students for the challenges of the new millennium.

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