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PROMOTING GLOBAL CITIZENSHIP EDUCATION WITH SCIENCE TEACHING AND ANALYSING THE WAY IT IS PERCEIVED BY STUDENTS AT SECONDARY LEVEL

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Abstract

This case study in Dhanbad, India explores 25 grade 9 students' learning outcomes on the basis of gender and background in Global Citizenship Education related topics of science and also their perceptions about the Global Citizenship Education. It is time that we should realize that education itself has little value if it is merely meant for entrance straightaway into a profession instead we have to value the fact that Education needs to be open to the process of interpretation and complex engagements that is brought by teachers and the pupil within learning relationships. To create opportunity for Global Citizenship Education schools should adopt analytical approaches in knowledge acquisition and incorporate ways of teaching which supports the development of global citizens in educational programs. The study also examines the discourse of international organisations in order to promote better

understanding of Global Citizenship Education and the study indicates that international organisations have developed a powerful GCE discourse. We are living in highly interconnected and interdependent world where to determine our collective future, we need to acquire profound understanding of global developments and expand our global consciousness. Findings revealed the existence of difference in knowledge based, value based and citizenship based outcomes of rural and urban background students as well as gender based differences were also found.

Keywords

Global Citizenship Education, International Discourse, Global Consciousness, Knowledge Based, Value Based and Citizenship Based Learning Outcomes

1. Introduction

The aim of Education is not only to develop the personality and capabilities of young people but also to prepare them as a citizen of modern democratic and culturally diverse modern societies. It is time that we should realize that education itself has little value if it is merely meant for entrance straightaway into a profession instead we have to value the fact that Education needs to be open to the process of interpretation and complex engagements that is brought by teachers and the pupil within learning relationships. With this statement one can discern that educational processes have the power to change the behaviour of the person not only by the internal forces but as well as by those external forces which are quiescent in the environment.

Highlighting the need of a type of education which fosters values of Global Citizenship in learners **Jawahar Lal Nehru** explained that “At a certain juncture in a country’s life nationalism gives life, growth, strength and unity; but at the same time, it has a propensity to limit, because one thinks of one’s country as something different from the rest of the world. Then the obvious outcome is that the same nationalism which was a denotation of growth for a people becomes a motif of the remission of that growth in the mind.” Global citizenship education is directly related to the civic, social and political socialization function of education and linked with the contribution of education in preparing children and young people to deal with the challenges of today’s increasingly interconnected and interdependent world. As a social fact, education was analysed by **Emile Durkheim** in terms of its objective of enabling the individual to be a citizen and social being in a given society.

1.1 Global Citizenship Education: Concept and Meaning

Since the dawn of human history the term citizenship has always attracted intensive discussion. At present citizenship is riding high on the political and social policies agenda of many governments across the globe. Citizenship prescribes a specific line of activity for all to follow. One should always remember that duties differ in different situations and at different times. The immediate duty has always to be appreciated and performed. There are multiple interpretations for the term GCE and what it means to be a Global Citizen. Despite these multiple interpretations there is a common understanding which refers to a sense of belonging to a broader community and common humanity based on universal values and respect for diversity and pluralism.

Objectives of GCE are as follows:

- To involve numerous participant, along with those outside the learning environment, in the community & in the expanded society.
- To encourage learners to analyse real life issues critically and to identify possible solution creatively & innovatively.
- To backing learners to revisit presumptions, world views and power relations in predominant discourse and look at people that are marginalised
- To focus on engagement in individual and co-operative action to bring about desired changes.

There are number of components that crop up as permissive conditions for the advocacy and application of GCE. These constitute: (i) open and flexible ambiance for universal values like peace and human rights is crucial. Only an individual brought up in an atmosphere of free and fearless pursuit of truth can be an intellectually free person. Thus, a Global Citizenship Education should, from the very beginning, keep alive the frame of curiosity, encourage the habit of questioning, doubting and debating, and equip the minds of youth with worthy elements in the intellectual treasure of mankind on the one hand: and by a serious and sincere concern for human welfare on the other. (ii) Transformative learning, which helps to upsurge the concernment of education in and out of classrooms by captivating stakeholders of the wider community. (iii) Youth-led initiatives, young people are not future citizens but they are progressive citizens now therefore it is crucial to reach learners in the budding stages of their social and affective development. The values of Global Citizenship are transferred in individuals through different forms of education: formal, informal and non-formal. In order to measure GCE, it is important to pay attention on Education system

together with the outcomes that are achieved by participating in this system. Further outcomes are categorized under these categories –

- (i) **Knowledge based outcomes** – it provides deeper understanding and involves development of knowledge, concepts and skills.
- (ii) **Value based outcomes** – it comprises of what people valued or found to be important. This will provide opportunity for students to develop greater understandings and appreciation of places which hold personal and social significance to the community.
- (iii) **Citizenship based outcomes** – this focuses on issues young people identified and those they wanted to see changed. To measure this one can ask students a value based questions alongside an issue based question. This will generate a strong sense of community engagement which further trigger many ‘so what’ and ‘Now what’ types of social inquiry questions forming ground for discussions and validating different viewpoints generated under the roof of GCE.

In order to measure GCE, it is important to focus on the system of education that an individual is involved in. To be an active and responsible citizen in this highly interconnected and interdependent world understanding of science is essential for presenting one’s opinion. Therefore, it is rightly mentioned that it is need of the hour to combine science education and the Education for Global Citizenship. As having an understanding of Science, is part of what it means to be a cultured and educated person.

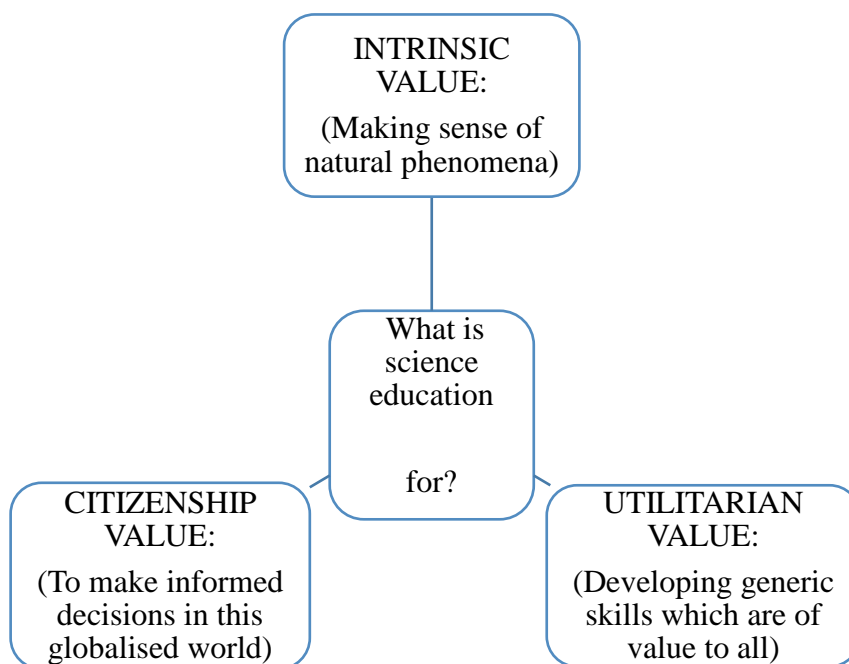


Figure 1: Values Associated with Science Education

1.2 Rationale of the Study

In present day situation upbringing of children presents a more complicated set of challenges than were faced by parents in the past. Parents want their children to be well prepared for facing the challenges of globally competitive world. Every society is increasingly finding ways to develop students as global citizens. But what can we do to incorporate global issues into the curriculum? One may suggest that students have to recognise the wonderful opportunities that are created by diversity and the richness of culture across our planet. **Davy (2011)** investigated for a curriculum that strengthens the elements of Global Citizenship so that it becomes an approach to learning, not an addition to the curriculum. He further concluded that Global Citizenship Education requires deep understanding of global issues together with critical thinking skills and pluralistic attitudes. Transdisciplinary or interdisciplinary approaches towards learning enhances global understanding and awareness in students. With fusion of pedagogy, concepts, knowledge, skills and attitudes one can successfully design a sound curriculum for global citizenship. **Jorgenson (2012)** examined how educating students for GCE is increasingly become a shared goal for educators and founded that it is important to develop a broad approach based not only on common understandings but has programs build on disciplinary, multidisciplinary and interdisciplinary ideas that generate creative and emergent pedagogical space.

At present time one common aim is the desire to create Global Citizens who have an understanding of other countries, cultures beyond their own national perspective. But how to decode the exact way to teach students essential skills for survival in 21st century and how they develop a sense of global responsibility in them? **Guo (2014)** highlighted that globalization has placed huge demands on teacher education programs in preparing teachers to educate for 21st century global citizenship education in schools and findings indicated unique challenges teachers face in learning for GCE.

Today in this global world one can no longer live and learn under the lens of one national curriculum, there is a dire need to adapt too many ways of viewing and operating in this world. It is important that teacher understand how to provide instructions so that course content connects to the real world application. In its Global Monitoring Report **2014**, **UNESCO** states that growing interest in Global Citizenship Education indicating a shift in the role and purpose of education. To deal with the challenges and opportunities posed by globalization Global Citizenship Education is well recognized as a key dimension of education and therefore the report seeks to enhance understanding around Global Citizenship Education and its implications for educational content. The findings suggested that Global

Citizenship Education is a multifaceted approach employing concepts, methodologies and theories of different fields and subjects that can facilitate international cooperation and promote social transformation. Educating young people about working of the world can be a really important skill as far as survival is concerned; today students are not developing the type of advanced technology skills that would be used later in the workplace. **Nwafor (2014)** suggested that in this era to meet the needs of diverse learners it is important to vary the approach to the teaching of the content and appraises the use of jurisprudential approach in teaching of Science. **Zahabioun (2013)** examined Global Citizenship Education and its implications for curriculum goals and defines global citizenship as a way of understanding how the world works and suggested that in today's world a citizen as a member of the international community requires to receive special education to survive in the current age and confronting with the challenges ahead. The paper also highlighted the fact that in Global Citizenship Education issue should be considered at top of the curriculums goals.

The present work intended to capacitate learners to enrol and assume active roles, both provincially and globally, to confront and solve global remonstrance and ultimately to become proactive promoter to a more peaceful, permissive, comprehensive, sheltered and sustainable world where anyone can enrich the concepts and contents of all subjects by widening their dimensions. **Cause (2011)** studied current literature on the topic of education for global citizenship. The paper suggested that in different literature there are many divergent and convergent discourses that surround this term leads to creating confusion and unresolved debates and also highlighted gaps in research in this field from which proposals for future research can then be contemplated. If we are preparing our students for an unknown and challenging future, there is every chance that the information they might learn from textbooks will be useful, but incomplete. They need to learn how to tackle the unknown, how to adapt what they know and can do to novel situations, and they need to learn to do this with confidence. **Ashri (2016)** studied the importance of values like tolerance, co-operation, togetherness, mutual respect and love. The study further indicates that the planet earth can be made more liveable only when we start acknowledging and treating earth as our mother sustainers and for this education plays a pivotal role in training and building human capacity for the globe. **Cause (2012)** explored how teachers view and define global mindedness and creation of global citizenship education through a case study of one Australian primary school. After conducting semi-structured interview with ten teachers, findings showed that they have a shared understanding of global mindedness, international mindedness with multiculturalism. Further data collected from interviews, field notes and observation helped

to conclude that teachers found it difficult to identify what is involved in developing global citizenship education for learners of 21st century. **Lawson (2016)** examined the need for primary schools to have a global rather than merely local perspective and suggested that learning about global and sustainability issues should be part of the everyday learning of all primary school children. In this way, this critical review of related literature helped the researcher to look into the case and analyse why Global Citizenship Education has been in a backdrop in spite of several efforts and our country is lacking in providing effective Global Citizenship Education to all. Our fundamental goal is to ensure our students grow stronger, not just physically but also intellectually, emotionally, socially and morally. Sometimes our role is to water these saplings, and sometimes to harden them off; sometimes to protect them, and sometimes to expose them to the sun and wind.

Table 1: Components of Responsible Global Citizenship (Oxfam, 2006)

Responsible Global Citizenship		
<p>Knowledge and Understanding:</p> <ol style="list-style-type: none"> 1. Social Justice and equity 2. Diversity 3. Globalization and interdependence 4. Sustainable development 5. Peace & conflict 	<p>Skills</p> <ol style="list-style-type: none"> 1. Critical thinking 2. Ability to argue effectively. 3. Respect for people 4. Co-operation 5. Conflict resolution 6. Appreciates diversity 	<p>Values & Attitudes:</p> <ol style="list-style-type: none"> 1. Self esteem 2. Empathy 3. Commitment to social justice 4. Concern for the environment 5. Believe that people can make a difference

Comprehending the ramifications of globalization has become a serious affair for experts from various disciplines. There are various studies that support the fact that with global citizenship education students show an increased attentiveness in class, greater ownership of their learning and a greater capacity to work independently. Now this is the need of the hour to decode this practice in the field of science education as future of society in the global knowledge and information age is increasingly relying on the future of science

education. To have Global Citizenship Education does not mean to have a school with students from many countries or it should provide foreign exchange, even a person living in remote area can be more global minded than to one who lives in metropolitan city. Global Citizenship Education is not a market oriented approach to internationalising education identified by meritocratic and positional competition with national systems of education; it is a boon for survival.

Research Questions:

1. What are the impacts of gender of students on learning outcomes for Global Citizenship Education? Is there any difference in learning outcomes of male and female students?
2. What are the impacts of background of students on learning outcomes for GCE? Is there any difference in learning outcomes of students belonging to their residence and family background?
3. Level of preparation for students to live in a globalized world?

2. Objective of the Study

In present study following objectives are formulated:

- 1:** To identify GCE related concepts that are present in NCERT science textbook for class 9.
- 2:** To develop lesson plan for identified Global Citizenship Education related concepts.
- 3:** To study the effectiveness of lesson plan on Global Citizenship Education with reference to gender and background of students.
- 4:** To study the perception of students towards Social Inquiry Model in Global Citizenship Education.

3. Methodology

Students attending grade 9 of CBSE School in Dhanbad city, which is the most culturally diverse and populous place in the state of Jharkhand, India were chosen to be the participants of this investigation because of their status as the one who are being educated to build their lives in this highly interconnected and interdependent globalized world. The lesson plans of science including questions and activities for knowledge based, value based and citizenship based outcomes were developed for the identified Global Citizenship related topics mentioned in their curriculum. Investigating these domains are important because the results can provide a profile of how students perceive themselves as global citizens. A total of 25 students responded to the study; 56% from urban and 44% from rural background. Fifty

two percent of the participants were boys while 48% were girls. The majority of the participants reported being 13 or 14 years old. This research was a qualitative study based on case study method furthermore the findings of which can be used to enhance global citizenship educational programs in schools.

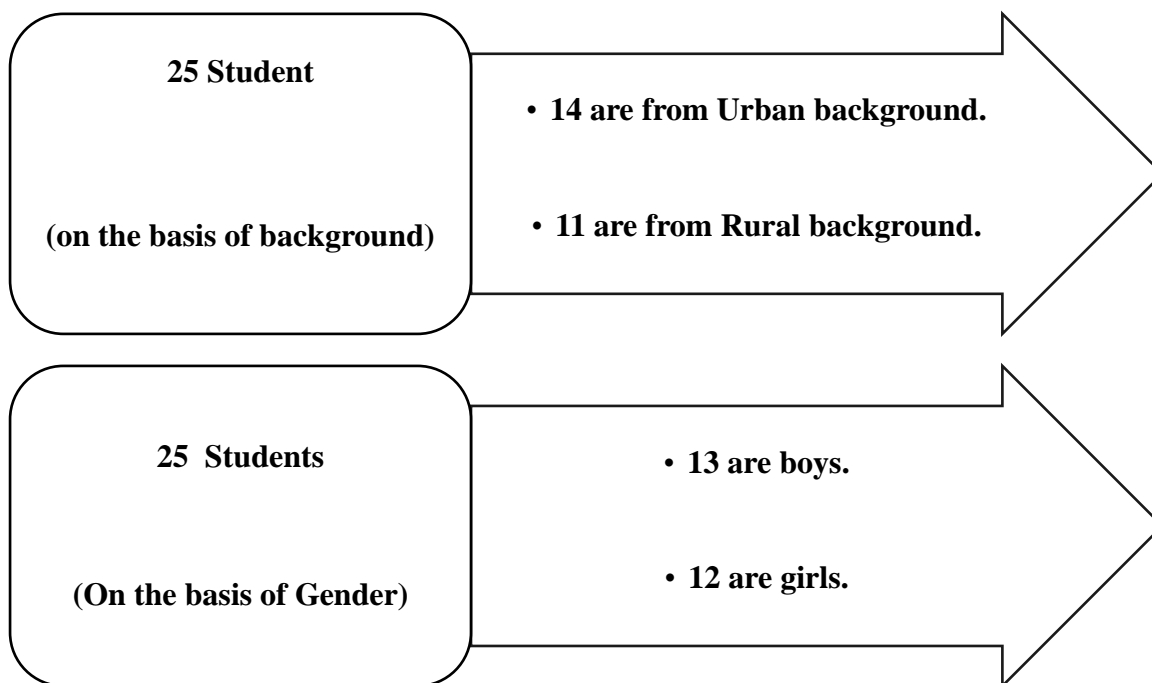


Figure 2: *Detailed Description of Sample*

For data analysis deductive and inductive methods in an interactive back and forth process were used. The present study relies on different data sources to enhance the validity of the study. Well-designed lesson plans were used to analyse three domains of Global Citizenship Education i.e. knowledge based, value based and citizenship based outcome for each Global Citizenship Education related topics present in NCERT Science text book with focus group interview and photo image classification activity which is composed of 40 photos and the task is to first observe them and then write down brief explanation about the same.

3.1 Content Analysis of Grade 9 Science Textbook

In the present study researcher attempted to analyse the concept of General Science at secondary level. The overall intent of the study is to analyse the content of General Science at Secondary level to develop the Global Citizenship Related lesson plan for grade 9 students. A detailed analysis of the textbook published by “National Council for Educational Research and Training” is done for identification of Global Citizenship Education Related concepts. A total of 8 concepts out of 15 are identified on the basis of which lesson plans are designed for

developing Global Citizenship Education awareness in students. The researcher formulated different objectives for each concepts based on knowledge, understanding, application and skills. Further evaluation activities are designed to measure three learning outcomes i.e. knowledge based, citizenship based and value based outcomes for each GCE related concepts.

4. Research Findings

We all want to consider the relevancy of our course content to students' lives outside of school. Students should know what they will learn, why should they are learning the same and how they will be assessed. Telling students ahead of time the way they will be assessed helps them concentrate on what they learn during the activities. Not everything needs to be readily applicable to the world outside school. Sometimes they need to learn the facts and concepts simply to help their thinking skills. However students will appreciate opportunities to understand how information learned in their class might help them outside the classroom. In summary Global Citizenship Education should be the basis of our classroom teaching with focus on sustainability. If we are not considering this then what is the education for and what we are going to leave for our next generation? In the present scenario the main aim of education should be trajecting the key ideas of interconnectedness and interdependence. Teachers can include a global citizenship dimension in regular classroom teaching without a major change in their skills and knowledge. As an individual we need to scrutinize our own ecological hoof print on this planet in terms of how we live since the conception of an educated person has changed in this highly interconnected and interdependent world. Being aware about problems of world and how they whack lives across the globe is of major concern.

Findings from the study revealed the existence of difference in knowledge based, value based and citizenship based outcomes of rural and urban background students as well as gender based differences were also found. Students of urban background demonstrated a higher inclination towards being global citizens when compared to students from rural background. However when observing another important aspect that describe a global citizenship attribute, which is value based outcomes students of rural background scored higher than students of urban background. Significant differences were also found on the basis of gender of the students involved in this study. Girls of both the backgrounds showed higher tendency and more characteristics traits of being global citizens in citizenship and value based outcomes of Global Citizenship Education than boys of both the backgrounds.

There is no significant gender differences in Knowledge based outcomes of Global Citizenship Education. These findings hold a deep meaning that may be in near future females will be more empowered to have more opportunities to participate in societies and also that very soon the current situation of women in most of the countries is going to change.

The findings in this study show that students have a variety of view and opinion about being a global citizen. Students participated in this study perceived positively about global citizenship education and came up with the view that a culture of peace will be achieved when citizens of the world understand global problems and have the skills to resolve conflicts peacefully. Some people may blame science for our present situation but Global Citizenship Education in science develop the skill of communicating information, views and opinions in a measured, balanced way. Almost all the participants recognized that all humans, regardless of ethnicity, religion and culture, share the same rights and responsibilities. Some students had a very broad and optimistic understanding of global citizenship, like Global citizenship is freedom of speech, religion, thought, coming from different ethnicities and fighting for justice, and learn as much as you can about different countries. On the contrary, a small number of students had a more practical and narrow definition of global citizenship like Global Citizenship is what you need to live in a different country. Though it was very depressing that 72% of students thought that it was the job of the governments and NGOs to take care of poor and disadvantaged.

Each individual has certain needs which must be fulfilled and certain abilities which must be used to fulfil these needs. At the end we can say that Global Citizenship Education is something that can infuse meaning into the entire educational system and makes it useful and connected to our daily lives and to attain the same we all should learn to listen to any confrontation with “the third ear”. We all should remember that in any situation there are three sides. Yours, mine, and that of someone who has no emotional involvement.

5. Delimitation

The delimitations of present study are:

- The study will be delimited to secondary stage of science education only.
- The study will be delimited to only one district division of Jharkhand State.
- The present study will deal with only GCE related concepts of science present in NCERT text book of class 9.
- The present study will deal only two demographic variables i.e. gender and background of students.

6. Summary & Conclusion

A qualitative strategy was seen as the most appropriate orientation for this research. In India recent education reforms have promoted a more international orientation in educational policy. When students were asked to indicate if GCE should be a concept promoted in schools, almost all of them responded positively. Students from both the backgrounds whether urban or rural recognised the implications of living in an interconnected world and raise the importance of multicultural education.

Living in an increasingly interconnected world implies a growing number of challenges that can only be tackled if people develop global awareness and a broader sense of identity. Educational change in our country should focus on the preservation of our national identity and cultural heritage on the one hand and the development of global citizenship awareness on the other. A more global perspective of citizenship can be identified in the general education principles which promote values of love, kindness, togetherness, peace, freedom and sustainable development. These values are considered to enable pupils to function as informed, responsible and active citizens in this ever changing and highly demanding world.

This study's analysis of international discourse has offered some useful insights into the perceived nature, objectives and delivery of GCE. Some of them revealed that learners are coming to them with global causes and concepts that they want to explore and champion. The present study has raised the need to incorporate critical element of GCE with science teaching. Future researches could explore how teachers and students engage more critically with GCE and also the potential to incorporate GCE with various subjects instead of treating it as a separate concept. This education does not belong to any one discipline but should be embedded within each subject as GCE enriches the concept and content of all subjects and fields of education by widening their dimensions.

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