Current Journal Of Humanities, Arts And Social Sciences (CJHASS)
Volume.8, Number 6; November-December 2021;
ISSN: 2836-8002| Impact Factor: 6.22
https://zapjournals.com/Journals/index.php/cjhass/index
Published By: Zendo Academic Publishing

PERSPECTIVES ON GLOBAL CITIZENSHIP EDUCATION IN DIFFERENT CULTURAL CONTEXTS

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Article Info

Keywords: Global Citizenship Education (GCE), knowledge-based learning, value-based learning, citizenship-based learning outcomes.

Abstract

The contemporary lifestyle has led to significant environmental degradation, highlighting the need for comprehensive education to drive transformative change. Science education, as a catalyst for global interconnectivity, holds potential for fostering a sense of Global Citizenship Education (GCE). GCE encourages students to respect their perspectives while considering diverse viewpoints. This study explores the intersection of gender and GCE within science education, examining potential differences in learning outcomes among student groups. Employing an experimental design, a mixed-method research approach involving qualitative and quantitative methods was used. The findings indicate no significant gender-based differences in knowledge-based, value-based, and citizenship-based outcomes. This suggests the effectiveness of GCE for both boys and girls. Additionally, students expressed a perceived absence of global citizenship-promoting curriculum in the educational spotlight.

Introduction:

Citizenship is a dynamic concept that adapts to diverse situations and times, emphasizing the importance of recognizing and performing immediate duties within various contexts. The notion of Global Citizenship Education (GCE) traces its roots back to the mid-20th century, but historical references, such as those from the Aryan era (1500 BC-2000 BC), indicate early inklings of the global citizenship idea. The values embedded in Vedic culture literature, such as "Vasudheiva kutumbakam" and "Sarvey Bhavantu Sukhinah," reflect an ancient commitment to the love of all mankind.

Over the decades, terms like world studies, International Education, and Global Education have emerged to fulfill objectives similar to GCE. Despite multiple interpretations, a common understanding of GCE prevails, emphasizing a sense of belonging to a broader community and shared humanity rooted in universal values,

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diversity, and pluralism. GCE values are instilled through formal, informal, and non-formal education, with outcomes categorized into knowledge-based, value-based, and citizenship-based domains.

This study aims to explore Perspectives on Global Citizenship Education in Different Cultural Contexts, with a specific focus on the impact of science education on fostering global citizenship values. Science, with its spirit and methodology, has played a crucial role in humanity's exploration, understanding, and mastery of natural forces. Science education is recognized as a demanding discipline, wherein students bring diverse preconceptions, aptitudes, and experiences into the classroom.

In the current landscape, raising children involves more complex challenges, with parents aspiring for their children to be well-prepared for a globally competitive world. Recognizing the opportunities created by cultural diversity and richness is crucial for students. Existing research, such as that by Kishino and Takahashi (2019) and Roux (2019), explores how global citizenship characteristics develop in students, either through studying abroad or within language education.

The study by Buchanan, Burridge, and Chodkiewicz (2018) highlights the efforts in Australian schools to maintain GCE, emphasizing the importance of specific pedagogies and varied teaching methods. However, challenges persist, including the lack of a singular evaluation tool for determining the relevance of global citizenship practices. Additionally, studies like Grabowski et al. (2017) underscore the role of studying abroad in exposing students to diverse cultures and fostering tolerance and acceptance.

This study seeks to contribute to the existing body of knowledge by examining the perspectives on GCE in different cultural contexts, with a particular emphasis on science education. By synthesizing insights from diverse studies, including those by Schutte et al. (2017), Pittman et al. (2017), Karaarslan and Teksöz (2016), and Jayshree (2015), the research aims to unveil the complexities, challenges, and potential solutions in incorporating global citizenship values into science education.

Through an in-depth exploration of various cultural contexts and their impact on GCE, this research aspires to inform educators, policymakers, and curriculum designers about effective strategies for promoting global citizenship in science education. The following sections delve into specific studies that contribute to this overarching theme, providing a comprehensive overview of the existing literature and the gaps this research seeks to address.

Objectives 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 based on Social Inquiry Model (SIM) for identified GCE related concepts.
3. To study the effectiveness of SIM in GCE.

- To study the effectiveness of SIM in Knowledge based outcomes with reference to gender of students.
- To study the effectiveness of SIM in Value based outcomes with reference to gender of students.
- To study the effectiveness of SIM in Citizenship based outcomes with reference to gender of students.

Research Questions

1. Does SIM is effective in promoting GCE?
2. What are the impacts of gender of students on learning outcomes for GCE? Is there any difference in learning outcomes of male and female students?

HYPOTHESES

In this study following research hypotheses are formulated on the basis of above mentioned objectives.

H 1: GCE related concepts could be identified in NCERT Science Textbook for class 9.

H 2: The lesson plan based on SIM could be developed for GCE.

H 3: There is significant difference between the achievement scores of pre-test and post-test of GCE; (a) There is significant difference between the achievement scores of pre-test and post-test of knowledge based GCE with reference to gender of students, (b) There is significant difference between the achievement scores of pre-test and post-test of value based GCE with reference to gender of students and (c) There is significant difference between the achievement scores of pre-test and post-test of citizenship based GCE with reference to gender of students.

RESEARCH METHODOLOGY

The nature of the study is experimental under which the one-group, pretest-posttest design will be followed which provides some improvement over the first, for the effects of the treatment are judged by the differences between the pretest and posttest scores.

X1 ———————— T ————————- X2

Pre-test —— Treatment —— Post-test

Variables Used in this Study

All research projects are based around variables. We may define them as any characteristics or attribute of an individual, group, educational system, etc. that can take different values.

Independent variables: These are manipulated by the researcher or observed by the researcher so that their values can be related to that of the dependent variable. In this study Social-inquiry model of science teaching is independent variable. For objective 3 gender and background of students also serve as an independent variable in this study.

Dependent variables: That factor which is observed and measured to determine the effect of the independent variable. Here coordinated science which means contents of physics, chemistry and biology at secondary level plus outcomes for GCE is dependent variable. In present study students achievement in GCE and their perception towards SIM for developing GCE are identified as dependent variables.

Population

It is the group of interest to the researcher, the group to which the results of the study will ideally generalise. The population of present study comprises of all the students of class 9 studying in C.B.S.E. affiliated schools of North Chhotanagpur of Jharkhand state and all the science text books recommended for students of class 9.

Sample and Sampling

Jharkhand state is divided into 5 administrative divisions. The study will adopt two stage sampling procedure. In this present study the division of North Chhotanagpur is selected purposively as it has large number of districts currently receiving funds from the Backward Regions Grant Fund Programme (BRGF) and it is worth of finding the obstacles and effectiveness of program that aims to develop qualities for GCE in this environment where too much emphasis is given on local perspective. Division of North Chhotanagpur has 7 districts and out of these one district will be selected randomly and further CBSE Co-educational school having students from city and out skirts of city will be selected. Then matching type sampling will be adopted to minimize the impact of confounding variables. Finally a small group of male and female students (approx. 60) of class 9 from selected schools will be selected as a sample for this study.

Tools for the Study

The mixed method research design has been adopted for data collection, i.e., both qualitative and quantitative methods will be used within the single study. A tool serves as an important purpose in empirical research by

providing a good basis to the research for collecting the data. In order to collect the data following tools will be used.

1. GCE Achievement test, to measure three important outcomes of GCE i.e., knowledge based outcomes, value based outcomes and citizenship based outcomes.
2. A perception scale will be devised for the students, to record their responses towards adopting SIM in promoting GCE at secondary level science education.

Source of Data

In this study data will be collected from primary sources. All the students of class 9 and NCERT text book of Science for class 9 will be source of data.

Nature of Data

The nature of data collected in this study will include qualitative as well as quantitative data.

Research Procedure

- First step is to analyse the content of NCERT Science textbook for identification of concepts related to GCE. Then for the development of GCE in science teaching at secondary level with respect to social inquiry model, lesson plan will be deigned accordingly. For each concepts two parallel GCE achievement test will be prepared.
- Next step is to identify the school. After that the administrators of the schools will be informed about the purpose of the study and will seek permission from the authority to conduct the research.
- After this step researcher will administer pre achievement test on selected students and after this lesson plan based on SIM will be implemented following this treatment post achievement test will be administered.
- The data will be collected through administration of self- made global citizenship achievement test by following pre-test, treatment and post-test on daily basis separately for each concept. After conducting the treatment, perception scale will be administered to record the students responses. Then the collected data will be organized, classified and statistically analysed to draw the conclusion based upon research problems.

After drawing definite and well-formulated conclusion, recommendations will be made to solve or relieve the problem.

RESULTS AND DISCUSSION

The mixed method research design has been adopted for data collection, i.e., both qualitative and quantitative methods will be used within the single study. The nature of data collected in this study will include qualitative as well as quantitative data. In this study data will be collected from primary sources. All the students of class 9 and NCERT text book of Science for class 9 will be source of data. one-group, pretest-posttest design will be followed which provides some improvement over the first, for the effects of the treatment are judged by the differences between the pretest and posttest scores.

H 4a (Main hypothesis): There is significant difference between the achievement scores of pre-test and post-test of GCE based lesson in students.

H 4b (Sub hypothesis): there is significant difference between the achievement scores of pre-test and post-test of knowledge based, value based and citizenship based GCE outcomes

H 4c (Null hypothesis): There is no significant difference between the mean scores of pre-test and post-test of knowledge based, value based and citizenship based GCE outcomes.

Table 1 Shows the difference between the mean score of pre-test and post-test of knowledge based, value based and citizenship based GCE outcomes.

Table 1 Mean Value for the Level of Anxiety

Pre-post Analysis

Dimensions	Grade 9						*Df*	*t* Value	*p* Value	Significance Level
	Pre Test			Post Test						
	N	Mean	SD	N	Mean	SD				
Knowledge Based Outcomes	65	2.65	1.10	65	8.34	1.05	128	19.32	0.00	Significant
Value Based Outcomes	65	2.52	1.03	65	9.11	0.85	128	23.29	0.00	Significant
Citizenship Based Outcomes	65	1.54	1.35	65	8.89	0.90	128	23.45	0.00	Significant

Table 2 shows that t value for knowledge based, value based and citizenship based outcomes are 19.32, 23.29 and 23.45 respectively which are significant at 0.05 levels.

For knowledge based outcomes the mean score of pre-test is 2.65 and the mean score of post-test is 8.34. It indicates achievement with respect to pre-test score which significantly differs from that of post-test scores. In this context the null hypothesis that there is no significant difference between the mean scores of pre and post achievement test for the concept “Diversity in living organisms” is not accepted and the research hypothesis is accepted.

For Value based outcomes the mean score of pre-test is 2.52 and the mean score of post-test is 9.11. It indicates achievement with respect to pre-test score which significantly differs from that of post-test scores. In this context the null hypothesis that “there is no significant difference between the mean scores of pre and post achievement test for the concept Diversity in living organisms” is not accepted and the research hypothesis is accepted.

For Citizenship based outcomes the mean score of pre-test is 1.54 and the mean score of post-test is 8.89. It indicates achievement with respect to pre-test score which significantly differs from that of post-test scores. In this context the null hypothesis that “there is no significant difference between the mean scores of pre and post achievement test for the concept Diversity in living organisms” is not accepted and the research hypothesis is accepted.

The results indicate that achievement is significantly affected by SIM in promotingGCE with science teaching.

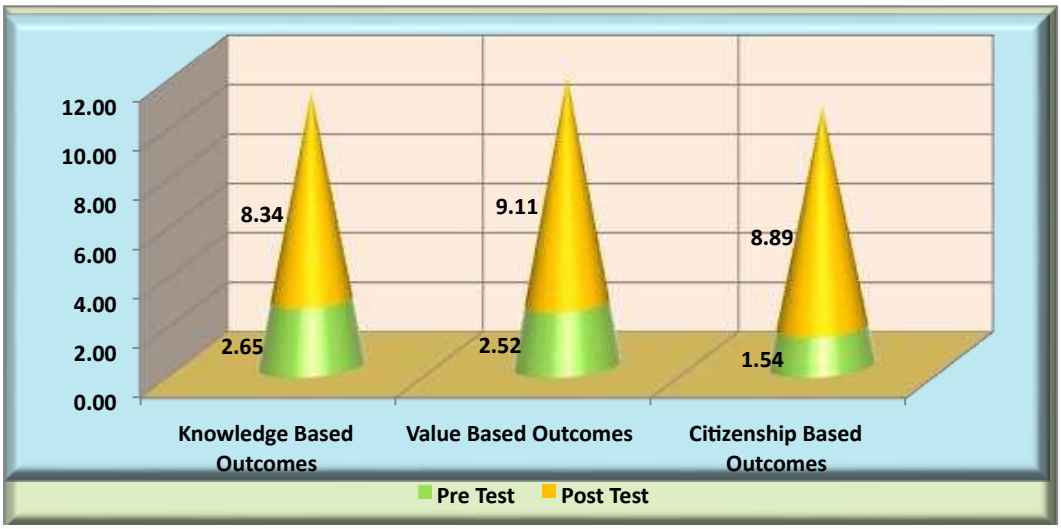

Figure 1 Graphical interpretation

Main Hypothesis (Gender Wise)

H 5a (Main hypothesis): There is significant difference between the achievement scores of pre-test and post-test of knowledge based, value based and citizenship based GCE with reference to gender.

H 5b (Sub hypothesis):]There is significant difference between the achievement scores of pre-test and post-test of boys in knowledge based, value based and citizenship based GCE outcomes.
H 5c (Null hypothesis): There is no significant difference between the mean scores of pre-test and post-test of boys in knowledge based, value based and citizenship based GCE outcomes.
Table 2 The Difference Between the Mean Score of Pre-Test and Post-Test of Boys in Knowledge Based, Value Based and Citizenship Based Gce Outcomes

Concept 1 (Pre-post Analysis: Gender Wise)

Dimensions	Groups (Boys)						*Df*	*t* Value	*p* Value	Significance Level
	Pre Test			Post Test						
	N	Mean	SD	N	Mean	SD				
Knowledge Based Outcomes	35	2.83	1.15	35	8.43	1.12	68	13.40	0.00	Significant
Value Based Outcomes	35	2.37	1.06	35	9.06	0.87	68	16.24	0.00	Significant
Citizenship Based Outcomes	35	1.80	1.47	35	8.83	0.86	68	16.09	0.00	Significant

Table 3 shows that t value for knowledge based, value based and citizenship based outcomes are 13.40, 16.24 and 16.09 respectively which are significant at 0.05 levels.
For knowledge based outcomes the mean score of pre-test is 2.83 and the mean score of post-test is 8.43. For Value based outcomes the mean score of pre test is 2.37 and the mean score of post test is 9.06. For Citizenship based outcomes the mean score of pre-test is 1.80 and the mean score of post test is 8.83.
It indicates achievement with respect to pre-test score which significantly differs from that of post-test scores. In this context the null hypothesis that there is no significant difference between the mean scores of pre-test and post-test of boys in knowledge based, value based and citizenship based GCE outcomes is not accepted and the research hypothesis is accepted. This implies that achievement in boys is significantly affected by SIM in promoting GCE with science teaching.

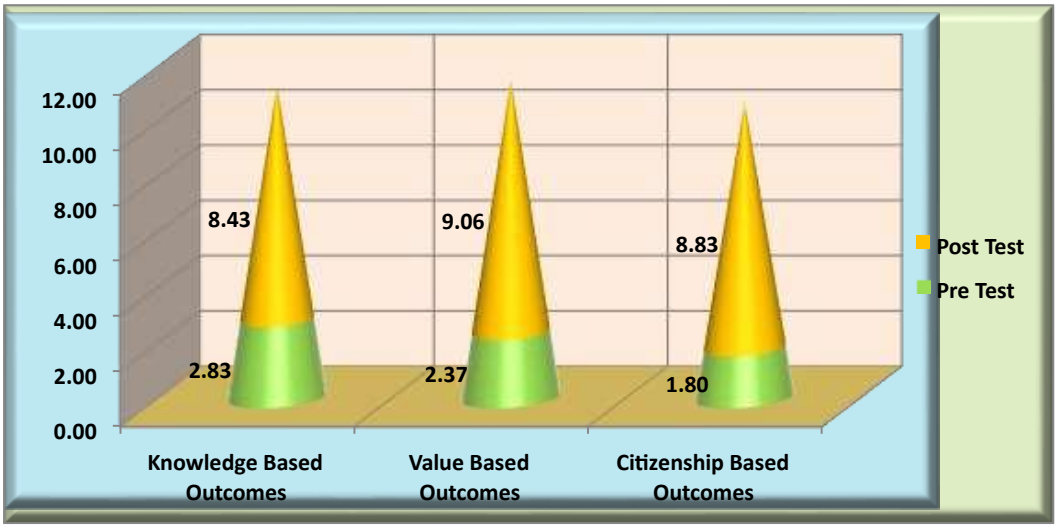

Figure 2 Graphical interpretation
H 6a (Sub hypothesis): There is significant difference between the achievement scores of pre-test and post-test of girls in knowledge based, value based and citizenship based GCE outcomes.
H 6b (Null hypothesis): There is no significant difference between the mean scores of pre-test and post-test of girls in knowledge based, value based and citizenship based GCE outcomes.

Table 3 Shows the difference between the mean score of pre-test and post-test of girls in knowledge based, value based and citizenship based GCE outcomes.

Table 3 The Difference Between the Mean Score of Pre-Test and Post-Test of Girls in Knowledge Based, Value Based and Citizenship Based Gce Outcomes

Concept 1 (Pre-post Analysis: Gender Wise)

Dimensions	Groups (Girls)						*Df*	*t* Value	*p* Value	Significance Level
	Pre Test			Post Test						
	N	Mean	SD	N	Mean	SD				
Knowledge Based Outcomes	30	2.43	1.01	30	8.23	0.97	58	13.83	0.00	Significant
Value Based Outcomes	30	2.70	0.99	30	9.17	0.83	58	16.72	0.00	Significant
Citizenship Based Outcomes	30	1.23	1.14	30	8.97	0.96	58	17.72	0.00	Significant

Table 3 shows that t value for knowledge based, value based and citizenship based outcomes are 13.83, 16.72 and 17.72 respectively which are significant at 0.05 levels.

It indicates achievement with respect to pre-test score which significantly differs from that of post-test scores. In this context the null hypothesis that there is no significant difference between the mean scores of pre-test and post-test of girls in knowledge based, value based and citizenship based GCE outcomes is not accepted and the research hypothesis is accepted. This implies that achievement in girls is significantly affected by SIM in promoting GCE with science teaching.

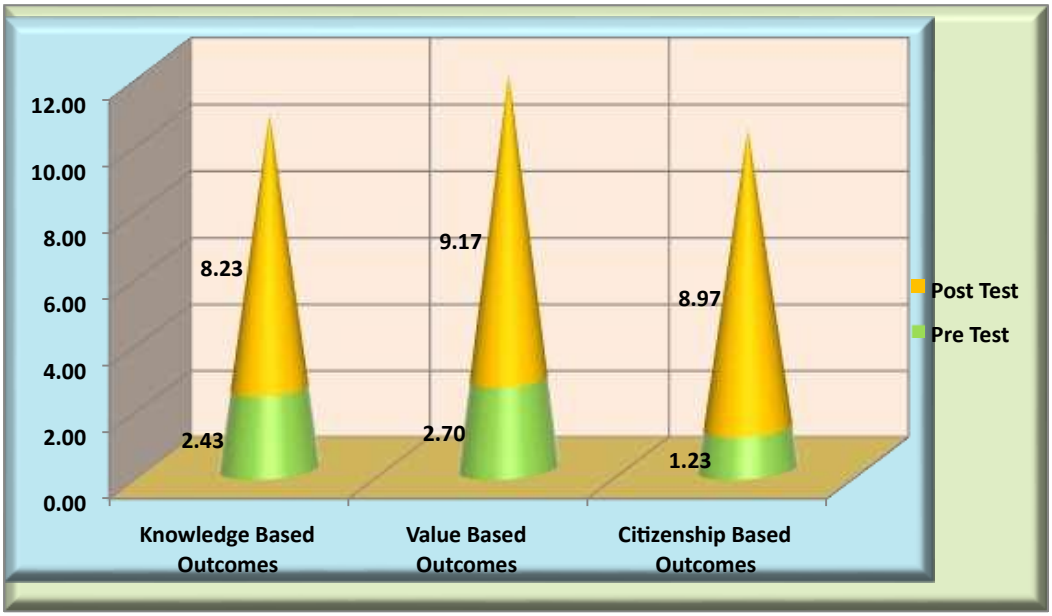

Figure 3 Graphical interpretation

CONCLUSION AND IMPLICATIONS

It is evident from the findings that GCE based lesson plans are effective in developing global citizen competencies in students. Findings revealed that there is no difference in knowledge based, value based and citizenship based outcomes of boys and girls. It means that GCE course is effective for both the boys and girls irrespective of gender. The study also indicated that international organisations like UNESCO and EU are also working to establish GCE as a dominant discourse. In preparing students to be a global citizen there is still much

work to be done. Before implementing GCE in schools it requires teacher educators and teacher preparation programs to engage in critical examination and conversations on the complexities and possibilities ofGCE.

The researcher found that lesson plan based on SIM helps in effective GCE learning by creating right atmosphere for particular type of learning. It is observed that if teachers will stick to teacher-centred perspective they are less frequent to use inquiry based learning. Adopting inquiry based learning requires cognitive skills to lead students into deep discussions and higher order thinking and active learning. For better implementation it is necessary to plan expected challenges well in advance. There is a need to follow student-centred constructivist approach for development of cognition skills. It is observed that person with developed inter-cultural competence will automatically act as a global citizen. It is found that GCE under SIM helps in creating informed citizens who are responsible for their actions. They are aware about risks of damaging the environment. GCE introduced in this study is a way to address global competencies in students with different gender and background. Teaching of science and GCE were researched because of contribution of science and technologies in the rise of globalization. It is said that globalisation is expected to continue or even grow with the changing time. Science with global citizenship approach of learning teaches students to explore meaning within various contexts. The concern for any issues is always well balanced with local as well as global concerns. Global citizenship education is not limited to themes such as civics, human rights, gender equality and peace education but it is well rehearsed and found in other subjects as well thus forming a ground for making efforts from all subject teacher for its practice and teaching. It is present in everyday lives of youth of present era. Foreigner students to any place tend to have a strong sense of globalised identities. Since the exposure to them is much greater than to local students. It is advisable to accept GCE as an integrated subject instead of teaching it as a separate one.

There are several issues with implementing GCE at school level as many teachers still not able to accept it at the heart of teaching. A discussion should be carried on that GCE is linked to each subject and is a part of everyday school life. Guided debates about the meanings and especially about the objectives of GCE can contributes towards the planning of actions to be taken.

Educational Implications

The educational implications for present study are not difficult to discern. The subject of study is of much importance in the present conditions of teaching learning process.

- For teachers - many teachers reported lack of confidence to teach current controversial issues. Global citizenship education can help them acquiring the skills and knowledge needed to promote sustainable lifestyle. GCE aims at building the capacity of teachers as teachers are the one who are expected to prepare their students to be productive and responsible. UNESCO (2018) reported that lack of teacher's knowledge is one of the important barriers in implementing GCE. UNESCO Asia-Pacific Regional Bureau for Education in Bangkok, Thailand, conducted a project to enhance the quality of teacher's training to be sure that they will perform well in their job. Teachers found it difficult to identify topics related with GCE. This agrees with study of Cho (2016) mentioning GCE topics are difficult to identify since they are scattered throughout the curriculum. It is of much importance to create a learning atmosphere where teachers can learn and explore components of GCE through training.
- For community - GCE helps in promoting understanding and respect for diverse cultures. According to UNESCO institute for statistics it was reported that every year 246 million students faced bullying due to physical appearance, cultural background, language and nationality. Themes ofGCE must be introduced in school curriculum so that it will foster a sense of belongingness to common humanity. When the World is changing rapidly, community play direct role in strengthening students capabilities by modelling values of respect and

trust. Implications of GCE can lead to more sustainable world by challenging injustice and inequality prevalent in societies.

- For students -it should be remembered that effective learning is very necessary for students. Teachers are facing difficulties in identifying GCE related topics in the curriculum it means students are not getting desired exposure of these contents in regular classes. Therefore it becomes mandatory to introduce GCE for them to be a responsible citizen of world. In this highly connected, inter dependent world students are expected to engage in real and meaningful learning. This can be achieved by implementing GCE from very beginning of school life resulting in development of sense of responsibility and knowledge of diverse people around the world.
- For educational policy makers - the authorities can use the result of the study to understand importance of GCE to develop programs and training for teachers. They can work upon incorporation of GCE in regular classes meant for students. It is found that majority of students are neither aware about political issues nor they care about international relations. The study presented that application of GCE reinforces students knowledge about world's issues and help them to be tolerant, respectful towards others cultures and critical thinkers.

Suggestion for Future Research

No study is final in any area irrespective of the field of research. Thus this research does not claim that the findings of the study are absolute and final. The study recommends necessity of researches to understand GCE.

1. Future studies could uncover integration of GCE with different subjects and grades.
2. Studies can also be done on challenges faced by teachers, students and other authorities while implementing it. The study would then provide better overall understanding of the idea.
3. Further researches can identify all the influential factors that determine achievement of GCE and competencies required for the same.
4. A study of development of GCE based curriculum can be done.
5. A comparative study of GCE can be studied with reference to different cultural settings.
6. Similar study can be done at different academic levels.
7. Future researches can also probe real classroom happenings of GCE in formal and non formal education in India.
8. Observation of GCE classes in different subjects and interviews with students could provide better understandings for GCE.
9. Current status of GCE awareness could be explored for higher education systems especially in universities.
10. Analysis of curriculum and policies supporting GCE could be performed for different levels.

Delimitations of the study

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.

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