Applying Critical Thinking in Differentiating Between Factual and Fake News: A Guide for Educators

Aplicación de pensamiento crítico para diferenciar entre las noticias reales y las fake news: una guía para educadores

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Abstract: In this notional research, we provided a guide for educators to use critical thinking (CT) to (1) critically assess their teaching, (2) direct forthcoming interactions with students, and (3) instruct students to empower themselves by critically analyzing texts and media. To develop this concept, we leveraged the cores of CT by Erstad in Fatiha (2021), CT questions by Paul and Elder (2019), and steps of teaching CT by Chernyak in Kiki (2019). Besides, the use of news containing controversy was predicted to enable students' CT skills and became an authentic material. In addition, the process of teaching CT was done in three parts: a) encouraging students to have an open mind, b) helping students make connections, and c) teaching students about reliable information. Also, the cores

of CT consisted of a) identification skills (the problem raised and the author's purpose), b) identifying the bias, and c) making an inference. Thus, this study dispenses an alternative model of teaching CT, especially in Indonesia context.
Keywords: Critical Thinking, Education, Hoax, Media Literacy Instruction, Reading Subject

Resumen: En esta investigación conceptual, proporcionamos una guía para que los educadores utilicen el pensamiento crítico (PC) para: (1) Evaluar críticamente su enseñanza, (2) Dirigir las próximas interacciones con los estudiantes, y (3) Instruir a los estudiantes para que se empoderen, mediante el análisis crítico de textos y medios. Para llevar a cabo este concepto, aprovechamos los siguientes elementos: Los núcleos del PC de Erstad en Fatiha (2021), las preguntas del PC de Paul y Elder (2019) y los pasos de la enseñanza del PC de Chernyak en Kiki (2019). Además, se predijo que el uso de noticias que contienen controversias habilitaría las habilidades del PC de los estudiantes y se convertiría en material auténtico. Por otro lado, el proceso de enseñanza del PC se realizó en tres partes que cumplimentaban los siguientes objetivos: a) Alentar a los estudiantes a tener una mente abierta, b) Ayudar a los estudiantes a hacer conexiones y, c) Enseñar a los estudiantes sobre información confiable. Además, los núcleos del PC consistieron en: a) Habilidades de identificación (el problema planteado y el propósito del autor), b) Identificar el sesgo y por ultimo, y c) hacer una inferencia. Por lo tanto, este estudio ofrece un modelo alternativo de enseñanza del (PC), especialmente en un contexto indonesio.
Palabras clave: Pensamiento Crítico, Educación, Broma, Noticias Falsas, Instrucción sobre alfabetización mediática, Tema de lectura

Introduction

The rapid advancement of information and communications technology (ICT) has ushered in a new era for human civilization, enabling unprecedented levels of global connectivity across space and time. The 21st century is marked by the rapid expansion of Internet technology and the quick spread of information.[1] However,

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[1] KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunun Djati Bandung, Indonesia, 2019, p. 1.

technological progress comes with both positive and negative implications. On the positive side, ICT provides easier access to information, facilitating communication with individuals from distant locations or countries.[2] In other words, this era offers numerous benefits, such as enhancing accessibility and connectivity globally.

Furthermore, ICT also presents negative repercussions, notably the proliferation of fake news.[3] Indeed, misinformation or hoaxes have permeated societies worldwide.[4] The main causes of this problem are the post-truth phenomena and the ease of disseminating information may be shared on social media.[5] According to data from the Indonesian Ministry of Communication and Information (KOMINFO) has reported approximately 800,000 hoax-spreading websites.[6] Moreover, the issue of fake news has infiltrated the political sphere, with KOMINFO reporting ten times more hoax cases during the recent presidential election than the previous one.[7]

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[2] HAILE, M.G., WOSSEN, T., KALKUHL, M.: "Access to information, price expectations and welfare: The role of mobile phone adoption in Ethiopia", in *Technological Forecasting and Social Change*, *volume 145*, United States, 2019, pp. 82-92.

[3] KORUNKA, C.; HOONAKKER, P.: *The impact of ICT on quality of working life,* Springer Science & Business, Dordrecht, 2014.

[4] DEWI, P.A.R., DHARMAWAN, A., AJI, G.G., WINATA, M.D., WAHYUNI, J.: Mapping Hoaxes, Disinformation, and Hate Speeches in Indonesia, in *Technium Soc. Sci. J.*, *volume 50*, Constanta (Romania), 2023, pp. 559-565.

[5] NURFAZRI, M., IRWANSYAH, F.S., LUKMAN, F., RUHULLAH, M.E., MARINDA, S.M.: "Digital Literacy in Education: An Analysis of Critical Thinking Culture for Preventing the Hoaxes", in *Journal Perspektif*, *volume 8*, Bandung (Indonesia), 2024, pp. 1-22.

[6] YULIANI, A.: "Ada 800.000 Situs Penyebar Hoax Di Indonesia", available online at https://www.kominfo.go.id/content/detail/12008/ada-800000-situs-penyebar-hoax-di-indonesia/0/sorotan_media (last accessed January 5th, 2024).

[7] KRISTIANTI, L.: "Menkominfo sebut hoaks Pemilu naik hampir 10 kali lipat pada 2023", available online at https://www.antaranews.com/berita/3794769/ (last accessed January 5th, 2024).

Consequently, the proliferation of fake news or hoaxes has become a widespread problem across many countries. However, addressing this issue requires more than a systematic approach; it necessitates appropriate educational methods to prevent individuals from exposure to misleading news or information.

On the other hand, each country employs different strategies in combating hoaxes. Brazil integrates media analysis lessons into its national curriculum as a measure against fake news.[8] In contrast, Finland addresses the issue by incorporating critical thinking (CT) lessons into its educational framework to counteract fake news.[9] Meanwhile, Santosa said that Indonesia faces problems since there are no lessons on logical philosophy for adults and thinking patterns for kids.[10] However, Indonesia has the Indonesian Anti-Defamation Community (MAFINDO), but it does not directly interact with the education system.[11] Consequently, this situation presents a new challenge: how people could navigate through the deluge of information in the digital age.[12] Besides, online social media's

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[8] MILLENIAL, M.: "Lawan Hoaks, Sekolah Di Brasil Punya Mata Pelajaran Analisis Media," available online at https://kumparan.com/millennial/lawan-hoaks-sekolah-di-brasil-punya-mata-pelajaran-analisis-media-21dM5TZOOU (last accessed April 5th, 2022).

[9] MACKINTOSH, E.: "Finland Is Winning the War on Fake News. What It's Learned May Be Crucial to Western Democracy," available online at https://edition.cnn.com/interactive/2019/05/europe/finland-fake-news-intl/ (last accessed April 5th, 2022).

[10] SANTOSA, as cited in ANDRIANI, D.R.: "Penting Anak Berargumentasi Dan Berpikir Kritis Sejak Dini", available online at https://cantik.tempo.co/read/836963/penting-anak-berargumentasi-dan-berpikir-kritis-sejak-dini (last accessed April 5th, 2022).

[11] WEDDININGRUM, F.G.: *Deteksi Konten Hoax Berbahasa Indonesia Pada Media Sosial Menggunakan Metode Levenshtein Distance* (Thesis), UIN Sunan Ampel Surabaya, Indonesia, 2018.

[12] KURNIAWATI, N., SUGARYAMAH, D., HASANAH, A.: "Proposing a model of critical literacy program for fostering Indonesian EFL students' critical thinking skills", in *Journal of Education and Learning (EduLearn), volume 14,*

increasing ubiquity contributes to this issue by creating a perfect environment for disseminating false information, including misleading facts, fake reviews, fake advertising, rumors, fake political statements, satires, and other forms of misinformation.[13] Moreover, Indonesians are particularly susceptible to hoaxes.[14] Ultimately, this phenomenon requires equipping everyone and students with CT skills to discern and counter misleading news.

Regarding CT, Maslakhatin emphasizes enhancing students' CT skills, especially in higher education, to effectively navigate the vast amount of information in the 21st century.[15] Consequently, CT has become a primary objective in modern curricula.[16] Despite its pressing demand, CT is currently not included as a separate subject in the Indonesia curriculum.[17] In this era of disruption, schools must integrate CT with problem-solving, creative thinking, communication, and collaboration skills, often referred to as the 4C framework.[18]

Indonesia, 2020, pp. 234-247.

[13] ZHANG, X., GHORBANI, A.A.: "An overview of online fake news: Characterization, detection, and discusión", in *Information Processing & Management*, *volume 57*, United States, 2019, pp. 1-26.

[14] AJI, as cited in BAIDURI, MC. N. I.: "Generasi Milenial Paling Rentan Hoax", available online at https://nasional.tempo.co/read/833838/generasi-milenial-paling-rentan-hoax (last accessed April 7th, 2022).

[15] MASLAKHATIN, M.: "Critical Reading Strategies To Foster Students' Critical Thinking", in *Jurnal Buana Pendidikan*, *number 22,* Indonesia, 2016, pp. 99-110.

[16] ŽIVKOVIĿ, S.: "A Model of Critical Thinking as an Important Attribute for Success in the 21st Century", in *Procedia-Social and Behavioral Sciences, volume 232*, United Kingdom, 2016, pp. 102–8.

[17] KURNIAWATI, N., SUGARYAMAH, D., HASANAH, A.: "Proposing a model of critical literacy program for fostering Indonesian EFL students' critical thinking skills", in *Journal of Education and Learning (EduLearn), volume 14,* Indonesia, 2020, pp. 234-247.

[18] SEPTIKASARI, R., FRASANDY, R.N.: "Keterampilan 4C abad 21 dalam pembelajaran pendidikan dasar", in *Tarbiyah Al-Awlad: Jurnal Kependidikan Islam Tingkat Dasar*, *volume 8,* Indonesia, 2018, pp. 107-117.

Thus, this research intends to propose a model of teaching CT to foster English as a Foreign Language (EFL) students' ability to differentiate between factual and fake news. This study delves into the integration of CT program within the EFL news reading class in Indonesian senior high schools. It explores the methods used to increase students' CT skills throughout the learning process. Also, this research incorporates various theoretical frameworks, including teaching CT theories, cores of CT theories, and news works such as factual and fake news, to enrich the teaching and learning experience.

Quite a lot of research on CT has been carried out on several subjects, for example, a) the impact of incorporating a CT intervention initiative on the CT abilities, reading comprehension skills, and classroom atmosphere of English language learners,[19] b) improving CT abilities among students through involvement in innovative teaching methods in the Global South,[20] c) using case study method to enhance CT skills of higher education students,[21] d) teaching CT and its significance: a transdisciplinary pedagogy to teach CT,[22] e) investigating the impact of teaching CT on problem-

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[19] MOGHADAM, Z.B., NARAFSHAN, M.H., TAJADINI, M.: "The effect of implementing a critical thinking intervention program on English language learners' critical thinking, reading comprehension, and classroom climate", in *Asian-Pacific Journal of Second and Foreign Language Education*, *volume 8,* Germany, 2023, pp. 1-18.

[20] OKOLIE, U.C., IGWE, P.A., MONG, I.K., NWOSU, H.E., KANU, C., OJEMUYIDE, C.C.: "Enhancing Students' Critical Thinking Skills through Engagement with Innovative Pedagogical Practices in Global South", in *Higher Education Research & Development*, *volume 41*, United Kingdom, 2022, pp.1184–1198.

[21] MAHDI, O.R., NASSAR, I.A., ALMUSLAMANI, H.A.I.: "The Role of Using Case Studies Method in Improving Students' Critical Thinking Skills in Higher Education", in *International Journal of Higher Education*, *volume 9*, Canada, 2020, pp. 297-308.

[22] ELLERTON, P., KUSS, A., VAUGHAN, K., LEIBOVITCH, Y., BROWN, D.: "Teaching Critical Thinking and Why It Matters: A Transdisciplinary Pedagogy

solving abilities among male and female EFL students,[23] f) exploring the significance of CT and media literacy, the proliferation of misinformation, tools for classroom implementation, and efforts to offer pedagogical resources developed by students in a small, rural West Texas community college,[24] and many more. Apart from that, research on CT in analyzing news has also been carried out by several researchers: a) teaching CT for Indonesian university students to identify fake news,[25] b) examining critical media literacy education from teachers' perspectives in EFL Classes about factual and fake news,[26] c) exploring the use of CT approaches to identifying fake news by using systematic literature review (SLR),[27] and d) incorporating critical race theory into media education to address fake news.[28]

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for Teaching Critical Thinking", in *Preprint of The University of Queensland Critical Thinking Project*, Australia, 2022, pp. 1-15.

[23] SABET, M.K., ZAFARGHANDI, A.M., KARKARAQ, A.N.: "The effect of problem solving task on critical reading of intermediate EFL learners in Iranian context", in *International Journal of Applied Linguistics and English Literature*, *volume 7*, Australia, 2018, pp. 99-106.

[24] GILMOUR, T.: "Critical Thinking and Media Literacy in an Age of Misinformation, in *APSA Preprints*, 2024, this content is a preprint and has not been peer-reviewed.

[25] KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunun Djati Bandung, Indonesia, 2019.

[26] AFRILYASANTI, R., BASTHOMI, Y., ZEN, E.L.: "Factual vs. Fake News: Teachers' Lens on Critical Media Literacy Education in EFL Classes", in *Journal of Interactive Media in Education*, *volume 1*, United Kingdom, 2023, pp. 1-16.

[27] MACHETE, P., TURPIN, M.: "The use of critical thinking to identify fake news: A systematic literature review", in *Responsible Design, Implementation and Use of Information and Communication Technology: 19th IFIP WG 6.11 Conference on e-Business, e-Services, and e-Society, volume I3E,* South Africa, 2020, pp. 235-246.

[28] BERRY, R.A., ROSENBAUM, J.E.: "Critical Race Media Literacy and Fake News: Reframing and Teaching News Literacy in a Racialized Society", in *Critical Race Media Literacy Routledge*, United Kingdom, 2022, pp. 82-97.

From previous research, no one still teaches students, especially for the senior high school students who are most current internet users, about CT in distinguishing factual and fake news, mainly in Indonesia. Therefore, this study is crucial for several reasons: a) students admitted if they are not taught about CT, b) fostering CT students' skills in differentiating factual and fake news by focusing on text identification, identifying bias, and inference-making. Specifically, this research targets Indonesian senior high school students, preparing them, especially those continuing to college, with the CT skills to differentiate between factual and fake news and think critically. Furthermore, this research endeavors to equip students with the necessary tools to navigate the post-school world effectively.

CT requirements

CT is the ability to rate some information and make logical judgements impartially.[29] CT is an essential mindset, particularly in the realm of education. With the progression of Industry 4.0 technology, individuals are increasingly cautious when analyzing information. Consequently, it is imperative to educate students, who are among the highest internet users, on CT to mitigate the risks of misinformation.

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[29] BAILIN, S., CASE, R., COOMBS, J.R.: DANIELS, L. B.: "Conceptualizing critical thinking", in *Journal of curriculum studies*, *volume 31,* United Kingdom, 1999, pp. 285-302.; ENNIS, R.H.: "Critical thinking dispositions: Their nature and assessability", in *Informal logic*, *volume 18*, Canada 1996, pp. 165-182.; NURFAZRI, M., IRWANSYAH, F.S.: "Critical Thinking in Islam: What and How Its Practices", in *Gunung Djati Conference Series*, *volume 41*, Indonesia, 2024, pp. 37-47.; HALPERN, D.F.: "Thinking critically about creative thinking", California, 2003, pp. 189–207.; LAU, J. Y. F: *An Introduction to Critical Thinking and Creativity: Think More, Think Better*, Wiley, New Jersey, 2011.

Fisher elucidates that the CT skill set as encompassing the ability to interpret, analyze, and evaluate ideas and arguments.[30] Similarly, Facione outlines CT skills comprising interpretation, analysis, evaluation, and explanation.[31] However, within the educational system, it is suggested to incorporate higher-order thinking skills (HOTS) based on the revised Bloom's Taxonomy, which includes remembering, understanding, applying, analyzing, evaluating, and creating.[32] Conversely, Erstad categorizes six cores of CT skills: identification, identifying bias, inference, determining relevance, and curiosity.[33] Hence, this study focuses on three cores of CT: identification, identifying the bias, and inference.

Furthermore, a critical thinker employs reasoning, reflection, and responsible skills to assess accepted beliefs. In order to enhance students' CT abilities, Paul & Elder create CT questions (CTQs): a) What is the author's purpose? b) Who is the intended audience? c) What issue is being addressed? d) What evidence supports the argument? e) What worldview does the author espouse? f) Is the evidence provided by the author convincing? and g) How does the author defend their perspective?[34] Thus, this research focuses on CT questions related to: a) the problem raised and b) the author's purpose.

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[30] FISHER, A.: *Critical Thinking: An Introduction*, the Press Syndicate of the University of Cambridge, United Kingdom, 2011.
[31] FACIONE, P.A.: *The California Critical Thinking Skills Test--College Level. Technical Report# 1. Experimental Validation and Content Validity*, California Academic Press, Oakland (United States), 1990, p. 5.
[32] WIDANA, I.W.: "Higher Order Thinking Skills Assessment (HOTS)", in *JISAE, volume 3*, Indonesia, 2017, pp. 32–44.
[33] ERSTAD, as cited in FATIHA, B.K., HAMADI, N.A., BOUMEDIENE, H.: "Classroom Debate to Enhance Critical Thinking Skills", in *Revue Elbahith Des Sciences Sportif Et Sociales, volume 7*, Algeria, 2021, pp. 441-457.
[34] PAUL, R., ELDER, L.: *The miniature guide to critical thinking concepts and tools*, Rowman & Littlefield, Lanham, 2019.

Furthermore, in teaching CT, Chernyak has developed a guide for teachers.[35] First, encouraging students to have an open mind includes starting a class discussion by asking an open-ended question, giving students time to think things through, and making a list naming the pros of two conflicting ideas. Second, helping students make connections consists of asking students to look for patterns and connections, showing students a vague picture to get them thinking about their assumptions, and analyzing statements by asking "why" five times. Third, teaching students about reliable information includes teaching students the difference between opinion and factual statements, reminding students to be open to conflicting views, helping students spot advertisements disguised as information, having students rate websites, and encouraging students to question the sources of their information. Hence, those theories are combined into integrating CT practices (See Figures 2 and 5).

Method, Data Sources, Collected, and Analysis

This study employed a qualitative methodology using a case study design.[36] It aimed to explore the integration of CT practices within a reading classroom, specifically emphasizing news analysis material.

This research was conducted at one of the Senior High Schools, Bandung City, West Java Province, Indonesia. The selection of this site was based on several factors. First, the school had already

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[35] CHERNYAK, as cited in KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunung Djati Bandung, Indonesia, 2019, p. 17.

[36] CRESWELL, J.W.: *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*, Pearson Education, Incorporated, United States, 2012.

conducted a news analysis material, yet the English reading classes still used to utilize traditional reading models to answer questions. Secondly, CT activities were absent in the classroom. In addition, the study also involved 36 students from a single class chosen without randomization. Besides, classroom observations were carried out to gather data and examine the implementation process. Furthermore, this research used factual and fake news as authentic material (See table 1). The use of authentic material was intended to assist students in learning.[37] Moreover, authentic material was thought to be among the best resources that teachers can use in the classroom to increase student's engagement and the effectiveness of instruction in imparting vital knowledge.

Table 1. The news used in this research

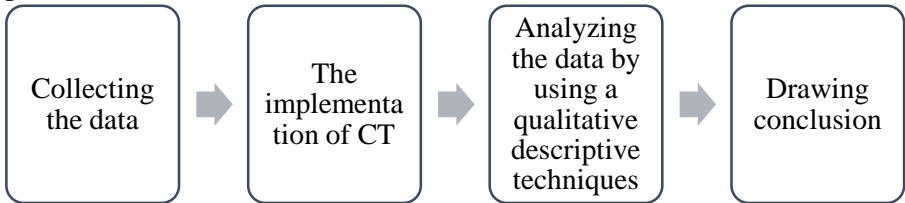| Title	Publisher
Depok villagers behead 'babi ngepet' shapeshifting boar demon accused of stealing money.	Coconuts
The 'Director' Of Hoax Pigs Gets Ngepet In Depok Undergoes Trial, Turns Out 4 Witnesses Were Ordered Naked.	VOI

The news selection included controversy aspects about the pigs gets ngepet (Babi Ngepet). It was nature that pupils will be inspired to think though questions. In addition, this material would test students' beliefs and logic towards the issue's existence. Although Babi Ngepet was considered a myth that emerged since the cultuurstelsel

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[37] TAMO, D.: "The use of authentic materials in classrooms", in *Linguistic and Communicative Performance Journal*, *volume 2*, Albania, 2009, pp. 74-78.

(Enforced planting) system era,[38] but some Indonesian people still believe in the story or existence of Babi Ngepet until now.[39]

When the data was collected, the researchers used a qualitative descriptive method to analyze it. Besides, the data was categorized and coded according to the integration of CT practices. The procedure of this research can be drawn as follows:

| Collecting the data | → | The implementation of CT | → | Analyzing the data by using a qualitative descriptive techniques | → | Drawing conclusion |

Figure 1. Procedure of this research
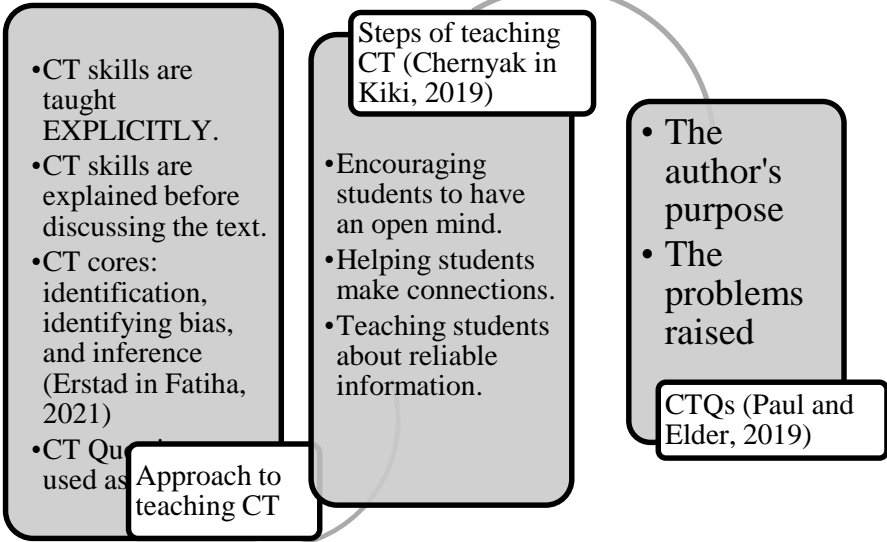
The Process of Teaching CT

Teaching CT to enhance Indonesian EFL students' ability to differentiate between factual and fake news is implemented by adhering to several principles. First, CT instruction necessitates "dialogic teaching,"[40] fostering interactive exchanges between teachers and students through peer questioning and discussion. Second, despite their abstract nature, CT skills should be grounded

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[38] HASIBUAN, L.: "Peneliti Singapura Bongkar Mitos Babi Ngepet RI, Jangan Syok!", available online at https://www.cnbcindonesia.com/lifestyle/20230226091826-33-417010/peneliti-singapura-bongkar-mitos-babi-ngepet-ri-jangan-syok (last access September 5th, 2024).

[39] YULIANTO, C.: "Mengapa Masih Banyak Masyarakat Indonesia Yang Percaya Dengan Babi Ngepet", available online at https://nasional.okezone.com/read/2023/05/03/337/2807405/ (last access September 5th, 2024).

[40] CHEN, P., TOLMIE, A.K., WANG, H.: "Growing the critical thinking of schoolchildren in Taiwan using the Analects of Confucius", in *International Journal of Educational Research*, *volume 84,* United Kingdom, 2017, pp. 43-54

in participants' specific experiences and perspectives, as emphasized by Paul & Elder in Chen et al. (2017, p.2), mainly focusing on the students in this study.[41] This approach enhances students' engagement with the teaching process.[42]

Figure 2. Teaching procedures based on CT principles

The process of teaching CT and the use of factual and fake news is divided into 2 stages of intervention or called treatments. Intervention 1 focuses on the introduction of (a) the concept of CT, (b) CT cores (building students' identification skills), and (c) the news. Intervention 2 is a follow-up that focuses on reinforcing students' understanding of the other core aspects of CT: identification bias and making an inference.

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[41] Ibidem.

[42] THAIPOSRI, P., WANNAPIROON, P.: "Enhancing students' critical thinking skills through teaching and learning by inquiry-based learning activities using social network and cloud computing", in *Procedia-Social and Behavioral Sciences*, *volume 174*, United Kingdom, 2015, pp. 2137-2144.

Intervention 1

The data observation was recorded while analyzing a news class involving participants selected from the 12th-grade students at Senior High School. Pseudonyms were used to ensure the confidentiality of the participants.[43] Furthermore, students were presented with both factual and fake news articles, which they were tasked with analyzing.

The data observations were analyzed by integrating insights from three fundamental theories: Chernyak,[44] Paul & Elder,[45] and Erstad.[46] The proposed processes for teaching CT encompassed (a) encouraging students to have an open mind, (b) helping students make connections, and (c) teaching students about reliable information. Furthermore, this study emphasized the cores of CT as outlined by Erstad in Fatiha, which included (a) problem identification, (b) identifying bias, and (c) inference skills.[47]

Conversely, this study used the Paul and Elder Question framework to reinforce critical aspects of CT skills, specifically focusing on (a) identifying the problem raised and (b) finding out the author's purpose.[48] Hence, the teaching procedure scheme from the first meeting is illustrated in Figure 2.

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[43] CRESWELL, J.W.: *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*, Pearson Education, Incorporated, United States, 2012, p. 211.

[44] CHERNYAK, as cited in KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunung Djati Bandung, Indonesia, 2019.

[45] PAUL, R., ELDER, L.: *The miniature guide to critical thinking concepts and tools*, Rowman & Littlefield, Lanham, 2019.

[46] ERSTAD, as cited in FATIHA, B.K., HAMADI, N.A.; BOUMEDIENE, H.: "Classroom Debate to Enhance Critical Thinking Skills", in *Revue Elbahith Des Sciences Sportif Et Sociales, volume 7*, Algeria, 2021, pp. 441-457."

[47] Ibidem.

[48] PAUL, R., ELDER, L.: *The miniature guide to critical thinking concepts and*

Intervention 1 introduced the cores of CT: identification, identifying bias, and inference. Also, students were engaged in the teaching processes to open their thinking, make connections, and assess reliable information. Furthermore, the teacher prompted students to analyze texts using CTQ questions: "What is the problem raised?" and "What is the author's purpose?" Additionally, the teacher provided an illustrative comparison between factual and fabricated news stories, followed by a task where students analyzed news articles. As such, the specifics of the teaching methodology were outlined in the subsequent sections. The data presented pertained to CT components integrated into the teaching approach.
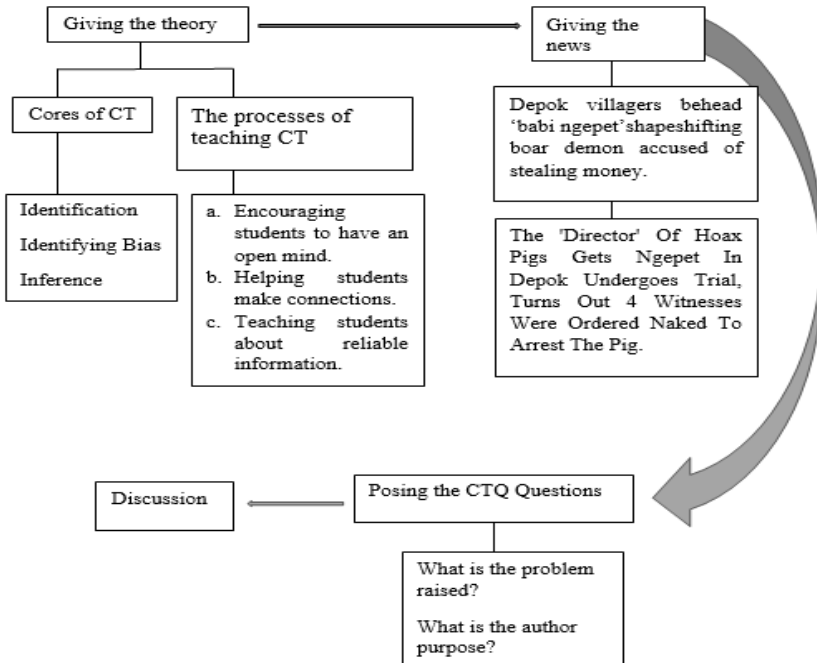
Figure 3. The Scheme of the Teaching Procedure in Intervention 1

tools, Rowman & Littlefield, Lanham, 2019.

Encouraging Students to Have an Open Mind

Starting a class discussion by asking an open-ended question

According to Chernyak in Kiki, open-ended questions are those that can elicit multiple answers.[49] The teacher discussed the material with the students, prompting them to provide diverse responses (refer to Dialog 1). Furthermore, the teacher emphasized to the students that there are no definitive right or wrong answers. This approach fostered an environment where students felt encouraged to think critically and creatively without fearing making mistakes.

Dialog 1. Open-ended question done by teacher in intervention 1

> Teacher   : Ada yang tau itu berpikir kritis? [Anybody knows what the CT is?] (#1)
> Student 1 : Critical thinking adalah berpikir secara mendalam terhadap suatu informasi. [CT is thinking deeply about an information.] (#2)
> Student 2 : Critical thinking adalah ketika kita menanamkan pola pikir yang mengharuskan kita untuk berpikir lebih mendalam terhadap suatu hal. Dan selanjutnya kita mempertimbangkan hal-hal yang harus kita kuatkan, akhirnya menimbulkan sikap kecerdasan dan banyak hal lainnya. [Critical thinking is when we instill a mindset that requires us to think more deeply about something. Then, we consider what we need to strengthen, ultimately creating an attitude of intelligence and many other things.] (#3)

[49] CHERNYAK, as cited in KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunung Djati Bandung, Indonesia, 2019, p. 17.

In Dialog 1, the teacher initiated the learning session by assessing the students' grasp of CT concepts (See #1). During this phase, students shared their understanding of CT (See #2 and #3). Thus, this open-ended question stimulated the students' cognitive engagement.[50]

Giving students time to think things through

Chernyak suggests that narrow thinking often results from hastily providing answers.[51] In response, the teacher in this study allocated a few minutes for students to reflect before sharing their ideas during in-class assignments (See Dialog 2).

Dialog 2. Give students time to think the news

Teacher: Sekarang kalian harus mengidentifikasi berita tersebut. Berapa lama waktu yang kalian butuhkan? [Now you need to identify the news. How long do you think you will need?]

The teacher gave students the news.

Student 3   : One hour.
Student 4   : 20 minutes.
Teacher: Alright, you have 25 minutes to identify the news. Take your time. (#4)

Before commencing the assignment, the teacher provided students with news articles to identify (See Figure 5). Furthermore, students were given ample time to consider and analyze regarding the news.

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[50] Ibidem, p. 17.
[51] Ibidem, p. 17.

During the initial session, the teacher allocated 25 minutes for students to contemplate the news (see #4). Meanwhile, students engaged in news analysis, with some participating in discussions with their peers (See Figure 4). This demonstrated that students had sufficient time to think critically.

Figure 4. Students were analyzing the news

In figure 4, students engaged in discussions about the news prior to answering the questions. In essence, this time was utilized for thoughtful consideration without feeling hurried.

Helping Students Make Connections

Asking students to look for connections and patterns

Teachers across various subjects prompted students to recognize patterns and connections with real-world contexts.[52] Moreover, the

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[52] Ibidem, p. 18.

teacher linked individual lessons to broader trends or concepts and apply them in their everyday lives (See Dialog 3).

Dialog 3. Students were asked the topic related to their daily life

Teacher: Apakah kalian pernah mendapatkan berita fakta atau palsu dalam kehidupan sehari-hari? [Have you ever encountered factual or fake news in your daily life?] (#5)
Students   : Pernah [We had]
Teacher: Berita apa yang pernah kalian dapatkan? [What news have you received?]
Student 3   : Berita palsu tentang kiamat tahun 2012. [Fake news about the 2012 apocalypse.] (#6)
Student 2   : Broadcast sebuah video hoax berisi Indonesia akan perang. [A broadcast hoax video regarding Indonesia going to war.] (#7)
Teacher: So, apa yang kalian lakukan? Apakah kalian langsung menyebarkan berita tersebut? [So, what did you do? Did you immediately spread the news?] (#8)
Students   : No.
 Teacher   : What did you do?
Student 5   : Mencari dari sumber yang lebih kredibel. [Seek from more credible sources.] (#9)
Teacher: Maka kita harus mencari dari sumber yang lebih kredibel. [Thus, we have to look for more credible sources]

In Dialog 3, the teacher linked the course material to the student's real-life experiences (See #5). Some students shared their encounters with factual and fake news (See #6 and #7). Moreover, the teacher encouraged students to review the news before spread it (See #8). Students acknowledged the importance of seeking more credible sources before sharing news (See #9). This process can

effectively engage students in recognizing recurring themes or concepts they have encountered in their learning.[53]

a. Show students a vague picture to get them thinking about their assumptions

In this phase, the teacher presented pupils with two somewhat ambiguous news images (See Figure 5) and prompted them to speculate about the events depicted in the images.

(Left) First   (Right) Second
Figure 5. The example of news

Additionally, students were tasked with dissecting the clues present in the picture that influenced their assumptions (See Dialog 4). Then, they contemplated how their personal beliefs or experiences might have influenced their interpretations of the image.

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[53] Ibidem, p. 18.

Dialog 4. Vague news to get students thinking on their assumptions

Teacher: What do you think about these news? (#10)

The teacher shows a picture (See Figure 5)

Student 5   : Berita pertama (left) terlihat aneh dari judul karena menggunakan huruf besar semua. Dan berita yang kedua (right) mencantumkan gambar seseorang dan seekor babi menjadi satu. [The first news (Left) appeared peculiar due to its use of all capital letters in the title. Meanwhile, the second news (Right) featured an image showing both a person and a pig.] (#11)
Teacher: Okay, anyone else want to give other opinions?
Student 2   : Hal yang tidak jelas itu kenapa ada babi ngepet di komplek atau perumahan, bukan malah di bank atau. lain-lain. [The unclear aspect is why there was Babi Ngepet in residential areas rather than in places like banks or elsewhere.] (#12)
Teacher: Anymore?
Student 1   : Kalau saya lebih ke yakin atau tidak sih, dari berita pertama (left) karena platform yang mempublish berita nya jarang keliat di khalayak umum. [I am more skeptical about the first news (left) because the media is rarely seen in the general public.] (#13)

In dialog 4, the teacher inquired about the headline news that students had observed (See #10). One student remarked that the first picture (Left) appeared unusual because it utilized all capital letters in its title. In contrast, the second picture (Right) featured a combination of a pig and a human (See #11). Furthermore, some students acknowledged that their beliefs or experiences influenced their perceptions of the picture (See #12 and #13). Moreover, students could analyze the clues in the picture that led to their

assumptions and reflect on how their personal beliefs or experiences influenced their interpretations.[54]

Teaching Students About Reliable Information

Teaching students the difference between opinions and factual statements.

Students were prompted to view any statement that they made as an opinion until they could support it with evidence. This evidence could come from their experiments or reliable information published by experts. Throughout class discussions and projects, the teacher emphasized the significance of backing up all assertions with relevant data[55].

 Dialog 5. Teacher taught students about opinion and factual statements

Teacher: Bagaimana opini kalian tentang berita ini? [What is your opinion about this news?] (#14)
Students   : Percaya ga percaya. [Believe or not.] (#15)
Teacher: Kenapa? Apa buktinya? [Why? What is the proof?] (#16)
Student 1   : Bukti ilmiahnya ga ada. [There is no scientific evidence.] (#17)
Student 2   : Tidak percaya karena tidak ada fakta dan bukti secara ilmiah yang dapat memberikan fakta atau bukti yang disampaikan secara umum. Walaupun beberapa orang memiliki kemampuan seperti itu, tapi kurang sesuai dengan keadaan sekarang. [I do not believe solely based on the absence of scientific facts or evidence that can provide general support. Although some individuals may

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[54] Ibidem, p. 18.
[55] Ibidem, p. 18.

> possess such abilities, Babi Ngepet may not accordance with the current situation.] (#18)

In Dialog 5, the teacher sought the students' opinions on the issue (See #14), prompting them to express their beliefs or doubts regarding it (See #15). Meanwhile, the teacher encouraged students to seek evidence or factual statements to support their claims (See #16). Some students expressed skepticism about the issue due to the lack of scientific evidence (See #17 and #18). In addition, a student expressed his belief in the existence of Babi Ngepet in the present day. The student considered that the existence of Babi Ngepet was an old story less relevant to the current situation. This is in line with a study by a historian and researcher from Nanyang Technological University Singapore, Christopher Reinhart, that the term "Babi Ngepet" began to appear in the Cultuurstelsel or forced cultivation era in 1830-1870.[56] Many new rich people emerged from the Javanese, Indonesian communities during the forced cultivation era. They were traders from the Indonesian natives or Chinese who became rich in a short time. As a result, this condition surprised the Indonesian farming community, which accused the newly rich people of using Babi Ngepet to accumulate wealth quickly. Farmers used Babi Ngepet's accusation to give a wrong impression to fellow farmers that the rich were evil capitalists. However, many Indonesian people still believe in the story or existence of Babi Ngepet to this day.[57] As a result, this news became a boom and many

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[56] HASIBUAN, L.: "Peneliti Singapura Bongkar Mitos Babi Ngepet RI, Jangan Syok!", available online at https://www.cnbcindonesia.com/lifestyle/20230226091826-33-417010/peneliti-singapura-bongkar-mitos-babi-ngepet-ri-jangan-syok (last access Sept. 05, 2024).
[57] YULIANTO, C.: "Mengapa Masih Banyak Masyarakat Indonesia Yang Percaya Dengan Babi Ngepet", available online at https://nasional.okezone.com/read/2023/05/03/337/2807405/ (last access Sept. 05, 2024).

people believed in the existence of the Babi Ngepet who stole people's money.
Reminding students to be open to conflicting views

In this phase, the teacher asked students to explore both sides of the debate and remain receptive to diverse perspectives. This approach enabled them to gain comprehensive insights into a topic before forming their opinions. Additionally, the teacher cautioned students against being swayed by singular information. In essence, this step encouraged students to delve deeper into various sources of information.

Have students rate a website

In the digital age, discerning reliable sources amidst the vast array of electronic information is imperative.[58] Students were tasked with evaluating the credibility of news sources provided by the teacher (See Figure 5). Furthermore, students were instructed to consider key factors such as the publisher (See #19 and #20), the publication date (See #21 and #22), and the timeliness of the information (See #23, #24, and #25).

Dialog 6. Students were prompted to identify the publisher of the news

Teacher : From this news (left), who is the publisher? (#19)
Students   : Coconuts.
Teacher : The second (right)? (#20)
Students   : Voi.

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[58] CHERNYAK, as cited in KIKI, K.: *Fostering Indonesian EFL Students' Ability to Identify Fake News through Teaching of Critical Thinking in Critical Reading Class* (Thesis), UIN Sunan Gunun Djati Bandung, Indonesia, 2019.

Teacher: When was it published? The first news (left)? (#21)
Students   : April 21, 2021.
Teacher: The second (right)? (#22)
Students   : September 28, 2021.
Teacher: It means? Is there? (#23)
Student 3   : Difference. (#24)
Students   : Change. (#25)

Furthermore, it is crucial to educate students about the importance of verifying sources of information. With the rapid advancement of this era, reliance on online media has become increasingly prevalent. Therefore, equipping students with the skills to evaluate sources is essential to prevent them from easily falling prey to misinformation.

Encouraging students to question the sources of their information

During this stage, students are assisted in recognizing potential conflicts of interest and developing critical thinking skills regarding their sources. This approach enables students to evaluate information providers, ensuring they are not affiliated with a single entity.

What the author's qualifications are?

Students pinpointed the individual who authored the news article about a Babi Ngepet incident in Depok. Furthermore, the teacher prompted students to determine the author's credentials (See #26).

Dialog 7. Students were engaged to identify the author's qualification

Teacher: Siapa penulisnya? [Who is the author?] (Left)
Students   : Nothing.

Teacher: Jika tidak ada nama pengarang yang dicantumkan dan hanya penerbit yang disebutkan sebagai pengarang, biasanya yang dimaksud adalah editor atau tim redaksi penerbit. Mengenai berita lainnya (di sebelah kanan), siapakah pengarangnya? [If no author's name is listed and only the publisher is mentioned as the author, it is typically the editor or editorial team of the publisher. As for the other news (on the right), who is the author?]
Students   : Ekin Putra.
Teacher: So, what are the qualifications of the authors? (#26)
Students   : Editor in Voi and Coconuts.

Moreover, it is essential to assess the source's credibility to verify the validity of the writer's claims. Sources, including those from the internet, should consistently offer supporting evidence.

Dialog 8. Students identified the credibility of publisher

Teacher: Do you consider Voi and Coconut publishers to be credible? (#27)
Students   : Yes.
Teacher: Why is it considered as a credible publisher? (#28)
Student 6   : Karena terdaftar di dewan pers. [Since those publishers are registered with the Indonesian Press Council.] (#29)

In Dialog 8, the teacher instructed students to assess the credibility of the publisher (See #27). Additionally, students were tasked with providing evidence to support their assessment (See #28). Moreover, students were encouraged to search the Indonesia Press Council for further evidence (See #29).

Teaching Students to Identify the News

Asking students to find the problem raised
The teacher queried students about the discrepancies between the two pieces of information, emphasizing the importance of understanding the underlying problems (See Dialog 9). This knowledge aided students in discerning differences between sources.

Dialog 9. Encourage students to identify the problem raised

> Teacher : The first news (left), what is the problem? (#30)
> Student 2   : Terjadinya sebuah pencurian uang oleh babi ngepet di Depok. [There was a thief involving a Babi Ngepet in Depok.] (#31)
> Teacher : The second (right), what's the problem? (#32)
> Student 5   : Penangkapan director berita hoax babi ngepet di Depok menjalani masa sidang. [The arrest of the hoax news director of the Babi Ngepet in Depok underwent a trial period.] (#33)
> Student 2   : Penangkapan otak yang memanipulasi kejadian babi ngepet di Depok sedang menjalani sidang. [The individual responsible for orchestrating the Babi Ngepet incident in Depok is currently facing trial.] (#34)
> Teacher : Siapa directornya? [Who the main perpetrator is?] (#35)
> Student 3   : Adam Ibrahim. (#36)
> Teacher : Why was Adam Ibrahim made a defendant? (#37)
> Student 2   : Karena dia yang merencanakan ini dengan membeli seekor babi, dan dia memanipulasi berita yang akhirnya booming. [Due to his involvement in purchasing a pig and orchestrating the scheme, resulting in widespread attention.] (#38)

In Dialog 9, the teacher prompted students to identify the issues addressed by the authors in the two topics (See #30 and #32).

Consequently, students could articulate and differentiate the problems highlighted by the authors using their own perspectives without altering the news topics (See #31, #33, and #34). Additionally, the teacher tasked students with identifying the key actors in the news stories and requested evidence to support their assertions (See #35 and #37). Furthermore, students successfully identified the individuals responsible for creating the news regarding "Babi Ngepet in Depok" and provided supporting evidence (See #36 and #38). Hence, recognizing the problem can significantly influence the initial stage of the CT process.[59]

Engaging students to identify the author's purpose

Before the students examined the news, the teacher explained the author's purpose for the piece, which was PIE: persuade, inform, and entertain.[60] In the explanation, the teacher provided a simple analogy for students to understand regarding the goal of an activity (See #39).

Dialog 10. The use of an analogy thinking to explain the author's purpose

> Teacher: Setiap kegiatan di dunia ini ada tujuannya. Disini, saya memiliki tujuan untuk mengajarkan kalian tentang berpikir kritis. Kalian tujuan kesekolah apa? [Every activity in this world has a purpose. In here, I would like to teach you about CT. How about you? What is your purpose for school?] #39.
> Students: To study.

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[59] ERSTAD, as cited in FATIHA, B.K., HAMADI, N.A., BOUMEDIENE, H.: "Classroom Debate to Enhance Critical Thinking Skills", in *Revue Elbahith Des Sciences Sportif Et Sociales, volume 7*, Algeria, 2021, pp. 441-457.

[60] PAUL, R., ELDER, L.: *The miniature guide to critical thinking concepts and tools*, Rowman & Littlefield, Lanham, 2019.

Teacher: Anymore?
Student 2: Menimba ilmu. [To gain the knowledge]
Teacher: Right, those are the purposes when doing something.

Furthermore, the teacher clarified the author's intention by drawing parallels with the students' experiences, citing examples from the news, video, and advertisements (See Dialog 12). The teacher should also consider that students typically find the information they acquire from reading or seeing more relatable than the information they learned from reading. This was an attempt to bridge the introduction of the CT notion, which was a challenge for students to analyze an abstract idea. This idea acted as a bridge in an attempt to apply the abstract notion of CT analysis in the present.

Dialog 12. Giving the examples of the author's purpose

Teacher: Apa usaha penulis mempengaruhi kalian sebagai pembaca atau penonton? [What is the author's effort to influence you as a reader or a viewer?]

The teacher shows a video (#40)

Teacher: What attempts did the author make to sway you as a reader?
Student 6: Disuruh make shampoo Pantene. [I was told to make Pantene shampoo.]
Student 7: Biar ga ketombean. [To prevent dandruff]
Teacher: Okay, jadi, tujuan penulisnya adalah untuk membujuk penonton atau pembaca agar percaya dari informasi yang mereka buat. [Okay, the author's objective is to persuade the audience or readers to accept the information they produce.]
Teacher: Moreover, are you familiar with the news concerning Ratna Sarumpaet?

Teacher shows a headline news. (#41)

Student 2   : Hoax.
Teacher : Why?
Student 2   : Dia tuh membuat audience percaya atas kejadiaannya.
[She succeeded in convincing the audience of the incident.]
Teacher : Jadi, di berita ini, apa usaha penulis untuk
menginformasikan kalian? [So, what was the author telling you
about in this news?]
Student 2   : Memberikan wawasan bahwa isi dari berita Ratna
adalah hoax. [Offer an understanding that the content of Ratna's
news is hoax.]
Teacher : Okay, watch this video.

Teacher shows a video (#42)

Teacher : What was the author trying to entertain the viewer?
Student 5   : Ada lima monyet lompat di atas kasur, terus mama
manggil ke dokter dan dokter bilang ga akan ada monyet yang
lompat di atas kasur. [Five monkeys bounced on the bed until Mama
contacted the doctor, who advised that no monkeys would jump on
the bed.]

During this phase, the teacher concentrated on instructing students
about "The Author's Purpose," covering (a) the significance of
understanding it, (b) theories surrounding it, and (c) its application
in advertisements, news, and movies (See #40, #41, and #42).
Observational data indicates that students were engaged and
enthusiastic throughout the lesson. They actively participated by
providing oral responses, engaging in follow-up questions, and
displaying smiles, as depicted in Figure 6. This phase involved
multiple steps in elucidating "The Author's Purpose." Firstly,

students grasped the concept of PIE (Persuade, Inform, Entertain). Secondly, the teacher explicitly explained the author's objectives. Thirdly, connections were drawn between the author's purpose and real-life examples relevant to students' experiences and culture to make the abstract idea more tangible. Finally, dialogic teaching was the optimal approach, allowing for interactive question-and-answer sessions and discussions to enhance students' understanding of this abstract concept.

Figure 6. Students' enthusiasm in learning

Therefore, students could identify the author's purpose regarding the incident of the Babi Ngepet in Depok (See Dialog 12).

Dialog 12. Encourage students to identify the author's purpose

Teacher : What is the author's purpose on the first news (left)? (#43)
Student 8   : To persuade. (#44)
Teacher : Why to persuade?

> Student 8   : Karena membujuk masyarakat bahwa babi ngepet itu ada, padahal ga ada. [Because the author wanted to persuade the reader that there was a Babi Ngepet, even though it did not exist.] (#45)
> Teacher : OK, good job. How's about the second news (right)? (#46)
> Students   : To inform. (#47)
> Teacher : Why to inform?
> Student 2   : Karena memberitahu orang-orang kalau yang seperti itu tidak ada. [For informing the reader that Babi Ngepet did not exist.] (#48)

In Dialog 12, the teacher questioned students about the author's purpose in two pieces of information (See #43 and #46). The results showed that students could articulate and differentiate the author's purpose using their perspectives without altering the news topic (See #44, #47). Moreover, students provided reasons for their distinctions regarding the author's purpose of the news (See #45 and #48).

Intervention 2

In Intervention 2, the teacher reminded the students' understanding of CT aspects discussed in Intervention 1: encouraging students to have an open mind, helping students make connections, and teaching students about reliable information (See Figure 3). Meanwhile, the main focus in this meeting was directed toward reinforcing students' understanding of the other core aspects of CT: identification bias and making an inference (See Figure 7). Additionally, the same texts were used in order to reinforce the lesson.
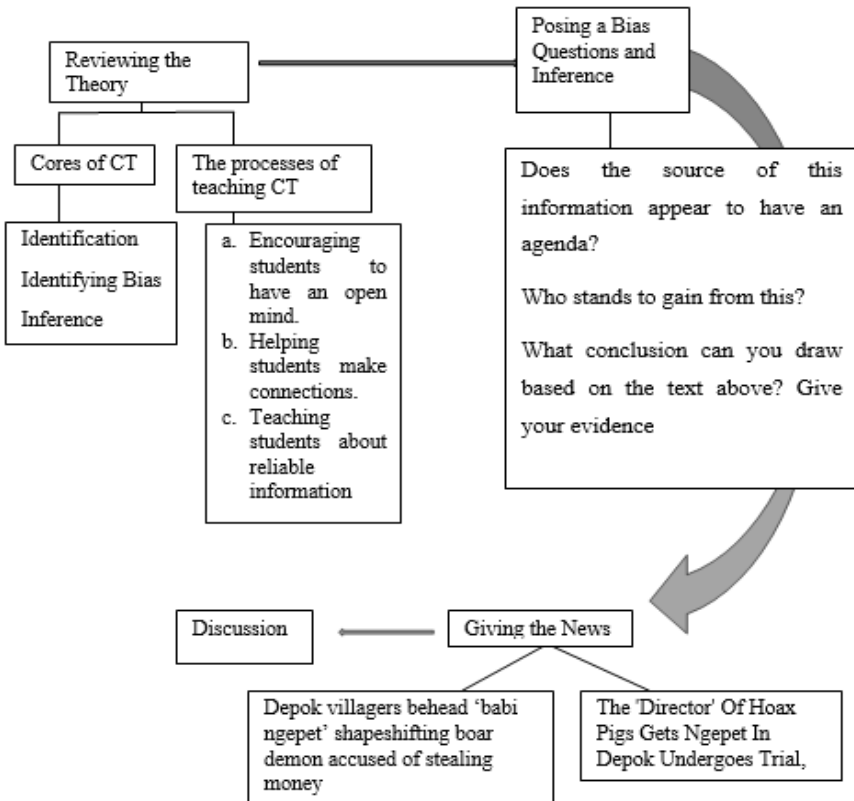
Figure 7. The teaching process scheme in the second meeting

Furthermore, the teacher revisited the core concepts of CT and provided questions to prompt students to identify biases in the text, leveraging their existing knowledge: Does the source of this information appear to have an agenda? Who stands to gain from this? Students were then tasked with inferring biases from two news articles. Following this review, students were presented with news articles to identify biases in the text and make inferences about the text. They were encouraged to discuss with peers while articulating their own perspectives.

Data gathered from Intervention 2 reveals that in this phase, Table 2 presents the students' responses to the CT questions as follows:

Table 2. Questions and answers in meeting 2

CT Question	Students' Answer
Does the source of this information appear to have an agenda?	The first news: a. To get money. b. Hoax about money theft. c. This might be to shield the thief. d. Manipulate. The second news: a. Arresting Adam Ibrahim.
Who stands to gain from this?	The first news: a. The culprit. The second news: a. Residents, there was no pig gets ngepet involved and to alleviate their fears.
What conclusions can be drawn from the evidence collected?	In conclusion, the purported incident of a pig stealing money in Depok is fabricated, orchestrated by Adam Ibrahim who bought a pig and used it as a scapegoat to manipulate the public perception. Therefore, the notion of a pig stealing money was entirely fictional, as the pig itself did not exist.
However, there exists a picture of the pig.	Adam bought the pig.
So, what is the best	There was a news report

inference?	circulating about a pig gets ngepet which allegedly stealing money from citizens in Depok. However, upon investigation by authorities, it was revealed that the incident was orchestrated by Adam Ibrahim, the director who devised a scheme to create the illusion of a pig stealing money. In reality, he purchased the pig to serve as a scapegoat, falsely attributing the loss of money due to the pig.
What is the title of fake news?	Depok villagers behead 'babi ngepet' shapeshifting boar demon accused of stealing money.
How is about the factual?	The 'Director' Of Hoax Pigs Gets Ngepet In Depok Undergoes Trial, Turns Out 4 Witnesses Were Ordered Naked.

Table 2 shows that Intervention 2 had activated the students to recognize bias, such as finding out the agenda and who benefits from the text, making an inference, and distinguishing between factual and fake news.

Discussion

In this study, the application of the concept of CT ability in differentiating between factual and fake news was carried out through two interventions. The CT concept taught to students was carefully designed by integrating theories from Chernyak in Kiki (2019) on teaching CT, Paul and Elder (2019) on CT questions, and Erstad in Fatiha (2021) on cores of CT—this CT concept aimed to develop students' critical analytical skills and improve broader and deeper thinking patterns. In the first intervention, the teaching process was organized into three comprehensive stages: encouraging students to have an open mind, helping students make connections, and teaching students about reliable information. In addition, the main focus of the first meeting was the development of identification skills, where students were taught to critically identify the problem raised and the author's purpose.

Furthermore, in the second intervention, the teacher guided students in analyzing the news in depth. In this meeting, the emphasis shifted to honing students' skills in identifying bias and making inferences, which were other core aspects of CT. Students were invited to uncover hidden agendas, understand various perspectives or attitudes towards issues, and make inferences based on findings with CT skills. In addition, distinguishing between factual and fake news was the center of attention in this session, reflecting an effort to give students the ability to not only receive information passively but also question it and seek deeper truths.

Throughout the teaching process, students demonstrated their CT skills effectively. Students could provide and find answers logically and follow CT skills' core aspects. Besides, the teacher emphasized the importance of logical and analytical thinking and invited students to play an active role with the material through open-ended questions that challenge their assumptions and encourage further exploration. This could be seen at the beginning of learning;

students were allowed to provide their interpretations and answers. This method effectively activated the CT process based on students' previous knowledge. As a result, students were able to process and analyze information more deeply and thoroughly.

Furthermore, hasty thinking produces something less good. During the teaching process, students were given enough time to reflect on the news presented. Providing sufficient time was an essential part of developing students' CT skills. Students could use the time to consider various aspects of the news they got and formulate several sharper questions and criticisms. Hence, students became more capable of applying their CT abilities and being aware of their thinking processes.

On the other hand, the teacher provided real examples to illustrate material relevant to students' lives, so students could understand the concepts offered. In this way, students got used to expressing opinions based on their logical thinking and were ready to face something less common in current conditions. When students were given a new image of the discovery of Babi Ngepet in Depok, pupils were asked to interpret the image. In addition, students were encouraged to analyze information and understand the complexity of various possible points of view. From this process, various students' opinions emerged, and it was testing pupils' beliefs. Moreover, students questioned "Why a Babi Ngepet was found in a village? Why not in a bank? ". In addition, students noticed the title presented in the news media using all capital letters, and one of the media was not familiar to them. Even though this step could invite students' beliefs, the teacher still provided insight to students that pupils should not be easily impressed by pictures and titles alone. On the other hand, according to students' beliefs, the existence of Babi Ngepet in today's era was less relevant or old-fashioned. The student considered that the existence of Babi Ngepet was an old story less relevant to the current situation. This was in line with a study by a historian and researcher from Nanyang

Technological University Singapore, Christopher Reinhart, that the term "Babi Ngepet" began to appear in the Cultuurstelsel or forced cultivation era in 1830-1870.[61] Many new rich people emerged from the Javanese, Indonesian communities during the forced cultivation era. They were traders from the Indonesian natives or Chinese who became rich in a short time. As a result, this condition surprised the Indonesian farming community, which accused the newly rich people of using Babi Ngepet to accumulate wealth quickly. Farmers used Babi Ngepet's accusation to give a wrong impression to fellow farmers that the rich were evil capitalists. However, many Indonesian people still believe in the story or existence of Babi Ngepet to this day.[62] Consequently, this news became a boom and many people believed in the existence of the Babi Ngepet who stole people's money. However, the teacher still encouraged students to explore both sides of the debate and accept various perspective. This approach allowed students to gain comprehensive insight into a topic before forming their opinions. In addition, the teacher warned students not to be influenced by a single piece of information. In essence, this step encouraged students to dig deeper into various sources of information. In other words, the teacher emphasized the importance of seeking evidence before concluding, a very important skill in today's information age, where fake news can easily spread without adequate verification. Furthermore, the development of ICT provides convenience in receiving and providing information. In addition, the advancement

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[61] HASIBUAN, L.: "Peneliti Singapura Bongkar Mitos Babi Ngepet RI, Jangan Syok!", available online at https://www.cnbcindonesia.com/lifestyle/20230226091826-33-417010/peneliti-singapura-bongkar-mitos-babi-ngepet-ri-jangan-syok (last access September 5th, 2024).

[62] YULIANTO, C.: "Mengapa Masih Banyak Masyarakat Indonesia Yang Percaya Dengan Babi Ngepet", available online at https://nasional.okezone.com/read/2023/05/03/337/2807405/ (last access September 5th, 2024).

of ICT has made various sources of information, including news media, popular. Although many news portals present information, a person must examine the media more deeply. In this process, students were taught to critically evaluate websites, including the author's qualifications, publication date, and validity of the news media. This skill was one of the important aspects of facing information challenges in the digital era. Thus, the teacher guided students to verify that the news media was trustworthy. This was done by searching for media traces and checking on the Indonesian press media portal. If the news was registered on the Indonesian press media portal, then the media could be declared valid or credible.

After determining that the media was credible, the teacher engaged students to determine the author's purpose from the two examples of news. By knowing the author's purpose, students could get more information about the reasons or purposes behind writing the news. The writers usually had a specific purpose in conveying something, divided into three aspects: to inform, persuade, and entertain. However, the author's purpose theory was unfamiliar to students. Hence, the teacher provided familiar examples of the student's experiences in identifying the author's purpose. By providing examples based on students' experiences, the teacher could make students think more quickly about something abstract and have a deeper understanding of the thinking process, especially finding the author's purpose. The results of the students' identification showed that the two authors had different purposes. The author of the first news article (See Figure 5) aimed to tell readers that there was a Babi Ngepet in Depok. Meanwhile, the author of the second news article (See Figure 5) aimed to inform readers that the police had arrested the director of the Babi Ngepet issue in Depok. Although students had succeeded in identifying the writers' purpose, the teacher still reminded students to look for other information before making a comprehensive inference.

Additionally, students were guided to dig deeper into the issue raised, such as the bias, agenda, the beneficiary, and make the inference. In this process, students' CT abilities played an important role. Students could find significant differences between the two news items. Students knew that someone made the discovery of the Babi Ngepet in Depok a fabrication. Furthermore, the news had spread widely, shocking several netizens and the surrounding community. In addition, the news benefited the perpetrator by spreading information about the Babi Ngepet. The alleged incident of a pig stealing money in Depok was a fabrication, masterminded by Adam Ibrahim, who bought a pig and used it as a scapegoat to manipulate public perception. Thus, the allegation of a pig stealing money was fictitious because the Babi Ngepet did not exist. As a result, the student's inference showed, "There was a circulating news about the Babi Ngepet that allegedly stole money from residents in Depok. However, after being investigated by the authorities, it was revealed that the incident was masterminded by Adam Ibrahim, the director who designed a scheme to create the illusion of a pig stealing money. In fact, the perpetrator bought the pig to be used as a scapegoat, by making up that the pig had caused financial losses for residents."

Therefore, the research data showed that the approach combining CT teaching steps from Chernyak, CT questions from Paul and Elder, and CT core skills from Erstad has been proven effective in fostering students to analyze news in reading news classes and improving Indonesian students' CT skills. Students' CT abilities are built through a learning process that involves students opening their mindsets, having enough time, providing examples that are related to students' experiences, finding strong evidence related to giving reasons or answers, having various points of view to increase confidence, and use CT questions as a tool to analyze a problem. Although students have assumed the existence of Babi Ngepet, which is less relevant to the current situation, the teacher still guides

students to dig deeper for information to find more robust information or evidence. In this context, students should not respond hastily and must be more careful in examining information before deciding. In addition, this concept provides a clear and directed structure for students to develop their thinking and is relevant and applicable in the context of EFL reading learning. Hence, through deeper news analysis, students can build their CT skills in a structured way through the challenges they face in the digital era.

Conclusion

This study represents the initial attempt to investigate "how" the teaching of CT could guide students to differentiate between factual and fake news. The CT teaching process is conducted through two interventions, during which the teacher integrates various theoretical frameworks, including the cores of CT, CT questions, and CT teaching steps. The teacher successfully applies these theories throughout these interventions, encouraging open-mindedness, making connections, and teaching students about reliable information. In the first intervention, emphasis is placed on identification skills, particularly regarding the problem and the author's purpose identification. The second intervention is a follow-up that focuses on reinforcing students' understanding of the other core aspects of CT: identification the bias and making an inference. Students actively analyze news articles as part of this process using their CT skills, not just to differentiate the news but to discover what is behind the news creation plan. Hence, the study's outcomes propose recommendations for stakeholders in the literacy movement, offering an innovative approach to CT instruction, particularly in reading education. Also, this research suggests that

further research should look for other CT aspects that can be used in teaching news.

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