Use of Freire's Conscientization in Mathematics Learning

Jasbir Roka
Assistant Professor in Mathematics Education
Graduate School of Education, MU Surkhet
rokajasbir2043@gmail.com

Abstract

Conscientization in mathematics refers to the process by which students develop a critical awareness of the world view through education with their life experiences in mathematics learning. This qualitative study to analyze the use of Freire's conscientization in mathematics learning. The information was collected through secondary data as research articles, archival documents related with reliable sources. The conclusion showed that by using Freire's conscientization students develop a critical awareness of the world through education with their real-life experiences in mathematics. It advocated critical pedagogy in which teachers and students learn together through dialogue and it always welcomes critical analysis in the mathematics learning. The study has implication in mathematics learning, students share their experiences with other classmates in small groups as contextual teaching strategies in mathematics. It is recommended that a new relationship between teachers and students as well as society for an effective mathematics teaching strategy should be developed.

***Keywords*:** Conscientization, banking education, problem-posing education, mathematics learning

Introduction

Paulo Freire (1921-1997), the Brazilian leader of education and philosopher, who advocated critical pedagogy. He started a career at teaching Portuguese in secondary schools and literacy campaigns. He was appointed the director of the Department of Education and Culture of the Social Service in the Brazilian state of Pernambuco (George & Kamberelis, 2006). Similarly, Freire started working in the field with illiterate poor people at the time of the director of the national literacy program. He formed the 20,000 cultural learning circles through Brazil. (Liu, 2012). The main concept of Paulo Freire is discussed in his well-known book Pedagogy of the Oppressed. This book was originally published in 1968 in Portuguese and 1970 first English translation. It is believed that this book was a source of inspiration for social workers entirely in the world to give voice to the poor people and his ideas on education were intended to make people politically aware.

Freire (2005b), the Brazilian educator, coined the term ‘conscientization’ as "the deepening attitude of awareness characteristic of all emergences" (p.107). The word conscientization is conscientization in Portuguese and conscientization in Spanish (Liu, 2012). The meaning of conscientization is to 'make aware ' or 'awakening of consciousness' or 'Critical consciousness' (Lloyd, 1972, p. 5). Thus, conscientization means how individuals and communities develop a critical understanding of their social reality through reflection and action (Freire, 2005b). Thus, conscientization is a process of literacy program to raise people's critical consciousness (George & Kamberelis, 2006). There are three stages of conscientization. Intransitive awareness stage: In this stage, the learner is not capable of interaction. S/he is fighting for basic needs.

Naive transitive awareness: In this stage, the learner is familiar with the initial perception of problems. S/ he has no idea of the solution (confusion). Finally, critical transitive awareness: In this stage, the learner is free from his alienation. The learner examines problems without limitation. S/he tries to be critical and rational to solve the problem. (John, 1974). On this regard, Lawton (2022) argued that Freirean educational concepts including his three stages of consciousness, his advocacy of problem-posing over problem-solving educational models, and the importance of dialogue in learning (p.50). Thus, conscientization is a process through education learner makes critical consciousness and critical understanding toward reality. The main aims of Freire pedagogy are to develop the conscientization in the learner and teacher through education. Still the teaching learning process of mathematics seems to be related to banking education. In order to learn mathematics in multidimensional manner, there is a need for awareness among teachers, students and parents. Thus this paper focused on conscientization in mathematics learning.

Research Method

The study focused on use of Freire' conscientization in mathematics learning. For the fulfilment of data collection, I have reviewed authentic books, reliable research articles, archival documents. The collected information has analyzed through thematically based on reviewed literature.

Results and Discussion

Education for Conscientization

Conscientization is a process by which students develop a critical awareness of the world through education with their life experiences (Rugut & Osman, 2013). In the teaching-learning process, we can use a shared teaching strategy that focuses on interaction on two-way communication. Students share their experiences with other classmates in small groups. After discussion, they make valid perspectives and interpretations. Then they inquire into the sociocultural context. Finally, they start engaging in transformative action (Sleeter et al., 2004). Curriculum planning is a horizontal process in which it is fully learner-centered (Shih, 2018). The teaching method is based on dialogue in which the relationship between two people say A and B are horizontal (Freire, 2005b). The condition of consciousness is the inquiry of ways of thinking through the dialogue method (Jemal, 2017). That is, we create a friendly learning environment and dialectical education in classroom teaching. Thus, we should develop awareness and empower both teachers and students. We should provide justice to the students.

Banking Education Vs Problem-Posing Education

When Freire was a visiting professor at Harvard University in 1969, there was a critical of traditional formal models of education. It was supposed that students had an empty mind in which the teacher can make deposits knowledge as the commercial bank. In the critical pedagogy, Freire's focused on education for liberation and rejected the banking model education (Shih, 2018). In this model, there is no given opportunity for learners to participate in the learned from life experiences (Rugut & Osman, 2013). Freire says this is a traditional system of education where the teacher deposits knowledge to their students' empty minds. The teacher is everything and there is no existence of students in the classroom. In a traditional mathematics classroom, the teacher introduces an abstract element of a topic, followed by a series of exercises with some application problems and

homework to consolidate students' learning (Stemn, 2017).

There are three human conditions as oppressed and oppressor, dehumanized condition, and culture of silence. This results in the contrast between teacher and students: the teacher talks, and the students listen. Consequently, both are dehumanized.

In others side, Problem–Posing education is the opposition of banking model education related to ideas of Paulo Freire in which effective learning through critical thinking is based on learner's experiences (Rugut & Osman, 2013). It is believed that Freire's concept of conscientization refers to critical awareness and engagement are the key ideas of the problem-posing pedagogy which provides problem-based learning. Similarly, education should develop the learners to get a critical understanding of their reality and to engage in transformative actions (Sleeter et al., 2004). In this education system, dialogue is a pedagogical tool in which learners critical thinking and work with their teachers through communication (Freire, 2005b). There is two-way communication in the classroom teaching-learning process. In this situation, teachers and students learn together through dialogue and it always welcomes critical analysis in the classroom.

In the context of mathematics, Silver (1994) argued that ' problem-posing tasks can provide us with a window through which to view students' mathematical thinking and mirror in which to see a reflection of students' mathematical experiences ' (p.25). The teaching approach of mathematics based on problem posing learning is more applicable in mathematics learning. It improves the students' achievement in mathematics (Mahendra & Slamet, 2017). Similarly, problem-posing approach improves students' mathematical creative skills (Hendriana et al., 2019). This implies problem-posing education is more beneficial in the field of mathematics

Finally, the concept of banking education as the top-to-bottom approach to creative power, power, problem-posing education involves a continuous opening of reality (Freire, 2005b). This implies the teaching-learning process of mathematics should be horizontal communication between teachers and students. It is a basis for ending the culture of silence. There must be developed a new relationship between teachers and students as well as society for effective mathematics teaching strategy.

Conclusion

By using Fireire' conscientization, students develop a critical awareness of the world through education with their real-life experiences in mathematics Moreover, the Nepalese education system is based on a banking model system. Therefore, it is to follow the education system based on the theory of Freire. In this situation, teachers and students learn together through dialogue and it always welcomes critical analysis in the mathematics classroom. Finally, they start engaging in transformative action. There is a friendly learning environment. As a result, lifelong learning is possible in mathematics teaching learning process.

References

Freire, P. (2005a). *Education for critical consciousness* (30 edits). The Continuum International Publishing Group Inc.

Freire, P. (2005b). *Pedagogy of the Oppressed* (D. Macedo (ed.); 30th edit). The Continuum International Publishing Group Inc.

George, D., & Kamberelis, G. (2006). *Theory for education.* In Routledge Taylor &

Francis Group.

Hendriana, H., Sumarmo, U., Carli, C., Ristiana, M. G., & Putra, H. D. (2019). Enhancing students' mathematical creative skill and resilience by using problem posing approach. In *Journal of Physics: Conference Series* (Vol. 1318, No. 1, p. 012065). IOP Publishing.

Jemal, A. (2017). Critical consciousness: A critique and critical analysis of the literature. *Urban Review*, *49*(4), 602–626. https://doi.org/10.1007/s11256-017-0411-3.

John, W. (1974). Conscientization, Literacy Through. *International Inst. for Adult Literacy Methods, _Teheran (Iran)*.

Liu, K. (2012). *Conscientization and the cultivation of conscience*. The University of Canterbury.

Lloyd, A. S. (1972). Freire, conscientization, and adult education. *Adult Education*, *XXIII* (1), 3–20.

Lawton, P. (2022). Paolo Freire's "Conscientization". *RoSE–Research on Steiner Education, 13*(1).

Mahendra, R., & Slamet, I. (2017). Problem posing with realistic mathematics education approach in geometry learning. In *Journal of Physics: Conference Series* (Vol. 895, No. 1, p. 012046). IOP Publishing.

Rugut, E. J., & Osman, A. A. (2013). Reflection on Paulo Freire and classroom relevance. *American International Journal of Social Science*, *2*(2), 23–28.

Shih, Y. (2018). Some critical thinking on Paulo Freire's s critical pedagogy and its educational implications. *International Education Studies*, *11*(9), 64–70. https://doi.org/10.5539/ies.v11n9p64

Sleeter, C. E., Torres, M. N., & Laughlin, P. (2004). Scaffolding conscientization through inquiry in teacher education. *Teacher Education Quarterly*, *31*(1), 81–96. https://www.jstor.org/stable/23478418

Silver, E. A. (1994). On mathematical problem posing. *For the learning of mathematics*, *14*(1), 19-28.

Stemn., S. (2017). Rethinking mathematics teaching in Liberia: Realistic mathematics education. *Childhood Education, 93*(5), 388–393. https://doi.org/10.1080/00094056.2017.1367230.