TEACHING AND LEARNING PHILOSOPHIES THAT SECONDARY SCHOOL TEACHERS USE TO DEVELOP CRITICAL-THINKING SKILLS IN LEARNERS IN SOUTH AFRICA

Bianca Williams, & Celestin Mayombe

Education and Human Rights in Diversity, Faculty of Education, North-West University (South Africa)

Abstract

Learners' success and acquisition of critical skills depend on the philosophy of teaching and learning that teachers practise in classrooms. Critical thinking allows individuals to become more independent, creative and effective problem-solvers; skills that are essential for success in any field. The purpose of the paper is to examine how secondary school teachers use teaching and learning philosophies in classrooms to develop critical thinking skills in learners. The study used a qualitative research approach and a multiple case-study design to understand the participants' perspectives. The study population consisted of 43 Grades 10-12 secondary school teachers within a circuit of the Buffalo City Metro (BCM) District in the Eastern Cape, South Africa. The sample size consisted of 12 teachers. Purposive sampling was used to select the participants based on set criteria. The researchers used semi-structured and focus group interviews to collect data from participants. The study used thematic analysis methods to analyse data. The findings revealed that teachers used progressivism and social constructivism as teaching and learning philosophies to develop critical thinking skills in learners. The authors conclude that teachers who practise relevant philosophies of teaching and learning in the classroom help develop the learners' intellectual and perceptive capacity within the educational systems. The finding implies that when teachers applied the principles of the social constructivist and progressive theories, they created positive learning outcomes and academic success for their learners.

Keywords: Critical-thinking skills, secondary school, social constructivism, South Africa, teaching and learning philosophies.

1. Introduction and background of the study

Learners' success and acquisition of critical skills depend on philosophies of teaching and learning that teachers practise in classrooms. Critical thinking allows individuals to become more independent, creative and effective problem-solvers; skills essential for success in any field (Ssenkusu & Muganga, 2019). Critical thinking skills are one of the soft skills that secondary school learners ought to acquire to succeed in work or tertiary education. In this regard, the present paper examines the philosophies of teaching and learning used by secondary school teachers to help Grades 10-12 learners develop critical-thinking skills in Eastern Cape, South Africa. In the context of the paper, critical-thinking skills are defined as "(an) individual's thought process(es) that begin(s) with the intent to solve a problem or to answer a question, by examining different options and choosing the most suitable and loyal one." (Alsaleh, 2020. p. 21).

Secondary school teachers attempt to adopt philosophies of teaching and learning that promote learner engagement in the classroom and effective learning. A teacher's belief about how learners learn to acquire skills and knowledge will be informed by philosophies of teaching and learning. Nevertheless, some teachers underestimate the significance of education philosophies in the delivery of lessons. In the context of South Africa, it was reported that teachers did not consider philosophies of teaching and learning to be necessary in delivering lessons in classrooms due to the lack of knowledge, and time-consuming and multi-grade classrooms (Orchard & Davids, 2019). Zhou *et al*. (2019) note that the main elements of the philosophy of teaching and learning are the descriptive details of how the teacher thinks a child learns and how he/she will facilitate the learning process to meet the learning needs of the child.

2. Problem statement and study objectives

The concern in this paper is that many secondary school learners complete their secondary school education in South Africa without acquiring soft skills such as critical thinking and problem-solving skills

which could help them in their future work environment and tertiary education (DBE, 2022). The problem lies with teachers not having enough knowledge about philosophies of teaching and learning and therefore, cannot equip the learners with the necessary critical-thinking and problem-solving skills.

A study conducted in South Africa on the importance of soft skills and the consequent lack thereof explains that the lack of soft skills (such as critical thinking) prevents learners from adapting to tertiary education and thus makes it difficult to thrive (Taylor, 2016). To fully engage learners in active learning, critical thinking needs to be an essential part of the learning process. Therefore, the paper aims to examine teaching and learning philosophies that secondary school teachers use to develop critical-thinking skills in learners in South Africa.

3. Theoretical framework

The study utilised the social constructivist learning theory to collect and analyse data. It was suitable for the study topic because it is a theory for teaching and learning (Akpan, Igwe, Mpamah & Okoro, 2020). Vygotsky envisioned that knowledge would be socially constructed using interaction with people in various contexts (Frederick-Jonah, 2022). According to Elliott, Kratochwill, Littlefield Cook and Travers (2000, p. 256), constructivism is "an approach to learning that holds that people actively construct or make their own knowledge and that reality is determined by the experiences of the learner." Overall, the social construction of learning highlights the importance of understanding the complex and dynamic relationship between individuals, culture, and learning to promote effective learning and development.

The theory is based on the premise that learners construct new ideas based on their own prior knowledge and experiences. In other words, by reflecting on their experiences, learners construct their own understanding of the world they live in. The essence of the social constructivist theory is that it places the learners' own efforts at the centre of the teaching and learning process (Singhal, 2017).

4. Research methodology

The researchers used the interpretative paradigm to conduct the study and achieve its purpose. Kivunja and Kuyini (2017) define the interpretivist paradigm as a theory where emphasis is placed on trying to understand and interpret the viewpoint of the participant or how they interpret contexts. The interpretative paradigm helped the researchers interpret participants' viewpoints and analyse the data using thematic analysis. Furthermore, the researchers used a qualitative research approach in the form of a multiple-case studies research design to understand the phenomenon explored from the perspective of the participants. A multiple-case study design is defined as an in-depth analysis of an occasion or occurrence of a naturalistic phenomenon (Tracy, 2019).

4.1. Study population and sampling

The study population consisted of 43 secondary school teachers from Circuit Five (5) within the Buffalo City Metro (BCM) District in the Eastern Cape. The study considered Grades 10 -12 teachers only. The sample size consisted of 12 secondary school teachers. The researcher selected three (3) schools within the district. To avoid bias in the process of selecting the participants, four (4) teachers were considered from each school to make a sample size of 12 participants for the semi-structured and focus group interviews. In the context of non-probability sampling, the study used the purposive sampling method. Kumar (2011) notes that purposive sampling relies on the researcher's own judgment to select suitable participants who hold information to meet the research objectives. Purposive sampling was appropriate for this study because the teachers were recruited based on selection criteria.

4.2. Data collection and analysis

To obtain reliable data on the topic in secondary schools, the researchers conducted one-on-one semi-structured interviews and focus-group interviews. Semi-structured interviews were conducted individually with participants (Adams, 2015). The researchers conducted semi-structured interviews with the 12 secondary school teachers who formed part of the sample size. The focus-group interview with 12 teachers sought to understand the perspectives and experiences of the participants in the study. The reason behind choosing a focus-group interview was to gain detailed information on the philosophies of teaching and learning that participating teachers used in the classroom (Nyumba *et al.*, 2018).

This study used the thematic analysis method to analyse data from semi-structured interviews and focus group interviews. Kiger and Varpio (2020) define thematic analysis as an analytical-qualitative method used to understand experiences across a data set. The thematic analysis helped to identify themes from data that proved to be beneficial to address the research question of this study (Maguire & Delahunt, 2017).

5. Findings

Table 1 presents the themes and sub-themes that emerged from both semi-structured and focus-group interviews with the participants. The interview questions related to teaching and learning strategies associated with the philosophies teachers used to develop critical thinking skills in learners in their classrooms.

Table 1. Themes and sub-themes about developing critical thinking skills in learners.

Themes	Sub-themes
1. Teaching-learning strategies to implement an education philosophy	1. Problem-based learning
	2. Sharing thoughts and ideas
2. Importance of critical thinking skills in learners	1. Participating in learning process
	2. Fulfilling aim and objectives of subject contents

The following sub-sections develop the themes and sub-themes presented in Table 1. The researchers first present the data under each sub-theme before analysing them. The discussions of the findings follow in another section.

5.1. Theme 1: Teaching-learning strategies to implement an education philosophy

Using strategies to implement an education philosophy requires a reflection of one's view regarding teaching and learning. During interviews, teachers reported giving learners a positive learning experience by putting their views into practice.

5.1.1. Sub-theme 1: Problem-based learning approach. Teachers reported that problem-based learning involved presenting learners with situations or challenges from the real world that called for them to come up with solutions as a team. They stated that problem-based learning was an effective procedure for implementing their chosen philosophy of teaching and learning. Teacher (P5) explained as follows:

I used problem-based learning to identify problems and interact with learners to determine solutions. A difficult and real-world problem or scenario is presented to start the learning process.
The teacher (P12) commented the following:
The learners in my classroom were provided with challenges and allowed to use probing tactics to gain more understanding of the challenge. I guided them toward developing a solution for each challenge or problem provided.

The analysis of the quotes reveals that teachers used problem-based learning as an approach to create critical-thinking skills in their learners. The finding implies that progressivism was used as a philosophy of teaching and learning to develop critical thinking skills in the learners. The quotes indicate that the teachers used to pose problems from real-life contexts to the learners, which helped them understand how the knowledge they acquired can be applied in real-world situations.

5.1.2. Sub-theme 2: Sharing thoughts and ideas. During interviews, teachers reported that they created a conducive environment where learners could feel respected and valued by encouraging collaboration and open communication. This strategy resulted in a more positive and inclusive learning environment. Teacher (P7) explained the process of sharing thoughts and ideas as follows:

I allow the learners to contribute to the lesson by sharing their thoughts and ideas on teaching and learning. This improves their communication skills. Sharing ideas guarantees exposure to various ideas and thoughts from other learners.
Another teacher (P10) stated as follows:
I enable my learners to actively engage with the materials, take responsibility for their learning, and contribute their original perspectives and ideas to the educational process. Along with improving educational quality, this method equips learners with the skills they need for the rest of their lives.

The findings reveal that teachers provided learners with opportunities to improve and enhance their critical thinking skills by encouraging them to engage with and critically analyse the ideas and opinions of their peers. The inference of these findings is that the application of philosophies that give priority to each learner's unique needs and strengths can be facilitated by the exchange of ideas.

5.2. Theme 2: Importance of critical thinking skills in learners

Critical thinking enables learners to carefully process information and identify areas of weakness. The following sub-themes have been generated based on teachers' responses on the importance of critical thinking skills in learners.

5.2.1. Sub-theme 1: Participate in learning process. Teachers reported that learners were allowed to form part of the learning process. During interviews, the teachers were asked to explain how they made learners participate during a lesson. Teacher (P3) explained as follows:

I allow my learners to participate in the learning process. This allows them to feel included in the lesson and become more confident. I urge learners to assess what they have learned, identify their areas of weakness, and set goals for future learning.

Another teacher (P3) stated as follows:

Learner-centred practices allow learners to participate in the learning process. By doing this, teachers create a platform where learners broaden their knowledge by learning from others.

The analysis of the quotes reveals that teachers promoted the active participation of learners in the learning process. Due to learners participating in the lessons, it became easier for the teachers to include them in all discussions and increase their confidence and seek knowledge by communicating with others. Therefore, teachers have utilised social constructivism as a philosophy of teaching and learning to cater to the tailored needs of learners.

5.2.2. Sub-theme 2: Fulfilling the aims and objectives of subject contents. During semi-structured interviews and focus group interviews, teachers stated that they ensured that their philosophy of teaching and learning assists them in achieving the lessons' objectives. Teacher (P4) reported as follows:

Teachers are required to set aims and objectives that are central to the subject contents. These aims and objectives should be achieved in a specific time frame. This allows learners to focus on the aspects that are relevant and ignore other aspects.

Teacher (P6) said:

I find that aims and objectives are used to track the progress of both the teacher and the learner. I ensure that I teach the correct content and use adequate assessment strategies to test the learner's ability to successfully follow instructions and retain valuable information that I taught them.

The analysis of the quotes reveals that critical thinking abilities are developed when the subject's aim and objectives are met within a social constructivist framework. Within the framework of social constructivism, learning is framed by the accomplishment of subject aims and objectives. When the aim and objectives are met, it shows that learners have engaged with the content and have gained a deeper comprehension of the subject.

6. Discussion of the findings

Teaching strategies and direct reports confirm that secondary school teachers were implementing the social constructivist philosophy to develop critical thinking skills. The findings revealed that secondary school teachers used problem-based learning and the sharing of ideas to implement a social constructivist philosophy in the classroom. This finding is supported by Akpan *et al*. (2020) who suggested that the social constructivist philosophy can only be implemented if learners create their knowledge and actively participate in learning by sharing what they have learned and experienced.

Social constructivism places a strong emphasis on the contribution that social interaction and dialogue make to the creation of knowledge and understanding. A study conducted by Singhal (2017) revealed that learners' ability to create knowledge stems from their understanding of society. This philosophy also holds that learning takes place when learners actively engage in social activities like teamwork, problem-solving, and group discussions. In the context of this present study, secondary school teachers believe that the creation of knowledge depends on the accomplishment of subject-related goals and objectives.

The teachers used progressive philosophy in classrooms, hence fulfilling course objectives. Participating in the learning process and fulfilling the aims and objectives led to teachers and learners realising the importance of critical thinking skills. According to Alsalem (2018), progressive philosophy encourages creativity and curiosity in addition to making learners consider the knowledge they obtained and the conclusions they made. In other words, it emphasises the importance of practical experiences and links these to learners' daily lives. The inference from the present findings is that critical thinking skills are developed when the aims and objectives of courses are met within a social constructivist framework.

7. Conclusions

The paper focused on examining the views of secondary school teachers on the philosophies of teaching and learning practised in the classroom to develop critical-thinking skills learners. Teachers used progressivism and social constructivism as philosophies of teaching and learning to develop critical thinking skills in learners. The present findings suggest that teachers practised progressivism to develop

problem-solving skills in the learners. Instead of being passive consumers of knowledge, learners in progressive classrooms actively participated in the process of their learning.

Based on the findings, the authors conclude that teachers who practise relevant philosophies of teaching and learning in the classroom help develop the learners' intellectual and perceptive capacity within the educational systems. The implication from the findings and conclusion is that, when teachers applied the principles of the social constructivist and progressive theories, they created positive learning outcomes and academic success for their learners. This paper contributes to the philosophy of education by identifying philosophies of teaching as one of the tools that can be used to develop learners' intellectual and mental capacity.

Acknowledgements

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