



Socratic Teaching Method in 21st Century Classrooms: A Conceptual Review of Prospects and Challenges

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Abstract. This study examined the relevance and effectiveness of the Socratic Teaching Method in developing 21st-century skills within modern educational contexts. Guided by constructivist learning theory and the Partnership for 21st Century Learning (P21) framework, the study adopted a qualitative research approach informed by document review design. Data were generated through a systematic review of peer-reviewed journal articles, book chapters, and case studies published between 2020 and 2025. The reviewed literature was analysed using thematic analysis supported by coding schemes, categorisation matrices, and qualitative synthesis tools. The technique involved developing a review protocol with Objectives, Inclusion/exclusion criteria and Analysis strategy. The findings reveal that Socratic teaching significantly fosters critical thinking, reflective learning, communication, collaboration, problem-solving, and metacognitive skills through dialogic inquiry and learner-centred engagement. The method also aligns well with digital and blended learning environments, where technology-enhanced dialogue extends inquiry beyond traditional classrooms. However, the study identifies several challenges to effective implementation, including rigid and standardised curricula, examination-driven assessment systems, large class sizes, limited teacher preparedness, cultural constraints, and language-of-instruction barriers. The study concludes that the Socratic Teaching Method remains a powerful and relevant pedagogical approach for preparing learners to meet the intellectual and social demands of the 21st century. It recommends greater curriculum flexibility, sustained professional development for teachers, supportive educational policies, and contextual adaptation, particularly in multilingual and resource-constrained settings to maximise the method's effectiveness. The findings offer theoretical and practical insights for educators, curriculum developers, and policymakers seeking to enhance learner-centred, skills-oriented education.

Keywords: *Socratic Teaching Methods, 21st-century learning skills, Tanzanian classrooms, digital pedagogy, and constructivist learning theories.*

1. Introduction and background

Twenty-first-century education is increasingly shaped by global demands that require learners to develop higher-order thinking skills, adaptability, collaboration, and digital literacy rather than merely acquiring factual knowledge (OECD, 2022). As societies become more technologically advanced and interconnected, learners are expected to critically evaluate information, engage with multiple perspectives, solve complex problems, and communicate effectively in diverse global environments (Saavedra &

Opfer, 2020). This shift places significant pressure on teachers to adopt instructional approaches that actively promote inquiry, reasoning, and independent thinking rather than passive knowledge transmission.

Within this global educational shift, pedagogical approaches that emphasise dialogue, inquiry, and critical engagement have gained increasing relevance. One such approach is the Socratic method, rooted in classical Greek philosophy and characterised by structured questioning, reflective dialogue, and deep examination of ideas (Paul & Elder, 2019). Socrates himself argued that knowledge emerges through disciplined questioning rather than passive reception (Kraut, 2026). In practice, the Socratic approach positions the teacher as a facilitator who guides learners to question assumptions, justify reasoning, and refine understanding through dialogue. For example, learners who initially accept simplified explanations of natural phenomena, such as day and night, are encouraged through questioning and evidence-based reasoning to reconstruct their understanding scientifically, thereby strengthening conceptual clarity and reasoning ability.

The relevance of Socratic pedagogy becomes even more apparent in contemporary classrooms characterised by diversity in learners' backgrounds, prior knowledge, learning preferences, and digital competencies (UNESCO, 2021). In addition, learners are constantly exposed to vast and often unfiltered information from digital platforms, social media, and global sources. While this increases access to knowledge, it also creates challenges in evaluating credibility and constructing meaningful understanding. In this context, structured dialogue and critical questioning become essential tools for developing learners' ability to analyse information, justify claims, and engage in reasoned discourse (Hu, 2023). The Socratic method therefore offers a structured way to cultivate critical engagement with knowledge in an era of information overload.

Despite its theoretical relevance, there remains a need for clearer understanding of how effectively the Socratic method is being implemented in contemporary classroom contexts, particularly within outcome-based education systems that prioritise transferable skills such as critical thinking, communication, collaboration, and creativity (Partnership for 21st Century Learning, 2020). While curricula increasingly emphasise these competencies, there is limited empirical clarity on how instructional strategies like the Socratic method are being used to achieve them in practice. This indicates a gap between curriculum intentions and classroom implementation, particularly in relation to structured dialogic teaching approaches.

Furthermore, although digital technologies have expanded opportunities for interactive and reflective learning through online discussions, virtual collaboration, and hybrid learning environments (Siemens, 2020), there is insufficient evidence on how these tools are being integrated with Socratic pedagogy to enhance learner engagement and critical discourse. This gap is significant because digital learning environments have the potential to extend Socratic questioning beyond the physical classroom, yet their pedagogical alignment remains underexplored (Amineh & Asl, 2015).

Against this background, the problem addressed in this study is that, despite the recognised importance of critical thinking and 21st-century skills in modern education systems, there is limited contextual understanding of how the Socratic teaching method is used to develop these competencies, particularly within technology-enhanced and outcome-based learning environments.

Therefore, the purpose of this study is to examine the role of the Socratic teaching method in developing 21st-century skills, with a specific focus on its contribution to critical thinking, communication, collaboration, creativity, and reflective learning in contemporary educational settings.

The method used by Socrates has a long-established ability to encourage problem-solving, critical thinking, and other 21st-century skills, there are a few challenges in the way of its effective implementation in contemporary classrooms. The growing popularity of rigorous

examinations and standardised curricula, which place a priority on quantifiable learning outcomes over dialogic and exploratory pedagogies, is one significant obstacle. According to Hayden (2011), placing too much focus on standardised assessments limits the breadth of education and reduces learners' opportunities to engage in cooperative problem-solving, introspective inquiry, and logical argumentation. Teachers may feel overwhelmed in these settings, focusing on teaching material and preparing students for tests rather than fostering in-depth discussions that support learning.

2. Literature

2.1 Socratic Teaching: A Dialogic Approach to 21st-Century Education

Socratic teaching is a dialogic instructional approach that uses structured questioning to stimulate critical thinking, reflection, and active participation by learners (Brookfield, 2012; Facione, 2022; Biesta, 2023). Unlike traditional teacher-centred methods that prioritise the transmission of information, it positions learners as active participants in constructing meaning, while teachers function as facilitators who guide inquiry, challenge assumptions, and support evidence-based reasoning (Paul & Elder, 2019; Brookfield, 2020; Boon, 2021; Hennessy et al., 2022). In this way, learners are encouraged to analyse ideas, justify arguments, and develop logical interpretations rather than passively receiving knowledge.

This pedagogical orientation aligns closely with constructivist learning theory, which emphasises that knowledge is actively constructed through experience, interaction, and reflection rather than passively absorbed (Kayii et al., 2022; Graham et al., 2024). Within constructivist classrooms, learners engage in inquiry, dialogue, and problem-solving activities that connect prior understanding with new concepts (Brookfield, 2020; Biesta, 2023). Socratic questioning strengthens this process by encouraging learners to critically evaluate information, consider alternative perspectives, and test the validity of their assumptions (Paul & Elder, 2020; Holmes et al., 2022).

In the context of twenty-first-century education, where knowledge is rapidly expanding, easily accessible, and globally interconnected, Socratic pedagogy provides a structured means of developing higher-order thinking, intellectual independence, and collaborative problem-solving skills (UNESCO, 2021; World Economic Forum, 2023). This relevance is further reinforced by global competency frameworks such as the Partnership for 21st Century Learning, which identifies critical thinking, communication, collaboration, and creativity as essential skills for learners (Partnership for 21st Century Learning, 2025; OECD, 2023).

Empirical evidence also supports the effectiveness of Socratic, inquiry-driven dialogue in improving learners' analytical and reasoning abilities, particularly in complex problem-solving contexts at secondary and tertiary levels (Mahoney et al., 2023; Poguntke, 2015; Ekeh et al., 2024).

2.2 The Socratic Method: A Foundation for Critical Thinking

The Socratic method, which was first used by the Greek philosopher Socrates, is dominated by systematic exploration of the existing phenomenon to stimulate critical thinking and clarify ideas (Paul & Elder, 2020; Facione, 2022). In the Tanzanian classrooms nowadays, this method makes learners question assumptions, make sense of their ideas, and present well-reasoned statements because the teacher is a facilitator rather than a mere knowledge imparter (Brookfield, 2020; Biesta, 2023). The effectiveness of Socratic inquiry in encouraging higher-order thinking abilities has been confirmed by recent studies. Mahoney et al, for example, showed in a 2023 study that Socratic discussion greatly improves critical thinking, problem-solving skills, intellectual skills, and

collaborative skills in secondary and vocational students (Mahoney et al, 2023; Hennessy et al., 2022; Poguntke, 2015).

2.3 Constructivism: Learning as an Active Process

Socialisation in teaching and learning is important because knowledge is also socially constructed through interaction (Vygotsky, 1978; Biesta, 2023). Constructivism argues that learners learn new knowledge better through experiences and interactions, rather than receiving information from their teachers (Piaget, 1973; Kayii et al, 2022). Constructivism provides a picture of the values of social interaction, prior experience, and cognitive disagreements in the learning process (Graham et al, 2024; Brookfield, 2020). Teachers guide rather than impose learning experiences in a constructivist setting, where learners actively engage in inquiry-based learning, solving problems, and reflective thinking (Paul & Elder, 2020; Facione, 2022). By pushing students to solve problems and practise reflection, inquiry-based teaching strategies based on constructivist ideas successfully develop critical thinking (Kayii et al, 2022; Hennessy et al., 2022).

2.4 The P21 Framework: Preparing Students for the Future

Globally, the Partnership for 21st Century Learning (P21) analyses four fundamental skills: critical thinking, interaction, teamwork, and creativity, which are very important to be developed by the learners (Partnership for 21st Century Learning, 2025; OECD, 2023; World Economic Forum, 2023). These skills are important for the learners to use in difficult situations in both their professional and personal lives (Paul & Elder, 2020; Facione, 2022). The P21 framework makes sure that learners have the skills necessary to navigate and contribute to a world that is becoming more dynamic and interconnected by supporting learning opportunities that foster these talents (UNESCO, 2021; Biesta, 2023). To develop complete, adaptable, and creative learners, a 2025 report from the P21 organisation underlines the value of including these traits in curricula (Partnership for 21st Century Learning, 2025; Graham et al, 2024).

2.5 Integrating Socratic Pedagogy with Constructivist and P21 Frameworks

Constructivist learning principles, Socratic strategies, and the P21 framework together form a coherent pedagogical approach that prioritises critical thinking, active engagement, and the development of essential twenty-first-century skills (Paul & Elder, 2020; Facione, 2022; Partnership for 21st Century Learning, 2025). Within this integrated approach, teachers create learning environments where learners collaboratively construct knowledge, exchange ideas, and critically examine differing viewpoints, enabling them to apply understanding across complex and varied contexts (Brookfield, 2020; Biesta, 2023; Hennessy et al., 2022). This alignment supports the broader goals of modern education, which emphasise preparing learners with competencies required for success in contemporary academic, professional, and societal settings (OECD, 2023; World Economic Forum, 2023; Kayii et al., 2022; Graham et al., 2024).

The P21 framework identifies critical thinking, communication, collaboration, and creativity as core competencies for navigating today's educational and workplace environments (Partnership for 21st Century Learning, 2025; OECD, 2023; World Economic Forum, 2023). These competencies are directly reinforced through Socratic teaching, where structured dialogue enables learners to listen actively, reason logically, and engage in meaningful debate. Through questioning and discussion, learners practise articulating ideas, responding to opposing perspectives, and evaluating evidence in order to reach well-reasoned conclusions, particularly when addressing ethical issues or real-world problems (Paul & Elder, 2020; Facione, 2022; Sorvatzioti, 2012; Mahoney et al., 2023). Such learning experiences extend beyond academic achievement by fostering

transferable skills that support employability and responsible civic participation (Brookfield, 2020; Biesta, 2023).

Moreover, Socratic pedagogy promotes lifelong learning by cultivating intellectual curiosity, adaptability, and independent inquiry. Learners develop the capacity to continuously seek knowledge and respond effectively to rapidly changing social and technological environments (UNESCO, 2021; Graham et al., 2024). This inquiry-driven orientation is particularly important for addressing complexity and uncertainty in contemporary society (Brookfield, 2017; Holmes et al., 2022; Hennessy et al., 2022). As a result, education is positioned not only as preparation for assessment but also as a means of developing the cognitive flexibility required for active participation in global communities and evolving professional contexts (OECD, 2023; World Economic Forum, 2023).

2.6 Integration with 21st - Century Competency Frameworks

Critical thinking, communication, teamwork, and creativity are identified as crucial competencies for learners navigating the modern educational and professional environments by the Partnership for 21st Century Learning (P21) framework (Partnership for 21st Century Learning, 2025; OECD, 2023; World Economic Forum, 2023). These skills are intimately related to Socratic teaching. Learners learn to listen carefully, engage in productive debate, and collaboratively negotiate meanings via logical discussion, along with establishing analytical reasoning (Paul & Elder, 2020; Facione, 2022). For reaching logical decisions, learners practice providing ideas, replying to opposing viewpoints, and gathering information when arguing ethical issues or real-life scenarios (Sorvatzioti, 2012; Mahoney et al, 2023). Besides studying, such experiences foster transferable abilities that support successful careers and civic involvement (Brookfield, 2020; Biesta, 2023).

Additionally, Socratic teaching fosters an attitude of lifelong learning. Developing intellectual curiosity and analytical thinking in learners encourages them to seek knowledge on their own while maintaining flexibility in circumstances that are changing quickly (UNESCO, 2021; Graham et al, 2024). According to Brookfield (2017), addressing complexity, confusion, and continuous social and technical change requires this kind of inquiry-driven learning (Holmes et al., 2022; Hennessy et al., 2022). This underscores the notion that education should provide learners the cognitive flexibility needed in today's global communities and businesses, along with preparing them for tests (OECD, 2023; World Economic Forum, 2023).

2.7 Socratic Teaching in Digital and Blended Contexts

There are now more opportunities for Socratic teaching outside the traditional classroom due to rapid advances in digital technology (OECD, 2023; UNESCO, 2021). Even asynchronous and synchronous conversations that replicate in-person Socratic deliberation can be supported by technological devices, such as online chat rooms, video conferencing, joint papers, virtual experiments, and AI-powered educational resources (Siemens, 2020; Ekeh et al., 2024; Holmes et al., 2022). On conversation boards, for instance, learners can critically analyse cases or current events while replying to peers' queries and providing insightful commentary (Paul & Elder, 2020; Facione, 2022). This approach fosters equitable and fair involvement by accommodating students who may not speak as much in conventional classrooms and supporting a variety of learning styles (Kayii et all, 2022; Graham et all, 2024).

The effectiveness of Socratic pedagogy is significantly increased by blended learning strategies (Hennessy et al., 2022; Boon, 2021). Teachers may develop recurrent cycles of inquiry, reflection, and synthesis that enhance critical thinking and engagement by fusing in-person and virtual encounters (OECD, 2023; World Economic Forum, 2023). By allowing students to apply theoretical information to real-world situations, virtual

simulations and scenario-based learning promote deeper cognitive processing and group problem-solving (Holmes et al., 2022; Ekeh et al., 2024). In a business ethics course, for instance, students may examine hypothetical business choices, discuss moral ramifications, and work together to provide solutions via an online forum while adhering to Socratic questioning guidelines (Mahoney et al., 2023; Poguntke, 2015).

3. Theoretical framework

The study is guided by the P21 Framework for 21st Century Learning, developed by the Partnership for 21st Century Learning, as the theoretical framework underpinning the investigation of Socratic teaching methods in education (Partnership for 21st Century Learning [P21], 2019). Although some scholars also refer to it as a conceptual framework because it outlines relationships among educational competencies, in this study the P21 Framework functions primarily as a theoretical framework since it provides the guiding assumptions and explanatory lens for understanding how teaching approaches influence learners' competencies (Trilling & Fadel, 2009). The framework identifies essential competencies needed in contemporary education and society, particularly Critical Thinking, Communication, Collaboration, and Creativity, commonly known as the "4Cs" (P21, 2019). These competencies are regarded as foundational skills for preparing learners to succeed not only in academic, but also in social, and professional contexts of the 21st century (Bell, 2010).

The relevance of the P21 Framework to this study lies in its emphasis on learner-centred and competency-based education (Larson & Miller, 2011). Socratic teaching methods, which involve dialogue, questioning, reasoning, reflection, and argumentation, naturally support the development of the competencies emphasized in the P21 model (Paul & Elder, 2014). Through continuous questioning and guided discussion, learners are encouraged to think deeply, analyse ideas critically, justify their responses, and evaluate evidence. Such classroom interaction directly promotes critical thinking skills because students are not passive recipients of information but active participants in constructing knowledge (Brookfield, 2012). The Socratic Method therefore operationalizes the critical thinking component of the P21 framework by engaging learners in inquiry-based reasoning and problem-solving activities (Yang, Newby, & Bill, 2005).

The framework also demonstrates a strong relationship between Socratic pedagogy and communication skills. In Socratic classrooms, students are expected to articulate ideas, defend arguments, ask questions, and respond thoughtfully to peers and teachers (Copeland, 2005). These dialogical interactions improve learners' oral communication, listening abilities, and confidence in expressing viewpoints (Billings & Roberts, 2014). The process of discussion and intellectual exchange further strengthens collaboration among learners because knowledge is collectively explored through group interaction and shared reflection. Students learn to respect differing opinions, negotiate meaning, and work together toward deeper understanding, which aligns with the collaborative dimension of the P21 framework (Vygotsky, 1978).

Moreover, the Socratic method promotes creativity by encouraging learners to generate original ideas, alternative interpretations, and independent judgments rather than memorizing predetermined answers (Dewey, 1938). Open-ended questioning stimulates imagination and flexible thinking, enabling students to explore multiple perspectives and innovative solutions to problems (Craft, 2005). In this regard, the P21 framework helps explain how Socratic teaching contributes to holistic learner development beyond content mastery alone.

The interrelationship between the P21 competencies and Socratic teaching can therefore be understood as mutually reinforcing. Socratic questioning acts as the pedagogical process through which the competencies of critical thinking, communication, collaboration, and creativity are cultivated (Paul & Elder, 2014). At the same time, the P21 framework provides measurable indicators for evaluating whether these competencies are effectively developed in classroom practice (Trilling & Fadel, 2009). Consequently, the framework connects classroom instructional methods with broader educational goals and real-world skills required in modern society. Through this relationship, the study is able to analyse how Socratic pedagogy contributes to competency-based learning outcomes and supports the broader transformation of education toward active and reflective learning (Larson & Miller, 2011).

4. Research design and methods

4.1 Research Design

This study employed a qualitative research approach guided by a document review design through developing a review protocol which involved formulating objectives, searching data, use of inclusion/exclusion criteria, data extraction, and analysis strategy. The document review design was considered appropriate because it enables a systematic examination and interpretation of existing written materials, including scholarly articles, policy documents, curriculum frameworks, and empirical studies related to Socratic teaching. According to Creswell and Poth (2018), qualitative approaches are particularly well suited for investigating complex and context-bound phenomena, such as Socratic teaching, which involves dynamic interactions between teachers and learners, reflective dialogue, and pedagogical processes that cannot be adequately captured through numerical data alone.

Moreover, by focusing on the development of critical thinking, creativity, communication, and teamwork skills, the qualitative approach allowed the researcher to critically assess how well Socratic pedagogy aligned with constructivist learning theories and the P21 framework (Kayii et al, 2022; Partnership for 21st Century Learning, 2025). The study offers a comprehensive understanding of how Socratic teaching can be modified and implemented in modern classrooms by combining data from multiple sources. It also identifies useful implications for curriculum design, teacher preparation, and policy formation. The methodological quality of the selected qualitative studies was assessed using the Critical Appraisal Skills Programme (CASP) checklist. The checklist evaluated clarity of aims, appropriateness of methodology and design, rigor of data collection and analysis, ethical considerations, and the credibility and value of findings. Only studies that met moderate to high-quality standards were included in the final synthesis as summarised in Table 1:

Table 1: CASP checklist

No.	Appraisal Question	Key Considerations	Yes	No	Unclear
1	Was there a clear statement of the aims of the research?	Were the aims clearly stated and relevant to the research problem?			

2	Is a qualitative methodology appropriate?	Was the qualitative approach justified to explore experiences, perceptions, or processes?
3	Was the research design appropriate to address the aims?	Was the design (e.g., case study, phenomenology, ethnography) suitable and aligned with objectives?
4	Was the recruitment strategy appropriate?	Were participants selected appropriately and inclusion/exclusion criteria described?
5	Was the data collected in a way that addressed the research issue?	Were data collection methods appropriate and clearly described?
6	Has the relationship between researcher and participants been adequately considered?	Were reflexivity and potential researcher bias discussed?
7	Have ethical issues been taken into consideration?	Was ethical approval mentioned and confidentiality assured?
8	Was the data analysis sufficiently rigorous?	Were themes derived systematically and analysis clearly described?
9	Is there a clear statement of findings?	Were findings supported by evidence and alternative views considered?
10	How valuable is the research?	Does it contribute to knowledge and discuss implications for practice, policy, or further research?

The study was appraised using a structured qualitative evaluation framework consisting of ten key criteria to ensure methodological rigour and relevance:

First, the clarity of the research aims was examined to determine whether the study explicitly stated its objectives and demonstrated alignment with the identified research problem. This ensured that the investigation was purposeful and well-directed. *Second*, the appropriateness of a qualitative methodology was assessed, focusing on whether this approach was justified for exploring participants' experiences, perceptions, or processes. This step established whether the chosen methodology was suitable for addressing the nature of the research questions. *Third*, the research design was evaluated to determine its alignment with the study aims. Consideration was given to whether the selected design—such as a case study, phenomenology, or ethnography—was appropriate and effectively

structured to achieve the intended objectives. *Fourth*, the recruitment strategy was reviewed to assess how participants were selected. This included examining whether inclusion and exclusion criteria were clearly defined and whether the sampling approach was appropriate for the study context. *Fifth*, attention was given to data collection methods to ensure they were suitable for addressing the research issue. The appraisal considered whether techniques such as interviews, observations, or document analysis were clearly described and effectively implemented. *Sixth*, the relationship between the researcher and participants was critically examined, with particular focus on reflexivity and the acknowledgement of potential researcher bias. This helped determine whether the study accounted for the researcher's influence on the research process. *Seventh*, ethical considerations were evaluated, including whether ethical approval was obtained and whether issues such as informed consent, confidentiality, and participant protection were adequately addressed.

Eighth, the rigour of the data analysis was assessed by examining whether the process of identifying themes or patterns was systematic, transparent, and well-documented. *Ninth*, the clarity and credibility of the findings were reviewed to determine whether they were supported by sufficient evidence, such as participant quotes or data excerpts, and whether alternative interpretations were considered. *Finally*, the overall value of the research was considered in terms of its contribution to existing knowledge and its implications for practice, policy, or future research. This comprehensive appraisal ensured the study was evaluated holistically for quality, credibility, and relevance.

4.2 Data Sources and Selection

This study gathered data through reviewing literature focusing on studies carried out between 2020 and 2025 mainly in Africa and some outside Africa with the aim of comparing and reflecting to the current study. Also, the data from academic journals, especially peer-reviewed journal papers, were collected, to gather with book chapters, and case studies. According to Brookfield (2020), Mahoney et al (2023), and Kayii et al (2022), these sources mostly examined digital pedagogies, constructivist learning theories, Socratic teaching, and the development of 21st-century abilities. Studies that examined Socratic techniques in the classroom, assessed their effects on critical thinking, problem-solving, and group learning, and examined how technology may promote inquiry and conversation were given precedence in accordance with the inclusion criteria. The summary of the tools is presented in Table 2, below:

Table 2: Tools used to collect data

Instrument	Purpose	Key Components / Information Captured
Document Review Guide / Checklist	To systematically extract relevant information from selected academic sources such as peer-reviewed journals, book chapters, and case studies	<ul style="list-style-type: none"> • Author(s) and year of publication (2020–2025) • Study objectives Research design and methodology • Educational context (level, subject, setting) • Use of Socratic teaching methods • Integration of digital pedagogies

		<ul style="list-style-type: none"> • Reported outcomes (critical thinking, problem-solving, collaboration) • Key findings and conclusions
Literature Analysis Matrix (Data Extraction Table)	To organise and compare data systematically across reviewed studies	<ul style="list-style-type: none"> • Source details • Theoretical framework (constructivism, Socratic pedagogy, 21st-century skills) • Pedagogical approach used • Technological tools employed • Main results and implications
Inclusion and Exclusion Criteria Checklist	To screen and select studies that meet the study's relevance and quality requirements	<ul style="list-style-type: none"> • Publication period (2020–2025) • Peer-reviewed status • Focus on Socratic methods, inquiry-based learning, or digital pedagogy • Empirical or theoretical relevance to critical thinking and collaborative learning
Content Analysis Coding Scheme	To identify recurring themes, patterns, and concepts across the reviewed literature	<ul style="list-style-type: none"> • Socratic questioning techniques • Inquiry-based dialogue • Technology-supported discussion • Constructivist learning elements • Development of 21st-century skills

4.3 Data Analysis

Table 3 below shows the instruments which guided data analysis:

Table 3: Data analysis instruments

Data Analysis Instrument	Purpose	Key Functions / Focus Areas
Thematic Analysis Framework	To identify, analyse, and interpret patterns and themes across the reviewed literature	<ul style="list-style-type: none"> • Familiarisation with the data • Coding of meaningful units • Generation of themes

		<ul style="list-style-type: none"> • Review and refinement of themes • Categorisation into four major thematic areas
Coding Scheme / Codebook	To systematically classify and label data segments related to Socratic instruction	<ul style="list-style-type: none"> • Reflective learning and critical thinking • Collaborative learning and teamwork • Challenges and barriers (large class size, curriculum constraints, teacher preparation, cultural contexts) • Strategies for implementing Socratic methods in digital and face-to-face learning environments
Theme Categorisation Matrix	To group related codes into broader thematic categories and enable comparison	<ul style="list-style-type: none"> • Organisation of codes into themes • Synthesis of findings across multiple studies • Comparison across educational contexts and settings
Qualitative Synthesis Matrix (Narrative Synthesis Tool)	To integrate findings from diverse empirical and theoretical sources	<ul style="list-style-type: none"> • Identification of common trends • Analysis of variations across contexts • Examination of contextual nuances influencing the effectiveness of Socratic instruction
Interpretive Analytical Framework	To provide a theoretical lens for deeper interpretation of findings	<ul style="list-style-type: none"> • Grounded in constructivist learning theory and Socratic pedagogy • Linking findings to 21st-century learning demands • Moving beyond descriptive analysis to interpretive insights

Following accepted practices for qualitative synthesis, the gathered data were subjected to a theme analysis. Themes were found and grouped into four major categories. Specifically:

- i. How Socratic instruction fosters reflective learning and critical thinking in classrooms of the twenty-first century.
- ii. How well Socratic instruction fosters critical thinking, teamwork, and reflective learning.
- iii. Large class numbers, standardised curricula, teacher preparation, and cultural considerations are some of the obstacles and challenges of using the Socratic method in a variety of educational situations.

iv. Useful tactics and suggestions for maximising Socratic techniques in digital and physical learning settings (Witt, 2025; Ekeh et al., 2024).

Emphasising trends, differences, and contextual subtleties that influence the study's results, thematic analysis made it possible to integrate ideas from several investigations. This study's qualitative approach guarantees a thorough analysis of Socratic instruction, providing theoretical and applied insights. The research examines the efficacy, difficulties, and methods for applying Socratic teaching in ways that are sensitive to the demands of students and learning settings in the twenty-first century by fusing a survey of the literature with a thematic analysis of current empirical findings.

5. Findings

The results follow the following publication trend as presented in Figure 1, below:

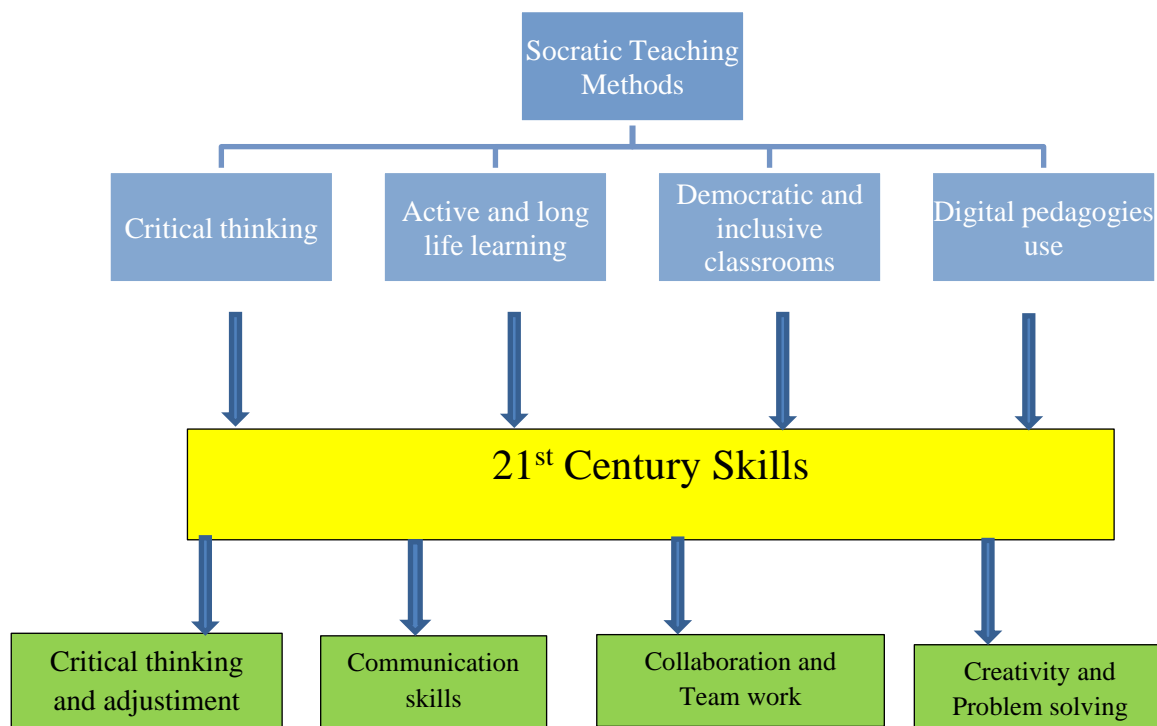


Figure 1: Socratic methods and 21st Century

Figure 1 presents the Socratic Teaching Method as a central instructional approach that significantly contributes to the development of 21st-century skills through four major dimensions: critical thinking development, active and lifelong learning, democratic and inclusive classrooms, and alignment with digital pedagogies (OECD, 2023; World Economic Forum, 2023). These interconnected aspects highlight the method's relevance in addressing contemporary educational demands.

Firstly, the role of Socratic teaching in fostering critical thinking development is evident through its emphasis on reasoning and problem-solving. By engaging learners in structured questioning and dialogue, the method challenges assumptions and promotes deeper cognitive processing. This aligns with perspectives from Richard Paul and Linda Elder, who argue that disciplined questioning enhances analytical reasoning (Paul & Elder, 2020). Similarly, Peter Facione highlights that critical thinking involves interpretation, analysis, and evaluation—skills effectively cultivated through Socratic dialogue (Facione,

2022). The diagram's inclusion of reasoning skills and problem-solving underscores the method's capacity to prepare learners to address complex, real-world challenges (Mahoney et al., 2023; Hennessy et al., 2022).

Secondly, the diagram emphasises active and lifelong learning as a key outcome. The Socratic method encourages student engagement and adaptability by positioning learners as active participants in knowledge construction. This reflects the views of Stephen Brookfield, who stresses that critical reflection and dialogue are essential for continuous learning (Brookfield, 2020). Through sustained inquiry and discussion, learners develop the ability to adapt to changing contexts, a crucial competence in the 21st century where knowledge is constantly evolving (OECD, 2023; UNESCO, 2021).

Thirdly, the promotion of democratic and inclusive classrooms is another important aspect illustrated in the diagram. The Socratic approach fosters dialogue, respect, and appreciation of diverse viewpoints, thereby creating a participatory learning environment. According to Gert Biesta, education should prepare individuals for democratic participation, which requires openness to multiple perspectives (Biesta, 2023). By encouraging learners to voice their ideas and engage in respectful debate, Socratic teaching supports inclusivity and shared responsibility in the classroom (Graham et al., 2024; Boon & Spencer, 2021). This dimension is particularly important in culturally diverse learning environments where equitable participation is essential (UNESCO, 2021).

Furthermore, the alignment with digital pedagogies highlights the adaptability of the Socratic method in modern educational contexts. The integration of online and hybrid learning environments, as well as tools such as artificial intelligence and simulations, expands opportunities for dialogic engagement beyond traditional classrooms (Holmes et al., 2022; OECD, 2023). Research in digital education demonstrates that virtual discussion platforms can effectively support Socratic inquiry by enabling asynchronous and synchronous interactions (Hennessy et al., 2022). This evolution ensures that the method remains relevant in technology-driven learning environments (Ekeh et al., 2024).

Collectively, these four dimensions contribute to the broader development of 21st-century skills, as depicted in the lower section of the diagram. These include critical thinking and judgment, communication skills, collaboration and teamwork, metacognition and reflection, and creativity and problem-solving (World Economic Forum, 2023; OECD, 2023). Through dialogic interaction, learners enhance their ability to articulate ideas, listen actively, and engage in collaborative meaning-making (Hennessy et al., 2022; Graham et al., 2024). At the same time, reflective questioning strengthens metacognitive awareness, enabling learners to evaluate their own thinking processes (Facione, 2022; Paul & Elder, 2020). The open-ended nature of Socratic inquiry also nurtures creativity by encouraging exploration of multiple solutions to problems (Holmes et al., 2022; Ekeh et al., 2024).

6. Discussion of findings

6.1 Prospects of Socratic Teaching in 21st-Century Classrooms

6.1.1 Development of Critical Thinking

The Socratic method is a useful instrument for developing reasoning capabilities in learners since it is characterised by methodical questions and thoughtful discussion. Learners are motivated to question and reflect, reason, and debate in this method, which improves their capacity for deep, critical thinking (Paul & Elder, 2020; Facione, 2022). The capacity to reason critically and analytically is crucial in current issues, particularly in addressing complex social, ethical, and educational challenges of the twenty-first century (UNESCO, 2021; OECD, 2023). According to Hu (2019), Socratic methods promote educational techniques that encourage thoughtful and rational inquiry, emphasising the value of developing critical thinking to confront difficult social concerns. Mahoney et al.'s (2023) study also showed that Socratic discussion is effective in building

analytical abilities, since it dramatically improves critical thinking tendencies among secondary vocational students, a finding consistent with recent classroom-based studies on dialogic pedagogy and inquiry-based learning (Alexander, 2020; Hennessy et al., 2022).

6.1.2 Promoting Active and Lifelong Learning

In furtherance of improving critical thinking, the Socratic approach of organised discussion encourages active, lifelong learning in pupils (Paul & Elder, 2020; Facione, 2022). According to Brookfield (2020), one of the main goals of education is to assist students in acquiring critical thinking skills, which are necessary for coping with uncertainty and adjusting to the constant changes in society, culture, and technology. An attitude of lifelong inquiry and self-directed learning is promoted by the Socratic method, which creates an atmosphere in which students actively engage in conversations and reflect on their learning (OECD, 2023; Hennessy et al., 2022). The formation of independent learners who can navigate a world that is always changing is emphasised in modern educational goals, which are in line with this approach (UNESCO, 2021; World Economic Forum, 2023).

6.1.3 Fostering Democratic and Inclusive Classrooms

In order to encourage inclusive and democratic learning environments, the method used by Socrates is also essential (UNESCO, 2021; OECD, 2023). This teaching approach prepares learners for active involvement in democratic communities by encouraging discourse and respect for other points of view (Biesta, 2023). Socratic learning promotes an atmosphere where various points of view are respected, and students are urged to participate in rational conversation, according to Boon (2021). In addition to improving thinking, this inclusive approach helps students develop a feeling of belonging and shared accountability (Hodson & Kahne, 2022). Also, according to Graham et al. (2024), inclusive Socratic teaching models favour learning skills, client, and community-centred methods, guaranteeing that all opinions are valued and heard during the educational process.

6.1.4 Alignment with Digital Pedagogies

The use of electronic devices in the classroom has increased in popularity in the digital era (OECD, 2023; World Economic Forum, 2023). Discussion chat rooms, virtual simulations, and artificial intelligence-powered platforms are examples of technological tools that can expand the application of Socratic inquiry and make it possible in online and hybrid learning settings (UNESCO, 2021; Holmes et al., 2022). Witt (2025) investigated how asynchronous and synchronous discussion platforms offered by digital pedagogies complement the Socratic method and provide chances for critical interaction outside of the conventional classroom. The findings contributed significantly to the importance of establishing an open and expansive dialogic space, with a focus on the crucial roles of e-facilitators to deepen learners understanding. Furthermore, research by Ekeh et al. (2024) looked at how Socratic dialogue has changed in online learning and showed how well it works to encourage students to participate actively and think critically in virtual learning settings.

Furthermore, the Socratic method is a potent teaching technique that supports active, lifelong learning, creates inclusive and democratic classroom environments, and is compatible with digital pedagogies, in addition to developing critical thinking abilities (Paul & Elder, 2020; Facione, 2022; Biesta, 2023). Teachers may develop students who are capable of navigating and contributing to a world that is becoming more complicated and interconnected by incorporating this method into their current teaching techniques (UNESCO, 2021; OECD, 2023).

6.1.5 Why the Socratic Teaching Method Is Appropriate for Developing 21st-Century Skills

The findings of this study indicate that the Socratic Teaching Method is highly appropriate for fostering 21st-century skills due to its learner-centred, inquiry-driven, and reflective nature (Paul & Elder, 2020; Facione, 2022). Specifically, the method contributes to the development of the following competencies such as:

Critical Thinking and Valued Judgment: Socratic questioning encourages learners to analyse assumptions, evaluate evidence, justify viewpoints, and reflect on alternative perspectives (Brookfield, 2020; Biesta, 2023). This dialogic process aligns with higher-order cognitive skills required in the 21st century to be developed by the learner (OECD, 2023).

Communication Skills: Through structured classroom discussions, direct dialogue and questions and answers, learners practice articulating ideas clearly, listening actively, and responding thoughtfully—key competencies in academic, professional, and civic contexts (Hennessy et al., 2022; Boon, 2021).

Collaboration and Teamwork: Classroom dialogue based on Socratic principles promotes collective inquiry, respectful disagreement, and shared meaning-making, strengthening cooperative learning and social interaction skills (Graham et al., 2024; UNESCO, 2021).

Reflective and Metacognitive Skills: The method promotes self-reflection by requiring learners to examine their thinking processes, assess the validity of their arguments, and revise understandings, thus enhancing metacognitive awareness (Facione, 2022; Paul & Elder, 2020). **Problem-Solving and Creativity:** Open-ended questioning fosters exploration of multiple solutions and perspectives, enabling learners to approach problems creatively and adaptively (Holmes et al., 2022; Ekeh et al., 2024).

Digital and Information Literacy: When integrated with digital platforms, Socratic teaching supports online discussion, inquiry-based research, and responsible information evaluation, aligning with digital learning demands of the 21st century (Witt, 2025; World Economic Forum, 2023).

6.2 Challenges of Socratic Teaching in 21st-Century Classrooms

6.2.1 Standardised Curricula and Assessments

Dialogic and exploratory learning are typically marginalised in contemporary educational institutions, which frequently emphasise quantifiable results (OECD, 2023; UNESCO, 2021). The concentration on standardised tests, according to Hayden (2011), narrows the definition of good education by reducing it to a collection of measurable characteristics (Brookfield, 2020; Biesta, 2023). The Socratic method and other instructional techniques that value reflective discourse and critical thinking above standardised testing and rote memorisation may be marginalised by this focus on quantifiable results (Paul & Elder, 2020; Facione, 2022). When high-stakes testing is the norm, educators may feel pressured to choose instructional tactics that fit test formats, thus ignoring approaches that promote critical, in-depth thinking (Hennessy et al., 2022; Boon, 2021). Therefore, in favour of more test-centric methods, the rich, dialogic quality of Socratic instruction may be underutilised (Graham et al., 2024; Witt, 2025).

6.2.2 Large Class Sizes and Time Constraints

It might be challenging for teachers to have meaningful conversations with all of their students in congested classes (OECD, 2023; UNESCO, 2021). According to Amineh and Asl (2015), integrating reflective and dialogic teaching approaches is significantly hampered by large class numbers (Brookfield, 2020; Biesta, 2023). Individualised attention becomes scarce in such settings, making it difficult to successfully support the Socratic approach (Paul & Elder, 2020; Facione, 2022). This problem is made worse by

time and resource limits, which make it difficult for teachers to provide the environment needed for critical discussion and open-ended questions (Hennessy et al., 2022; Boon, 2021). Therefore, in big, resource-constrained classes, the potential advantages of Socratic pedagogy—like encouraging critical thinking and reflective learning may be jeopardised (Graham et al., 2024; , 2025).

6.2.3 Teacher Preparedness and Professional Development

Due to a lack of training opportunities, many teachers lack the questioning, listening, and facilitating abilities necessary for effective Socratic teaching (OECD, 2023; UNESCO, 2021). According to Brookfield (2020), critical thinking instruction is best experienced as a social learning process; teachers must provide an example of reflective inquiry (Paul & Elder, 2020; Facione, 2022). But the need for teachers to have these abilities is also growing as a result of the widespread use of technology and the pressing need to teach critical thinking (Holmes et al., 2022; Ekeh et al., 2024). Insufficient professional development might make it difficult for teachers to successfully apply Socratic techniques (Hennessy et al., 2022; Boon, 2021). Additionally, the adoption of more interactive and student-centred pedagogies may be hampered by a dependence on conventional, teacher-centred methods brought on by a lack of training in dialogic teaching techniques (Biesta, 2023; Graham et al., 2024).

6.2.4 Cultural and Contextual Barriers

In certain cultural situations, open-ended questions may be met with resistance or difficulty from pupils, and teacher-centred learning continues to dominate (OECD, 2023; UNESCO, 2021). The impact of cultural norms and expectations on teaching and learning dynamics is covered by Nimasari (2023) (Biesta, 2023; Brookfield, 2020). Students may be less likely to use the open-ended questioning style of the Socratic method in cultures that place a strong emphasis on deference to authority and hierarchical systems (Paul & Elder, 2020; Facione, 2022). Implementing dialogic teaching methods may be significantly hampered by this cultural opposition (Hennessy et al., 2022; Boon, 2021). Furthermore, the various backgrounds and experiences of students in diverse classrooms may influence how comfortable they are with interactive discourse; culturally sensitive teaching methods are necessary to guarantee inclusion and efficacy (Graham et al., 2024; Holmes et al., 2022).

7. Recommendations

7.1 Curriculum Flexibility

The curriculum developers need to rethink how to integrate inquiry-based learning into curricula to accommodate Socratic teaching methods. Curriculum flexibility allows educators to move beyond rigid structures, such as remaining with paper-and-pencil for several years, rather than using competence-based assessment tools that incorporate open-ended questions and discussions central to the Socratic method (Anwar, Junaidi, & Dewi, 2024; Pitorini et al., 2024). This approach provides a clear picture of learners' ability to think critically and to demonstrate deep understanding.

7.2 Professional Development

In-service teachers need to be updated on Socratic teaching methods, which are highly promising for developing 21st-century skills. Learners are therefore encouraged to think critically, solve problems, and become more creative when teachers are trained with Socratic teaching methods. Providing teachers with the resources and methods they need to engage learners in significant discussions should be the main goal of professional development programs. This kind of education enables teachers to better build an

environment that motivates students to challenge assumptions, analyse ideas, and refine their reasoning.

7.3 Policy Support

The Socratic method needs a flipped classroom where learners are free to share and exchange ideas. It is crucial to promote policies that prioritise critical thinking, problem-solving, and democratic engagement alongside exam achievement. Instead of emphasising standardised testing and mechanical memorisation, policies should support assessment methods that gauge students' capacity for critical thought and meaningful discussion. A framework that encourages teachers to use teaching strategies emphasising inquiry and discussion can be established through supportive policies.

7.4 Contextual Adaptation

For the Socratic method to be successfully applied, systemic challenges such as the language of instructions and written examinations must be rechecked and modified to accommodate institutional and cultural realities while maintaining their essential ideas. Learners' ability to express and give out their ideas is normally viewed as a positive practice in teaching and learning.

8. Conclusion

This study has demonstrated that the Socratic teaching method holds significant promise for enhancing teaching and learning in 21st-century classrooms. Its emphasis on questioning, dialogue, and reflective inquiry positions it as a powerful pedagogical approach for developing critical thinking, fostering active and lifelong learning, and nurturing inclusive and democratic classroom environments. Moreover, its adaptability to digital learning spaces further strengthens its relevance in contemporary education systems that increasingly rely on technology-mediated instruction. Through these attributes, the Socratic method aligns closely with the competencies required in the modern world, including communication, collaboration, creativity, and metacognitive awareness.

Nevertheless, despite these prospects, the implementation of Socratic pedagogy is not without challenges. Structural constraints such as standardized curricula and assessment systems, large class sizes, and limited instructional time can restrict opportunities for meaningful dialogue and inquiry. Furthermore, insufficient teacher preparation and professional development hinder educators' ability to effectively facilitate Socratic discussions. Cultural and contextual factors may also influence learner participation, particularly in settings where traditional, teacher-centred approaches dominate or where questioning authority is discouraged.

These findings illuminate the fact that Socratic teaching methods are highly relevant and beneficial for 21st-century education, its successful integration requires deliberate and systemic support. Educational stakeholders must prioritise curriculum flexibility, invest in continuous teacher professional development, and adopt assessment practices that value critical thinking and dialogue. Additionally, culturally responsive approaches and innovative use of digital tools should be encouraged to make Socratic pedagogy more accessible and effective across diverse learning contexts. Ultimately, when these conditions are met, the Socratic method can play a transformative role in preparing learners to think critically, engage meaningfully, and contribute responsibly in an increasingly complex and interconnected world.

References

Alexander, R. (2020). *Dialogic teaching: Rethinking classroom talk*. Cambridge, UK: Cambridge University Press.

- Amineh, R. J., & Asl, H. D. (2015). Review of constructivism and social constructivism. *Journal of Social Sciences*, 11(1), 23–33.
- Anwar, Y., Junaidi, E., & Dewi, Y. (2024). Exploring the implementation of stepwise inquiry-based learning in higher education. *Chemistry Teacher International*, 6(3), 189–199. <https://doi.org/10.1515/cti-2023-0081>
- Biesta, G. (2023). Outline of a theory of teaching: What teaching is, what it is for, how it works, and why it requires artistry. In A. K. Praetorius & C. Y. Charalambous (Eds.), *Theorizing teaching*. Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-031-25613-4_9
- Billings, L., & Roberts, T. (2014). *The Socratic seminar handbook: Practical forms for successful cross-curricular seminars*. Eye On Education.
- Boon, R. T., & Spencer, V. G. (2021). *Best practices for the inclusive classroom*. New York, NY: Routledge. <https://doi.org/10.4324/9781003233237>
- Brock-Utne, B. (2012): Language and inequality: global challenges to education, *Compare: A Journal of Comparative and International Education*, DOI:10.1080/03057925.2012.706453 <http://dx.doi.org/10.1080/03057925.2012.706453>
- Brookfield, S. D. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions*. San Francisco, CA: Jossey-Bass.
- Brookfield, S. D. (2017). *Becoming a critically reflective teacher* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Brookfield, S. D. (2020). *The skillful teacher: On technique, trust, and responsiveness in the classroom*. San Francisco, CA: Jossey-Bass.
- Copeland, M. (2005). *Socratic circles: Fostering critical and creative thinking in middle and high school*. Stenhouse Publishers.
- Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. Routledge.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2023). *Effective teacher professional development: What really works*. Palo Alto, CA: Learning Policy Institute.
- de Witt, A. (n.d.). *Facilitating generative dialogue: The design of a practice that fosters constructive conversations, democratic capabilities, and transformative learning*. Retrieved from <https://ssrn.com/abstract=5294502>
- Dewey, J. (1938). *Experience and education*. Macmillan.

- Ekeh, P., et al. (2024). From Socrates to screens: Examining the evolution of Socratic dialogue in online education. *Multidisciplinary Journal of Law, Education and Humanities*, 1(1).
- Facione, P. A. (2022). *Critical thinking: What it is and why it counts* (3rd ed.). Millbrae, CA: Measured Reasons.
- Graham, L., Berman, J., & Bellert, A. (2024). *Sustainable learning: Inclusive practices for 21st-century classrooms*. Cambridge, UK: Cambridge University Press.
- Hayden, M. (2011). The impact of standardised testing on educational quality. *International Review of Education*, 57, 1–15.
- Hennessy, S., Zubairi, A., Jordan, K., Saito, E., & Haßler, B. (2022). Dialogic pedagogy in digital classrooms: Opportunities and challenges. *Computers & Education*, 181, 104448.
- Heugh, K. (2019). Language of instruction and learning in Tanzania. *International Journal of Bilingual Education and Bilingualism*, 22(4), 345–359.
- Holmes, B., et al. (2022). Online Socratic pedagogy: Engaging learners in virtual discussion. *Education and Information Technologies*, 27, 567–590.
- Hu, Z. (2023). Promoting critical thinking through Socratic questions in health sciences work-integrated learning. *International Journal of Learning, Teaching and Educational Research*, 22(6), 137–151. <https://doi.org/10.26803/ijlter.22.6.8>
- Kayii, N., & Akpom, M. (2022). Constructivist approaches: A budding paradigm for teaching and learning entrepreneurship education. *International Journal of Education Teaching and Social Sciences*, 2(1), 31–44.
- König, J., Bremerich-Vos, A., Buchholtz, C., Fladung, I., & Glutsch, N. (2022). Pre-service teachers' generic and subject-specific professional knowledge: Evidence from teacher education. *Teaching and Teacher Education*, 110, 103602.
- Kraut, R. (2026, April 18). Socrates. *Encyclopedia Britannica*. <https://www.britannica.com/biography/Socrates>
- Larson, L. C., & Miller, T. N. (2011). 21st century skills: Prepare students for the future. *Kappa Delta Pi Record*, 47(3), 121–123. <https://doi.org/10.1080/00228958.2011.10516575>
- Mahoney, B. B., Oostdam, R. R., Nieuwelink, H. H., & Schuitema, J. J. (2023). Learning to think critically through Socratic dialogue. *Thinking Skills and Creativity*, 50, Article 101422. <https://doi.org/10.1016/j.tsc.2023.101422>
- Ministry of Education and Vocational Training (MoEVT). (2014). *Education and language policy in Tanzania*. Dar es Salaam, Tanzania: MoEVT.
- Mwinsheikhe, A. (2002). *Code-switching in Tanzanian classrooms*. Dar es Salaam, Tanzania: University of Dar es Salaam Press.

- Nimasari, E. P., Setiawan, S., Munir, A., & Suhartono. (2023). The dialogic education: Models, approaches, and its implementation. *ELITE Journal*, 5(2), 389–402.
- Organisation for Economic Co-operation and Development (OECD). (2022). *Education at a glance 2022: OECD indicators*. Paris, France: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD). (2023a). *21st-century competencies for global learners*. Paris, France: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD). (2023b). *Teachers and school leaders as lifelong learners: Professional development in education*. Paris, France: OECD Publishing.
- Partnership for 21st Century Learning (P21). (2020). *Framework for 21st-century learning*. Washington, DC: P21.
- Partnership for 21st Century Learning. (2019). *Framework for 21st century learning definitions*. Battelle for Kids. https://static.battelleforkids.org/documents/p21/P21_Framework_DefinitionsBfK.pdf
- Paul, R., & Elder, L. (2014). *The miniature guide to critical thinking concepts and tools* (7th ed.). Foundation for Critical Thinking Press.
- Paul, R., & Elder, L. (2019). *The miniature guide to the art of Socratic questioning* (3rd ed.). Tomales, CA: Foundation for Critical Thinking.
- Paul, R., & Elder, L. (2020). *Critical thinking: Tools for taking charge of your learning and your life* (3rd ed.). Boston, MA: Pearson.
- Piaget, J. (1973). *To understand is to invent: The future of education*. New York, NY: Grossman.
- Pitorini, D. E., Suciati, & Harlita. (2024). Students' critical thinking skills using an e-module based on problem-based learning combined with Socratic dialogue. *Journal of Learning for Development*, 11(1), 52–65.
- Poguntke, C. (2015). The Socratic method and collaborative learning. *Journal of Philosophy of Education*, 49(2), 157–172.
- Qorro, M. (2009). *Language of instruction in Tanzanian secondary schools*. Dar es Salaam, Tanzania: HakiElimu.
- Qorro, M. (2013). *Challenges of bilingual education in Tanzania*. Dar es Salaam, Tanzania: HakiElimu.
- Saavedra, A. R., & Opfer, V. D. (2020). Learning 21st-century skills requires 21st-century teaching. *Phi Delta Kappan*, 92(2), 8–13.

- Siemens, G. (2020). Learning in the digital age: Socratic inquiry online. *Journal of Learning Analytics*, 7(1), 1–14.
- Sorvatzioti, D. (2012). The Socratic method of teaching in a multidisciplinary educational setting. *International Journal of Arts & Sciences*, 5(5), 61–71.
- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.
- Vavrus, F. (2017). Language policy and classroom practice in Tanzania. *Comparative Education Review*, 61(3), 416–438.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- World Economic Forum. (2023). *Future of education: Skills for a changing world*. Bell, S. (2010). *Project-based learning for the 21st century: Skills for the future*. The Clearing House, 83(2), 39–43. <https://doi.org/10.1080/00098650903505415>
- Yang, Y.-T. C., Newby, T. J., & Bill, R. L. (2005). Using Socratic questioning to promote critical thinking skills through asynchronous discussion forums in distance learning environments. *American Journal of Distance Education*, 19(3), 163–181. https://doi.org/10.1207/s15389286ajde1903_4