Enhancing Early Grade Learners' Critical Thinking Skills for Self-Reliance

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Keywords:	Abstract
critical thinking skills; *early grade learners;* *self-reliance;* *primary school*	*Although most Nigerian schools are yet to meet the demands characterising 21st-century learners, they must be equipped to fit into a global society constantly striving toward self-reliance. Therefore, there is a need for Nigerian teachers to adopt 21st-century learning skills, such as the critical thinking skills learning approach, to develop self-reliance in early grades. The research context was in pre-primary and primary schools in the Owerri Education Zone of Imo State, Nigeria. The authors adopted a qualitative research methodology employing Participatory Action Research (PAR) as the design. Data were collected using semi-structured interview questions. The data were then analyzed using thematic data analysis procedures. The study's findings revealed that the critical thinking skills learning approach developed self-reliance in early-grade learners. In conclusion, the authors recommended an adequate continuous professional development program for teachers to improve their knowledge of 21st-century learning pedagogy. Further research should be conducted using other aspects of 21st-century learning pedagogy to enhance self-reliance.*

INTRODUCTION

Background of The Study

A typical Nigerian classroom comprises learners with varied academic abilities, learning styles, and multiple intelligences. Teachers are confronted with the task of meeting learners' individual needs. Teachers' vital and critical responsibilities are to develop and enhance core skills that will prepare learners for the world of work in the 21st Century. These core skills include communication, collaboration, creativity, and critical thinking. However, the authors noted that there are inadequacies in developing core skills among young learners, resulting in the inadequacy of learners to be self-

reliant. The recent October 2020 youth uprising in Nigeria tagged with Endsars indicated numerous youth who graduated from university but were not self-reliant as they depended on the government to provide job opportunities.

Dr. Dube advocated for the education of black people (Rochon & Thiam, 2013). He argues that learners must be taught to be self-reliant and resilient. In keeping with his vision and philosophy, the authors also envision the issue of developing early graders as self-reliant learners. However, most Nigerian teachers rarely employ teaching techniques that utilize core skills to enhance self-reliance among young Nigerian learners. Furthermore, inadequate pieces of literature advocate for self-reliance for early-grade learners, which is also a source of concern, hence the need for further study. Therefore, this study investigates critical thinking skills as a variable for self-reliance among early-grade learners. Most childhood researchers agree that teaching and learning in early grades should focus on developing early-grade learners holistically to enable all learners to develop their 21st-century skills (Allen & Williams, 2012; Goodspeed, 2016). These skills require a proactive and dynamic attitude in dealing with daily life challenges, including effective decision-making (Nel, 2018). The critical difference between the 20th and 21st centuries is rooted in the quest for skills that lead to self-reliance, self-actualization, employability, and social relevance (Ansari & Gershoff, 2015). Self-reliance is the capability of individuals, communities, states, or nations to attend to needs, as advocated by Maslow's hierarchy of needs, such as food, water, clothes, shelter, safety, health, and education in a workable manner without external influences, support, or assistance (Emerson, 2020; Ismuwardani et al., 2019).

Self-reliance is also referred to as the ability to make available one's own needs, be resourceful, and believe in one's capacity to get through a challenge by oneself without being helped externally (Emerson, 2020). Self-reliance is characterized by reliability, perseverance, dependability, hard work, and self-discipline. When learners are taught to be self-reliant, they develop skills and abilities to be consistent in everything they do, face complex tasks or puzzles, and initiate ways of solving them. This also makes learners believe in the value of hard work, self-discipline, and trust. Self-reliance also helps learners develop resilience, allowing them to survive the most challenging life circumstances (Emerson, 2020; Ismuwardani et al., 2019; Sze-Lorrain, 2019).

Problem of The Study

Critical thinking is one core skill that includes communication, creativity, and collaboration. These skills are considered soft, life, employability, and critical because they characterize the skills for survival in the 21st century (Allen & Williams, 2012; Goodspeed, 2016). They are essential skills that enhance the quality of human life and existence. These skills aid in the holistic development of young learners to actualize their optimal potential. When these skills are embedded and integrated into learning, learning becomes exciting and benefits learners by developing self-reliance. Teachers should also create a conducive atmosphere for teaching and learning for young learners to equip learners to become self-reliant (Beazidou & Botsoglou, 2016; Devi et al., 2018). The constructivist learning approach advocates that learners construct knowledge themselves. This approach also discourages the use of teacher-centered learning, thereby empowering learners for self-reliance.

Considering that this study focuses on enhancing critical thinking skills in early-grade learners for self-reliance, the research findings of Agboeze et al. (2013) on the enhancement of critical thinking skills of vocational and adult education students for entrepreneurship development in Nigeria showed that business and occupation are becoming more reliant on the cognitive capacity of workers who are well grounded in critical thinking skills. Furthermore, it was found that the ability to analyze, evaluate and challenge assumptions, information, and opposing points of view are crucial critical thinking skills required by students. The study also identified strategies to enhance students' critical thinking skills, including debates, group discussions, and solving numerical problems and puzzles. Their findings

recommended that capacity-building programs should be regularly organised for educators to teach their students critical thinking skills.

Learners who think and apply critical thinking skills are more capable of solving problems and exercising independence; they are also unafraid of independently exploring the world around them (Clarence, 2018). Halpern (2014) states that problems such as physical challenges, social relationship issues, and understanding how things work are minor; however, they still provide excellent opportunities to use practical critical thinking skills. Critical thinking should be purposeful, self-regulatory, and judgment-based, resulting in interpretation, analysis, evaluation, and inference (Gokhale & Machina, 2018). It should also allow the explanation of evidential, conceptual, methodological, and contextual considerations on which that judgment is based (Gokhale & Machina, 2018; Halpern, 2014). Critical thinking is a liberal phenomenon in education. It is a powerful resource in personal and civic life as it seeks evidence, facts, and knowledge by identifying relevant sources and gathering objective, subjective, historical, and current data (Paul & Elder, 2019; Robson, 2014). These are pointers of self-reliance.

Research's State of The Art

The construct of self-reliance is traceable to philosopher Ralph Waldo Emerson, who, in 1841, wrote a famous essay on self-reliance. The paper argues about society's negative role in humans by inhibiting their personal growth. He firmly believed that self-reliance, self-trust, and individualism, among many others, are ways to avoid being clasped into specific molds imposed on people (Emerson, 2020). His argument implies that learners could be scaffolded into self-reliance, drastically reducing their dependence on others; this corroborates the idea of Vygotsky's constructivist theory. This theory states that learners should be active in their learning. In doing so, learners construct their understanding and create knowledge because reality resolves through their own experiences (Clark, 2018; Pardjono, 2016). Therefore, it suffices to say that self-reliance is actualised through constructivism.

The construction of learning by learners ensures that they are required to develop skills that enable them to self-rely; skills include critical thinking. A learner with enhanced critical thinking skills can analyze, synthesize, and proffer solutions for difficult situations or tasks. Such skills allow for reflection, planning, organizing, sorting, classifying, and effectively solving challenging puzzles and obstacles (Clarence, 2018). Thinking explicitly because arriving at a possible solution to a problem that has occupied the thinker's mind is considered critical thinking (Kallet, 2014). Robson (2014) argues that critical thinking is the ability of an individual to simultaneously think about different things, not just to accumulate knowledge but to provide a solution to a problematic situation. On the other hand, Halpern (2014) maintains that critical thinking is the ability of an individual to clearly and rationally understand the logical connections between concepts. Furthermore, critical thinking is an independent way in which learners connect the dots and create links between problems and solutions. Learners' ability to think independently fosters self-reliance because thinking independently and self-reliance are interwoven. A learner who thinks critically and independently applies standards, scrutinizes, and adjudges differences and similarities in things while carefully distinguishing them between categories and ranks (Scheffer & Rubenfeld, 2001). On the other hand, self-reliance is seen as a product of critical thinking. Self-reliance cannot be underestimated for several reasons. Self-reliance minimizes the dependency rate on others, as there could be times when the dependant (learner) may not receive the needed help or assistance from helpers. It gives the learner a perspective for direction in carrying out their task (Emerson, 2020). Given the importance of self-reliance, it is necessary to understand ways to develop it.

According to Schumann (2018), self-reliance develops when learners learn to accept themselves for who they are. Learners capitalize on their strengths to build confidence, reflect on their previous achievements, and encourage themselves to improve, even if no one recognises their effort. Schumann

further noted that to develop self-reliance, learners should learn to make their own decisions, identify and manage dependence, and have values. Enhancing skills for self-reliance in early-grade learners must begin very early. Learners should be given opportunities to solve problems using their cognitive and physical capabilities. Young learners should be scaffolded into solutions to problems while allowing them to exercise discretion as they stumble on trial and error (Vygotsky, 1978). In developing self-reliance, teachers are to allow young learners to make their own rules for play, develop their class rules and take the initiative regarding the conduct of their affairs (Sun et al., 2020). Scheduling routine tasks for young learners at home and school is a path to the development of self-reliance. The routine task for young learners develops and enhances their innate abilities, allowing them to complete a task with minimal supervision (Sun et al., 2020). Learners whose skills are developed through routine tasks simultaneously develop time-management skills because they are used to performing a specific task at a particular time.

Furthermore, critical thinking skills enhancement for self-reliance involves developing independent thoughts in young learners, as learners should be allowed to think and choose for themselves. They should have the freedom to decide whom their friends become and whom they feel comfortable working on a given task. A conducive psychological atmosphere should be created to allow learners the freedom to ask for help or assistance from anyone in their learning environment Their ability to seek assistance after they have tried their best is also self-reliant. This means that they are taking the initiative to find solutions to their problems (Emerson, 2020). Similarly, Sze-Lorrain (2019) and Emerson & Wulf, (1909). maintained that skills development for self-reliance in young learners could be categorised into cognitive skills, which deal with solving problems by gathering and analyzing information or data. Further categorisation involves interpersonal, emotional, and behavioral skills, which enable learners to regulate their behavior and relationships with other learners, leading to emotional intelligence (Emerson & Wulf, 1909; Sze-Lorrain, 2019). This study focused on enhancing self-reliance in young learners through critical thinking as a core skill.

Critical thinking is a catalyst for mind transformation because humans eventually act out what they think in their minds. The ability to take charge of the mind is a pointer to the sustainability of life itself (Gokhale & Machina, 2018; Halpern, 2014). Critical thinking is fundamental in education as it facilitates and coordinates learning outcomes. When learners begin to think critically, some cognitive perspectives and aptitudes, such as proficiency in history, science, and mathematical values, which are necessary for everyday life, develop (Gokhale & Machina, 2018; Halpern, 2014). According to Robson (2014), critical thinking is not an intrinsic part of an educational system, and educators are encouraged to harness learners' critical thinking abilities through systematically designed learning. Young learners can learn fundamental critical thinking concepts and skills, despite being primarily egocentric; they can begin to think about how their behavior affects others (Halpern, 2014). Mahammoda and Sahin (2019) believe that young learners must start thinking divergently as they apply intellectual standards to their thinking, such as clarity, accuracy, reference, and logicality. Paul and Elder (2019) believe that intellectual virtues, including intellectual perseverance, intellectual humility, and intellectual integrity, are developed in this process. These intellectual virtues are grounded in developing critical thinking in young learners, while critical thinking serves as a catalyst for self-reliance (Paul & Elder, 2019). This is why the authors investigated critical thinking skills as a core skill that enhances self-reliance in early-grade learners. The framework for this investigation hinges on Vygotsky's constructivist theory.

Gap Study & Objective

Kelly's theory of personal constructs (Kelly, 2020) proposes that we examine the world through the mental constructs or patterns we create. We developed ways to construct or understand the world based on our experience. We attempt to fit these patterns into the new experience; for example, we know from experience that we should stop when we see a red traffic light. The point is that we create

our ways of seeing the world in which we live; the world does not create them for us; this means we are self-reliant. Constructivism is any teaching strategy or activity in which students learn content materials by being placed in a situation that requires them to solve problems and build open what they already know. The teacher provides stimulation and asks questions while the learners are encouraged to come to their conclusions. For this to occur, learners must seek information, form opinions, decide about relevant and irrelevant information, and apply concepts to a new situation. Each of these tasks required active involvement on the part of learners and critical thinking skills. Learners are empowered to "construct" their knowledge instead of passively accepting information. Therefore, learners must be active learners and actively involved in the process of meaning and knowledge construction (Kelly, 2020).

Thus, we can state that critical thinking is built into an active learning model. How can we support learners in becoming active and self-reliant learners? This can be done through active participation, reflection, personal experience, and the ability to connect their views and others. Constructivist teaching fosters critical thinking and creates enthusiastic and motivated learners. Majiwa et al. (2020) argue that learning in all subject areas involves inventing and constructing new ideas. They suggest that construction theory should be incorporated into the curriculum and advocate that teachers create environments where learners can construct their understanding. Izuagba et al. (2015) recommended that a constructivist approach be used to develop autonomous learners and curious thinkers who question, investigate, and reason. In a constructivist approach, teachers make decisions that enhance and enrich self-reliance in these areas.

Understanding the constructivist learning model provides insights into directions for promoting critical thinking for self-reliance. The basic premise of constructivism is that learners are allowed to construct their understanding through experience, maturation, and interaction with the environment, thereby becoming self-reliant (Kelly, 2020). To this end, the primary objective of this study was to enhance early-grade learners' critical thinking skills for self-reliance. Specifically, the researchers aimed to discover how teachers can employ think-pair-share, a jigsaw and buzz group pedagogical strategies in teaching and learning. It was envisaged that teachers would improve their use of learner-centred pedagogical strategies in facilitating learning while learners benefit from active participation in the learning process.

METHOD

Type and Design

The authors considered qualitative research an appropriate method for this study because it allows for an inquiry that takes an interpretive, in-depth understanding of a phenomenon in its naturalistic setting; hence, it was adopted (Creswell, 2017). A participatory action research design was adopted for the study because its cyclic process benefited the study. The authors purposively sampled three (3) public pre-primary and primary schools in the Owerri Educational Zone. Furthermore, three (3) teachers from each of the three (3) public schools totalling nine (9) teachers, were purposively sampled with the criterion that they taught learners aged 5-8. The classes of these learners fall within nursery three, grades one and two, respectively. For anonymity, pseudonyms were used as codes for the teachers. The codes were T1, nursery one teacher; T2, primary one teacher; T3, primary two teachers; T4, nursery one teacher; T5, primary one teacher; T6, primary two teachers; T7, nursery one teacher; T8, primary one teacher; and T9, primary two teachers. These teachers were females with at least five years of teaching experience.

Data and Data Sources

Teacher participants were capacitated through three professional development workshops, wherein they were taught the use of think-pair-share, jigsaw, and buzz group teaching strategies. The

outcomes of the classroom implementations of the three learning pedagogies (think-pair-share, jigsaw, and buzz groups) used by teachers formed the data collection for the study. The outcomes of their classroom implementations, which became the source of data collection for this study, were analyzed in the subsequent paragraphs. The authors were granted permission from the ethics committee of the University of Pretoria (Ethics Reference Permit Number: EC 18/10/01), school principals, teacher participants, consent from parents, and assent from learners to conduct the study.

Data Collection Technique

The data, the participants attended three professional development workshops where they were capacitated using think-pair-share, jigsaw, and buzz groups to facilitate self-reliance for young learners. After the workshops, the participants returned to their respective schools to implement the learning strategies in their classes.

Data Analysis

The cyclic process involved evaluating the status quo of the current teaching strategy, developing workable solutions, implementing workable solutions, assessing the implementation of workable solutions, making the necessary adjustments, and changing the status quo. Because of its pragmatic nature, this process was considered an effective strategy to enhance early-grade learners' critical thinking skills for self-reliance.

RESULTS

The three learning strategies used to facilitate critical thinking skills for self-reliance were think-pair-share, jigsaw, and buzz groups. One theme and three sub-themes emerged as the data collected were sorted through coding. This theme includes think-pair-share, jigsaw, and buzz groups that enhance self-reliance. The impact of these themes and sub-themes was analyzed.

Implementation of Think-Pair-Share, a Jigsaw and Buzz Group for Enhancing Self-Reliance

Think-pair-share is a learning strategy that allows learners to think independently and share their thoughts with peers. This process allows learners to exhibit a level of self-reliance as they think through the solution to a problem. After the capacitation of the teacher participants, they went to various classes for implementation. Learners were asked to generate 20 words from the word "GENERATION" within 15 minutes. Examples of the words they developed included GENERATE, IT, ON, NATION, NO, NET, TEN, RAT, NEAR, RATION, and GEAR. They then compared their notes with their peers to see the answers they received. This learning strategy proved to be effective in enhancing self-reliance among early-grade learners.

Compared to think-pair-share, the jigsaw was a bit complex yet yielded a positive outcome in facilitating critical thinking skills for enhancing self-reliance among early-grade learners. The learning strategy entailed the following: first, teacher participants selected a topic to be taught from the curriculum content and split the topic into four different sub-topics. Second, the learners were divided into four groups. This first division into groups of four is known as home groups, or what you can call immediate family groups. Subsequently, members of the home groups are assigned numbers 1-4; each member of the home group bearing number 1 leaves the home group to form another group called the expert group of the extended family group, and members with numbers 2,3 and 4. In the expert group, each learner represented his or her home group as secretary. Learners were given a sub-topic to brainstorm, share their ideas, and take notes from their discussions. Finally, when learners completed the expert group, they returned to their home groups, where each learner gave a report of what they discussed and learned from their expert groups. Critical thinking skills and self-reliance were enhanced as learners could make personal contributions to benefit others.

Critical Thinking Skills using Think-Pair-Share for Self-Reliance

The use of think-pair-share as a critical thinking strategy for self-reliance yielded positive results, as indicated by teachers. In their responses, T1, T4, T5, T7, and T9 concurred that learners' critical thinking enhanced their self-reliance during the learning process because, through diverse activities given to them, they were able to "*resolve problems such as puzzles," "sort out complex mixed materials," "categorise objects into different classes," "re-tell stories," "answer questions accurately," "ask [the WH] questions what, why, who, where, how"* and show "*a logical presentation of problems."* Learners achieve these activities because of their curiosity in accomplishing the task given to them. They could brainstorm and be motivated not to fail while executing the task.

Critical Thinking Skills using a Jigsaw for Self-Reliance

There were positive responses to using the jigsaw critical thinking learning strategy to enhance self-reliance in early-grade learners. Teachers. T2, T4, T5, T6, T7, and T9 agreed that enhancing critical thinking for self-reliance among young learners was significant. In their response, they upheld that young learners, while using the jigsaw learning strategy, were able to *"resolve problems such as puzzles," "sort out complex mixed materials," "categorise objects into different classes," "re-tell stories," "answer questions accurately," "ask the (WH) questions what, why, who, where, how"* and *"logically present problems."* However, T1 noted that her learners performed poorly because of not being able to *"ask the (WH) questions: what, why, who, where, how"* and to *"logically present problems."* The response of T1 was insignificant compared with that of T2, T4, T5, T6, T7, and T9. However, her learners were not empowered to "construct" their knowledge instead of passively accepting information.

Critical Thinking Skills using the Buzz Group for Self-Reliance

Teachers' use of the buzz group to enhance critical thinking for self-reliance in young learners showed a positive response. In their response while facilitating learning using the buzz group approach to learning, T2, T3, T4, T5, T7 and T8 all agreed that young learners' critical thinking and self-reliance were achieved, as they were able to *"resolve problems such as puzzles," "sort out complex mixed materials," "categorise objects into different classes," "re-tell stories," "answer questions accurately," "ask the (WH) questions: what, why, who, where, how"* and were able to *"logically present problems."* The authors agree that these teachers enhance young learners' critical thinking and self-reliance skills. This is because all learners could perform the stated criteria used in checking the attainment of critical thinking skills for self-reliance using the buzz group learning strategy.

DISCUSSIONS

The buzz group learning technique uses small discussion groups of 3-8 young learners to help them develop and generate ideas, solve problems, and think critically (Clarence, 2018). Donald Philips from Michigan State University was the first to use the buzz group technique. He applied it by dividing his class into clusters of six learners and asking them to discuss specific problems within six minutes, effectively enhancing core skills and self-reliance. The Buzz group technique in this study was applied by splitting the learners into groups of three while asking them to identify one word that fit into the four blank spaces presented in a task. This was an example of the task given to them: "A rich man wants _____ and a poor man has _____. If you eat _____, you die, when you die, you can take _____ with you. Answer (NOTHING)'. The task was meant to set learners into critical thinking for some time and then provide an answer showing their self-reliant ability. While analyzing data for enhancing critical thinking skills in early-grade learners for self-reliance, the themes of think-pair-share, jigsaw, and buzz groups enhancing self-reliance emerged as well as sub-themes. The following paragraph contains a detailed analysis of the sub-themes.

The teachers' responses agreed with the ideas of Izuagba et al. (2015) research, which recommends that a constructivist approach be used to create autonomous learners and curious thinkers who question, investigate, and reason. In her response, T6 opined that learners performed poorly in "*logical presentations of problems*." The researcher considered the response of T6, whose learners had difficulty in the logical presentation of problems, as insignificant because T6 agreed that her learners were able to "*resolved problems such as puzzles," "sort out complex mixed materials," "categorise objects into different classes," "re-tell stories," "answer questions accurately," "ask the [WH] questions what, why, who, where, how."* Therefore, since T6 agreed that her learners accomplished a task that led to a positive response in the items used for performance assessment, it became insignificant to believe that learners completed those activities without some elements of the logical presentation. Kallet, (2014) states that critical thinking is a rational and thoughtful way of dealing with things to arrive at the best possible resolution under challenging situations in which the learner is aware.

Learners' critical thinking skills enhanced their self-reliance as they were exposed to learning using a jigsaw. Scheffer and Rubenfeld, (2001) consider essential thinking skills to analyze and unscramble a whole part to realize its nature, function, and relationships. Scheffer and Rubenfeld (2001) further argue that learners who think critically and independently apply standards scrutinize and judge differences and similarities in things while carefully distinguishing them between categories and ranks. This argument is evidenced in the actualization of self-reliance by the learners, as they were able to apply standards, scrutinize, and adjudge differences and similarities in the task given to them. Kelly (2020) maintained that learners must not be passive learners; they should be actively involved in the process of constructing meaning and knowledge for themselves. This agrees with Vygotsky's constructivist theory. Furthermore, it could imply that T1 did not create a conducive psychological learning atmosphere that would allow learners the freedom to ask for help or assistance from anyone in their learning environment. Agboeze et al. (2013) affirmed that critical thinking skills connote the capacity of learners to analyze, examine, and challenge assumptions, information, and contrasting points of view. Critical-thinking learners are offered various challenges to resolve complex problems and explore and gain independence in everyday life (Clarence, 2018). These assertions corroborate the feedback of T2, T3, T4, T5, T7, and T8 on using the buzz group to enhance the critical thinking skills of young learners. Furthermore, teachers' responses to implementing critical thinking skills support the recommendation of Agboeze et al. (2013), who maintained that critical thinking learning strategies must be explored in developing critical thinking skills. Consequently, the attainment of critical thinking skills facilitated self-reliance among young learners; therefore, the following recommendations were made.

CONCLUSION

This study, which focused on enhancing early-grade learners' critical thinking skills for self-reliance, understands that critical thinking skills are among the core skills mentioned previously. Hence, the constructivist theoretical ideology of Vygotsky was used as the theoretical framework for this study because it supports learners' self-reliance as they construct their knowledge and make meaning in their world. A professional development workshop was organized to capacitate teachers using think-pair-share, jigsaw, and buzz groups for self-reliance. The data collected and analyzed revealed that critical thinking skills developed self-reliance in most early-grade learners in Nigeria. Recommendations were made to enhance early-grade learners' critical thinking skills for self-reliance.

REFERENCES

Agboeze, M. U., Onu F. M, & Ugwoke, E. (2013). Enhancement of critical thinking skills of vocational and adult education students for entrepreneurship development in Nigeria. *People*, *4*(17). https://core.ac.uk/download/pdf/234634688.pdf

Allen, T. T., & Williams, L. D. (2012). An approach to life skills group work with youth in transition to independent living: Theoretical, practice, and operational considerations. *Residential Treatment for Children & Youth*, *29*(4), 324–342. https://www.tandfonline.com/doi/abs/10.1080/ 0886571X.2012.725375

Ansari, A., & Gershoff, E. (2015). Learning-related social skills as a mediator between teacher instruction and child achievement in Head Start. *Social Development*, *24*(4), 699-715. https://onlinelibrary.wiley.com/doi/abs/10.1111/sode.12124

Beazidou, E., & Botsoglou, K. (2016). Peer acceptance and friendship in early childhood: The conceptual distinctions between them. *Early child development and care*, *186*(10), 1615-1631. https://www.tandfonline.com/doi/abs/10 .1080/0300443 0.2015.1117077

Clarence, S. (2018). Towards inclusive, participatory peer tutor development in higher education. *Critical Studies in Teaching and Learning (CriSTaL)*, *6*(1), 58–74. https://journ als.co.za/doi/abs/10.144 26/cristal.v6i1.141

Clark, K. R. (2018). Learning theories: constructivism. *Radiologic Technology*, *90*(2), 180–182. http://www.radiologictechnology.org/content/90/2/180.extract

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Devi, A., Fleer, M., & Li, L. (2018). 'We set up a small world': preschool teachers' involvement in children's imaginative play. *International Journal of Early Years Education*, *26*(3), 295-311. https://www.tandfonline.com/doi/abs/10.1080/09669760 .2018.1452720

Rochon, G. L., & Thiam, T. (2013). *20. Democracy and education: the Tuskegee University governance model.* Reimagining Democratic Societies: A New Era of Personal and Social Responsibility, 18, 197.

Emerson, R. W., & Wulf, R. (1909). *Self-reliance* (pp. 132-53). Caxton Society.

Emerson, R. W. (2020). *Self-reliance and other essays*. General Press.

Gokhale, A., & Machina, K. (2018). Guided online group discussion enhances students' critical thinking skills. *International Journal on E-Learning*, *17*(2), 157-173. https://www.learntechlib.org/p/173291/

Goodspeed, T. O. (2016). Untangling the Soft Skills Conversation. *Inter-American Dialogue's Education Reports.* http://www.thedialogue.org/wp-content/uploads /2016/05/Soft-Skills-InDesign-English-v4.pdf

Halpern, D. F. (2014). *Critical thinking across the curriculum: A brief edition of thought & knowledge*. Routledge.

Ismuwardani, Z., Nuryatin, A., & Doyin, M. (2019). Implementation of project-based learning model to increased creativity and self-reliance of students on poetry writing skills. *Journal of Primary Education*, *8*(1), 51-58. https://journal. unnes.ac.id/sju/index.php/jpe/article/view/25229

Izuagba A. C., Afurobi A. O. & Ifegbo P. C. (2015*). Constructivism: Pedagogy for the 21st Century.* Owerri: Cel-Bez Publishers

Kallet, M. (2014). *Think smarter: critical thinking to improve problem-solving and decision-making skills*. John Wiley & Sons.

Kelly, G. (2020). *The psychology of personal constructs*. Routledge.

Mahammoda, S., & Sahin, M. (2019). Critical Thinking Skills in Northern Ethiopia: The Views of Prospective Teachers. *Online Submission*, *1*(1), 8–14. https://eric.ed.gov/?id=ED597938

Majiwa, C. O., Njoroge, B., & Cheseto, N. (2020). Influence of constructivism instructional approach on students' achievement in mathematics in secondary schools in Mandera Central Sub County,

Kenya. *East African Journal of Education Studies*, *2*(1), 115-128. ihttps://journals.eanso.org/index. php/eajes/article/view/221

Nel, M. 2018. Life Orientation for South African Teachers. Pretoria: Van Schaik

Pardjono, P. (2016). Active learning: The Dewey, Piaget, Vygotsky, and constructivist theory perspectives. *Jurnal Ilmu Pendidikan Universitas Negeri Malang*, *9*(3), 105376. https://www.neliti.com/publications/105376/active-learning-the-dewey-piaget-vygotsky-and-constructivist-theory-perspectives

Paul, R., & Elder, L. (2019). *The nature and functions of critical & creative thinking*. Rowman & Littlefield.

Robson, S. (2014). The analysing children's creative thinking framework: development of an observation-led approach to identifying and analysing young children's creative thinking. *British Educational Research Journal*, *40*(1), 121–134. https://bera-journals.onlinelibrary .wiley.com/doi/abs/10.1002/berj.3033

Scheffer, B. K. & Rubenfeld, M. G. (2001). Critical Thinking: What is it and how do we teach it? *Current Issues in Nursing*, JM Grace, Rubl. https://websites.umich.edu/~elements/probsolv/strategy/ctskills.htm

Schumann, C. (2018, May). Re-visiting "Self-Reliance": Emersonian Variations on Bildung. In *Proceedings of the XXIII World Congress of Philosophy* (Vol. 50, pp. 225–230). https://www.pdcnet.org/wcp23/content/wcp2320180050_0225_0230

Sun, L., Chen, Y., Pan, Y. J., & Ming, Y. L. (2020). Meaning Construction of Rules in Peer Play: A Case Study of Block Play. In *Peer Play and Relationships in Early Childhood* (pp. 145-160). Springer, Cham. https://link.springer.com/chapter/10.1007/978-3-030-42331-5_10

Sze-Lorrain, F. (2019). Self-reliance. *Michigan Quarterly Review*, *58*(4), 593–594.

Vygotsky, L. (1978). Interaction between learning and development. *Readings on the development of children*, *23*(3), 34–41.