

HUMAN RIGHTS AND DEMOCRATIC PEDAGOGY AS AN INNOVATIVE APPROACH TO GIVING SECONDARY SCHOOL STUDENTS A TRUE VOICE IN THE TEACHING AND LEARNING OF MATHEMATICS

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Abstract: The study of Mathematics in secondary schools is as old as the history of education in Nigeria. However, as shown by the students' poor performance, the study is not yet as expected. Several efforts have been made by several concerned individuals and groups, both governmental and non-governmental agencies, to change the narrative with little success. In all these efforts, little has been said about students' knowledge of their human rights and learning in a democratic environment. On this note, this work proposed an innovative approach to teaching and learning, emphasizing Mathematics teaching and learning in secondary schools. The approach is named human rights and democratic pedagogy. This approach highlights the importance of students actively engaging as young citizens. It encourages them to learn about and understand their human rights and value and respect those rights. Through classroom lessons and hands-on experiences in their school community, students gain the confidence to exercise their rights meaningfully. The approach is based on a constructivist approach to learning. It can keep teaching and learning afloat during a pandemic since students are the major players in its usage as a teaching strategy. The three components of the pedagogy (teaching "about," "for," and "through" democracy) were extolled. The teachers' roles and the expectations of the students, if the pedagogy is appropriately utilized, were also treated. The study also recommended how to institutionalize this new approach to teaching and learning Mathematics or any other school subject.

Keywords: Human rights and democratic pedagogy, Mathematics teaching and learning.

Introduction

Mathematics as a school subject is considered a core subject by the National Policy on Education (FGN, 2014). Studying this subject is imperative in the life of every school child, especially at the secondary school level. Success in the subject determines every child's future in the present-day Nigerian education system. The reason for the 'over-dependence' on Mathematics is not far-fetched. According to Ayuba

and Timayi (2018), the utility of Mathematics has made it an inevitable part of school life worldwide. In other words, Mathematics is an essential tool in realizing global aspirations in science and technology. In Nigeria, at least a credit pass in Mathematics is required for admission into higher institutions to study any course after secondary school. Given this, many describe Mathematics as the 'Queen' or 'Servant' of the

sciences. It finds inevitable application in all areas of life and all aspects of human endeavours.

Regrettably, Mathematics study, as shown by the students' performance over the years, does not correspond with the expected goals. Onwuiji, Omenka, and Akpa (2018) maintain that despite the high position Mathematics occupies in all human endeavour and fields of study, students' performance in the subject at internal and external Mathematics examinations has remained consistently low. In

support of this, Oriola et al. (2024), citing Afolabi (2023), asserted that Nigeria continues to lag behind in education in Africa, particularly in Mathematics. The study ranked Nigeria 15th on the continent, behind Zimbabwe, Libya, and Rwanda. Regrettably, it concluded that 'not much has changed.' The table below, released by the West African Examination Council (WAEC), shows the appalling state of the students' Mathematics performance over five consecutive years.

Year	% passed with credit and above (A1 – C6)	% with pass and below (D7 – F9)
2012	38.98	61.02
2013	49.00	51.00
2014	31.30	68.70
2015	34.18	65.82
2016	38.68	61.32

Adapted from Zalmon and Wonu (2017)

From the table above, it is noticeable that the percentage of credit passes and above has not reached 50%. The situation spells doom for the technological development of the nation. To this end, available pieces of literature have blamed several factors, among which are lack of interest on the part of the students, poor attitude to the study of the subject, lack of use of instructional materials, poor Mathematics background of the students, lack of qualified Mathematics teachers and above all, wrong method of teaching the subject (Sumaila, 2022; Sumaila & Abdu, 2017).

Meanwhile, several efforts have been made to find solutions to the poor teaching and learning of Mathematics that occasioned the poor performance of the students. Many approaches (like the use of movies, simulations, gamification, problem-solving

techniques, project methods, online collaboration technologies, peer-to-peer learning, and cognitive advance organizers) to teaching and learning have been proposed by available pieces of literature (Lantada, 2022; Muzira et. al., 2020, Nur et. al., 2022, Anaeché, 2020). These researchers have made cases for adopting teaching methods that promote students' involvement and activity in teaching secondary school Mathematics to improve students' performance. However, not much has been said about the opinions, roles, freedom, responsibilities, rights, and privileges of students as citizens in the study of Mathematics. On this note, this work proposes an innovative pedagogical approach to teaching and learning Mathematics that focuses on giving students a true voice in the teaching and learning exercises. This new approach is called human rights and democratic pedagogy (HRDP). The approach fits this

post-pandemic era by encouraging independent and collaborative learning within and outside the regular intact classroom.

Human Rights and Democratic Pedagogy (HRDP)

Human rights and democratic education aim to empower students as active members of their societies and political communities. To fully participate in a democratic community, students must build a broad set of skills and qualities. This includes gaining knowledge and understanding, developing practical and analytical skills, and fostering values like tolerance and responsibility.

Democratic education and human rights education are profoundly connected and complement each other, differing mainly in their emphasis and scope rather than their overall goals and practices. Democratic education centers on democratic rights, responsibilities, and active participation across civic, political, social, economic, legal, and cultural spheres. On the other hand, human rights education focuses on the broader spectrum of rights and freedoms that shape every aspect of individuals' lives (Council for Europe Charter on Education for Democratic Citizenship and Human Rights Education, CECECHRE, 2010).

In essence, democratic education emphasizes the role of young citizens within their communities, while human rights education examines individual identity, needs, freedoms, and responsibilities through the lens of human rights (Gollob, et al, 2010). For this work, these two approaches are combined into a single innovative pedagogy to enhance the teaching and learning of Mathematics.

In the teaching and learning of Mathematics, human rights and democratic pedagogy (HRDP) focus on empowering students to become active young citizens. It encourages them not only to learn about and understand their human rights but also to value

and confidently exercise them through classroom activities and practical experiences in school life. This approach goes beyond the traditional, knowledge-based Civic or Citizenship Education methods by taking a more holistic and participatory stance (Krapf, 2010). HRDP recognizes students as experts in their own lives, appreciating their interests, experiences, and unique perspectives in shaping their learning journey. The pedagogical approach is based on the constructivist model of teaching. It gives students a "true voice" in the classroom when deciding how the learning exercise will go. In this learning approach, students do more, and the teacher does less.

The three Dimension of HRDP as a Teaching and Learning Approach

HRDP adopts a holistic approach to teaching and learning. The task of a teacher in this pedagogical approach may be summed up in three principles according to Hartley & Huddleston, (2009):

- Teaching “about” democracy and human rights;
- Teaching “for” democracy and human rights;
- Teaching “through” democracy and human rights.

Teaching “about” democracy and human rights

Students need a clear understanding of democracy and the human rights they are entitled to. They should be familiar with the documents that establish and protect these rights and how they can be upheld. As young citizens, it is also essential to understand how their country's constitution operates as the foundation of its political system (Gollob, et al., 2010).

Teaching “for” democracy and human rights

Young citizens must be equipped to engage in their communities and exercise their human rights actively. As Hartley and Huddleston (2009) emphasize, "Democratic values and practices must be learned and

relearned to address the pressing challenges of every generation." To become fully engaged members of society, individuals need opportunities to work collaboratively for the common good, respect diverse voices—including dissenting ones—and participate in formal political processes.

By cultivating democratic habits and values in their daily lives and interactions, citizens develop a sense of purpose and belonging. This empowers them to contribute meaningfully and positively impact their communities and society as a whole.

Teaching “through” democracy and human rights

Students thrive in a supportive learning environment where they can actively practice their human rights, such as freedom of thought and expression. They need teaching methods that encourage participation in school governance and allow them to exercise their rights and take on responsibilities. Teachers play a vital role by modeling mutual respect, tolerance, and peaceful conflict resolution. In this way, democracy and human rights are foundational principles for learning (Krapf, 2010).

In summary:

- **Teaching about democracy** equips students with knowledge of their rights and the conditions that sustain them.
- **Teaching for democracy** helps students develop the competence and confidence to exercise their rights responsibly and with respect for others and their community.
- **Teaching through democracy** transforms the school into a micro-community where liberty and equity are upheld, demonstrating democratic principles in action.

While teaching about democracy and human rights may be the focus of subjects like Social Studies, History, and Civic Education, teaching through democracy and human rights requires a school-wide

commitment. Here, human rights and democracy become the guiding principles of the entire school community.

The Roles of Mathematics Teachers in HRDP

Effective teaching and learning rely heavily on how students communicate and interact with one another and their teacher. A teacher's professional competence allows them to reflect on the impact of specific activities and use them as tools for encouraging positive behavioral change. Teachers take on multiple roles, moving beyond the traditional "chalk and talk" approach that centers primarily on delivering content.

While instruction remains an essential part of teaching, constructivist learning shifts the focus, requiring teachers to "teach with their mouths shut." This approach emphasizes giving students more time, space, and responsibility in the learning process, allowing them to engage actively, explore ideas, and take ownership of their education (Nur, & Izwita, 2022).

In using HRDP as a pedagogical approach, a Mathematics teacher typically performs these four key roles:

- The teacher as lecturer and instructor
- The teacher as critic and corrector
- The teacher as creator and provider of application tasks
- The teacher as chair of a plenary session (Hartley & Huddleston, 2018)

The Teacher as Lecturer and Instructor

According to Council for Europe Charter on Education for Democratic Citizenship and Human Rights Education (2010), the basic guideline for lectures is the "60:40" principle, which suggests that at least 40 percent—preferably more—of the material being discussed should already be familiar to the

students. Without this level of prior knowledge, true constructivist learning cannot occur. To achieve this, the mathematical concepts or contents to be taught must be introduced in a way that connects to what students already know.

This means the teacher's role involves providing instruction through lectures, reading tasks, or a combination of both. As constructivist learners, students should have already developed a framework of understanding into which the teacher's content can be integrated. This framework typically includes questions or experiences that require further explanation or clarification, offering an open and evolving structure of meaning.

The Teacher as Critic and Corrector – to Support Deconstruction

The role of a teacher as a critic and corrector is not always clearly defined; it depends on the specific situations that arise in the classroom and the principles that guide teaching. The teacher must recognize when and what needs to be corrected. Some key principles to guide the teacher in this role as suggested by the Council, (CECEDCHRE, 2010) include:

- **Relevance of the error:** The teacher must determine if the error is significant enough to warrant correction. Not every mistake needs to be addressed immediately.
- **Preference for student feedback:** It is important to consider whether students can identify and correct their mistakes on their own during discussions or presentations. However, sometimes, students may need to reevaluate and reconstruct their understanding from the beginning, significantly if their error impacts the whole class.
- **Principle of mutual respect:** While a teacher may need to address a student's mistake, the teacher must respect the individual. This approach helps

preserve the student's self-esteem and fosters a supportive environment for learning.

The Teacher as Creator and Provider of Application Tasks – to Support Reconstruction

Interactive constructivist learning processes provide students with adequate learning opportunities, including appropriate objects, materials, time, rules, task instructions, monitoring, and individualized support. In the context of Human Rights and Democratic Pedagogy (HRDP), the teacher's role is to create and facilitate these opportunities, ensuring that students engage in task- and problem-based learning. This approach empowers students to actively participate in the learning process, allowing them to explore concepts and solve problems in ways that connect to real-life experiences and issues.

The Teacher as Chair in Plenary Session – to Support all Forms of Constructivist Learning

Teaching and learning through democracy and human rights become most evident in plenary sessions, where students can share ideas and engage in discussions. In these sessions, students exercise their freedom of thought, opinion, and expression. Without proper training in using these fundamental democratic rights, students will struggle to participate effectively in democratic decision-making. Therefore, the teacher plays a vital role in facilitating these sessions.

Challenging as it may be, the teacher chairs these discussions, navigating the inputs and ideas that students present. While the teacher can anticipate a conceptual framework to help structure and give meaning to students' contributions, improvisation is also needed. The teacher can fulfill this role in two main ways:

1. **Initiating a lesson or unit:** The teacher can introduce the topic to encourage students to get involved and share their ideas quickly.

2. **Chaired plenary sessions:** The teacher can lead a session that starts with student inputs—whether through homework results, a discussion, or feedback—allowing students to guide the flow of the session.

This approach fosters active participation, ensuring that students learn the content and how to navigate and contribute to democratic processes.

Expected End of HRDP on the Students – Democratic Culture

Democracy cannot thrive without committed democrats. Schools, as micro-societies, can foster a culture of democracy and human rights by teaching through democracy, helping students acquire and appreciate its core elements. When this pedagogy is effectively applied in teaching subjects like Mathematics or any other discipline, the following democratic values are cultivated among students:

- **Self-expression and confidence:** Students learn to express their interests and views while maintaining strong self-esteem confidently.
- **Mutual respect and empathy:** Students treat one another respectfully, showing an ability to listen and empathize, and are willing to view situations from different perspectives.
- **Conflict resolution:** Students develop the skills to resolve conflicts non-violently through negotiation and compromise.
- **Understanding of rights and responsibilities:** Students appreciate the role of institutional frameworks in protecting and limiting their liberties, recognizing the balance between formal rules and the "soft" informal elements of political culture.
- **Practical politics:** Students see politics as a practical means of addressing issues that require collective attention and decision-making.

- **Participation in decision-making:** Students engage in processes such as electing representatives and making formal decisions within their community.

- **Active engagement:** Students learn to influence decision-making through non-prescribed means, such as raising awareness, activism, lobbying, and handling problems independently.

- **Responsibility for choices:** Students take responsibility for their decisions, understanding the impact of their actions on themselves and others.

- **Awareness of consequences:** Students realize that failing to participate in decisions that affect them could result in others making those decisions, potentially leading to unfavorable outcomes for them (CECEDCHRE, 2010).

This holistic approach ensures that students not only understand democratic principles but also live them, empowering them to contribute to the societies they are a part of actively.

Conclusion

In this work, efforts have been made to examine human rights and democratic pedagogy (HRDP) as an innovative approach to teaching and learning Mathematics. The poor performance of the students in the subject despite all efforts was also showcased. The concepts, principles, and tenets of the HRDP were explained. The teachers' roles and the expected results from the students were also treated. After that, recommendations for the entrenchment of the approach were also proffered.

Recommendations

Undoubtedly, human rights and democratic pedagogy are alien to our educational system. The reason is rooted in the African culture that believes that the adult (teacher) has all it takes to direct a child (student). The adult person's verdict and opinions are final, including on personal issues to the child. On this note, the students' opinions are not considered during

teaching and learning. Given this, since maturity, readiness, and interest are the major factors that facilitate learning, it is essential to use HRDP to win the interest and readiness of the students. When students' opinions and freedom are sought, they will be interested and ready to participate in the classroom effectively, increasing their chances of good performance. Therefore, it is recommended that teachers and all those involved in the business of educating the child should consider the following:

- Teachers should understand that the students have something to offer in the teaching and learning exercise.
- Teachers should encourage the students to learn more about their fundamental human rights in a democratic setting (teaching about democracy)

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- Students should be encouraged by teachers and other members of society to exercise their rights in all aspects of their lives, including in the relationship between themselves and the teachers (teaching for democracy)
- The school environment should make itself favourable for the students to learn and exercise their human rights. The school's administration should be democratic, starting from the ministry to the principals and teachers in the school (teaching through democracy).
- Teachers should give students a free hand to decide on the method and how they will be taught.

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