

Development of a Package of Simulation Games for Secondary Level Civics Education and Study Its Effectiveness

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Abstract

This research aims to develop and implement a comprehensive set of simulation games and role-play activities in secondary-level civics education to enhance students' understanding of civics and democratic processes, foster their recognition of responsibilities and roles within a democracy, and examine the impact of these interventions on student learning outcomes. The study adopts an experimental research method, employing a two-equivalent-groups post-test experimental design. The experimental group, consisting of randomly selected 8th and 9th-grade students (n=40) from Marathi medium schools in Mumbai, employed the simulation games package on the experimental group during the second semester (December and January), while the control group learned the same content through traditional teaching methods. To evaluate the effectiveness of the simulation games, a teacher-made achievement test aligned with the course objectives was administered to both groups. Inferential data analysis, specifically the t-test, was employed to compare the performance of the two groups. The results revealed significantly higher learning outcomes among students in the experimental group compared to the control group. The findings emphasize that simulation games serve as an effective teaching method for secondary-level civic education. Well-designed simulation-based learning experiences positively influence students' learning outcomes, particularly in achieving higher-level objectives. This research provides evidence of the value of simulation game packages as constructive tools for teachers in the facilitation of effective teaching practices in civics education.

Keywords: Simulation game, Roleplay, Learning outcomes, Civics education.

Introduction:

A responsible citizen is the cornerstone of a functioning democracy. To cultivate responsible citizens, civics education has been incorporated into the secondary-level school curriculum. However, students often lack enthusiasm for the study of civics, treating it merely as a subject for rote memorization and exam preparation. Consequently, their interest in civics wanes, and the goal of nurturing responsible citizens remains unfulfilled.

According to the National Curriculum Framework of 2005, the focus of political science education should be on delving into the philosophical foundations that underpin the value framework of the Indian Constitution. This entails in-depth discussions on concepts such as equality, liberty, justice, fraternity, secularism, dignity, plurality, and freedom from exploitation (NCF, 2005).

The NEP 2020 recommendations on Citizenship and Civics education aim to equip students with the knowledge, skills, and values necessary to become informed, active, and responsible citizens in a democratic society. The policy emphasizes the importance of instilling constitutional values among students, including equality, justice, liberty, fraternity, and integrity. It emphasizes the need for students to develop a strong understanding of the Indian Constitution and its principles. The policy recommends democratic participation and encourages schools to provide platforms for students to voice their opinions, engage in debates, and participate in mock parliaments or student-led governance structures. This helps students develop critical thinking, decision-making, and leadership skills (NEP, 2020).

In the state board curriculum of Maharashtra, the subject of Civics introduces students to the Constitution of India. Due to the comprehensive nature of the subject, it is distributed across two grade levels, namely Standard VII and

Standard VIII. Standard VII covers the philosophical aspects and values expressed through the Constitution (Balbharti, 2016), while Standard VIII delves into the government system created by the Constitution, administrative structures, judicial machinery, and the judicial system (Balbharti, 2018).

The expected outcomes of civics education are as follows:

Students will be able to...

- ✓ explain the role, duties, and responsibilities of citizens,
- ✓ describe the Constitution as a living document through which democracy and the suzerainty of law come into reality,
- ✓ and develop a more mature understanding of social and economic consciousness,
- ✓ Illustrate the relationship between democratic institutions and various political processes.

In the curriculum, civics education emphasizes the importance of the Constitution, the values enshrined within it, the Preamble, Fundamental Rights and Duties, and the Directive Principles. The administrative machinery and political procedures laid down in the Constitution are covered in the curriculum of Standard VIII. Therefore, the civics portion in both standards complements each other.

According to the National Curriculum Framework (NCF) 2005, the pedagogical approach to civics education should shift from merely imparting information to engaging students in debate and discussion (NCF, 2005). This learner-centered approach will enable students and teachers to remain connected to social realities.

Now, let's define what a simulation is. A simulation is a recreation of a real-world situation designed to explore key elements of that situation. It simplifies and essentializes an object or process to allow participants to experience it (Simon Usherwood, 2015). Simulations can vary in complexity, ranging from simple and brief activities to more involved and extended ones. Games, role plays, problem-based learning and inquiry-based learning can all fall under the umbrella term of simulations. These pedagogical approaches share the idea of bringing the real world into the classroom,

enabling active engagement and immersion in the subject matter. Simulations provide students with an excellent opportunity to build knowledge and skills in a student-led learning environment. As the proverb goes, "I hear and I forget. I see and I remember. I do and I understand" (Hertel, 2002). Just as laboratory experiments allow physics students to observe actual physical processes, simulations allow social science students to learn through real-world experience. As in physical science experiments, manipulating variables in a simulation can change the dynamic of the interactions and the outcome of the simulation. This sort of experiential learning allows students to apply and test what they learn in their textbooks and often helps to increase students' understanding of the subtleties of theories or concepts and draw in students who can be alienated by traditional teaching approaches (Victor Asal, 2006).

Six Promising Approaches to Civics Education:

Research shows that schools can help to develop competent and responsible citizens when they (Civic Mission of Schools, 2003):

1. Provide instruction in government, history, law, and democracy.
2. Incorporate discussion of current local, national, and international issues and events into the classroom, particularly those that young people view as important to their lives.
3. Design and implement programs that provide students with the opportunity to apply what they learn through performing community service that is linked to the formal curriculum and classroom instruction.
4. Offer extracurricular activities that provide opportunities for young people to get involved in their schools or communities.
5. Encourage student participation in school governance.
6. Encourage students' participation in simulations of democratic processes and procedures.

Source: - *From the Civic Mission of Schools. (2003). New York: Carnegie Corporation and College Park, MD: Center for Information and Research on Civic*

Learning and Engagement. Available online at www.civicmissionschools.org.

The need and importance of research

Civics education plays a crucial role in building the knowledge base necessary for a just and peaceful society. The content of civics education should focus on raising students' awareness by encouraging critical exploration and questioning of familiar socio-political realities. There is significant potential to include new dimensions and concerns, particularly considering students' own life experiences. However, selecting and designing teaching-learning resources and strategies that enable students to develop a critical understanding of society and their role within it poses a challenging task.

Social sciences often receive less importance compared to natural sciences, resulting in the diminished significance of civics education. It is important to emphasize that social sciences provide the necessary social, cultural, and analytical skills required to navigate an increasingly interdependent world and to comprehend political and social realities.

To revitalize social science teaching, an interactive environment is essential for learners to acquire knowledge and skills. The teaching of social sciences should employ methods that promote creativity, aesthetics, and critical perspectives. It should enable students to establish connections between the past and present and understand the ongoing societal changes. Previously underexplored strategies such as problem-solving, dramatization, and role play can be employed to enhance social science education.

In summary, research is crucial in the field of civics education to address the need for effective teaching strategies, resource development, and curriculum design. It can contribute to revitalizing the teaching of social sciences, promoting critical thinking, and providing students with the necessary skills to navigate and contribute to the complexities of the contemporary world.

The objectives of the research

- To develop a comprehensive package of simulation games and role-play activities

specifically designed for civics education at the secondary level.

- To incorporate and implement the simulation games and role-play activity package in the teaching-learning process of civics education at the secondary level.
- To assess the effectiveness of the simulation games and role-play activity package in enhancing student learning outcomes and engagement in civics education.
- To identify and analyze the challenges faced in utilizing the simulation games and role-play activity package during classroom teaching and learning processes.

Hypothesis:

There is no significant difference between the learning outcomes of traditional teaching-learning and teaching with simulation games and role-play activity packages.

Research Method:

For this study, the researcher used an experimental research method. The experiment employed a two-equivalent-groups post-test experimental design. Two groups were formed: an experimental group and a control group, each consisting of 40 students randomly sampled from 8th and 9th standard Marathi medium schools in Mumbai. The students in the experimental group were taught using the simulation games package during the second semester in December and January, while the control group was taught in a traditional manner. After the successful completion of the experiment, the performance of both groups was assessed using a teacher-made test based on the course objectives. The data obtained from this research includes both qualitative and quantitative data. Data analysis was performed based on the characteristics of the collected data, with systematic classification and categorization. Descriptive and inferential methods were used to analyze the quantitative data, and a comparison was made using the results of the "t" test.

Experimental Design:

The study utilized a two-equivalent-post-test group design as follows:

A. Control group - 40 students (20 from Std. VII & 20 from Std. VIII)
 B. Experimental group - 40 students (20 from Std. VII & 20 from Std. VIII)

Students were selected for each group using a simple random method.

Research Tools:

The researcher used a 10-point observation schedule to observe student participation in learning. Additionally, two achievement tests, each worth 40 marks, were used for each class. The achievement tests were designed by the researcher based on the course objectives outlined in the relevant class textbooks and were checked by two experts from the field of education. The test included 10 objective-type questions for 10 marks, 5 scenario-based questions for 15 marks, and 5 short-answer-type questions for 15 marks.

Data analysis:

H0. There is no significant difference between the learning outcomes of traditional teaching-learning and teaching with simulation games and role-play activity packages.

Difference Scores Calculations

Control Group 1(Traditional teaching-learning)

N1: 40

df1 = N - 1 = 40 - 1 = 39

M1: 19.12

SS1: 1792.38

s21 = SS1/(N - 1) = 1792.38/(40-1) = 45.96

Experimental Group 2 (Use simulation games package in teaching learning process)

N2: 40

df2 = N - 1 = 40 - 1 = 39

M2: 26.45

SS2: 1761.9

s22 = SS2/(N - 1) = 1761.9/(40-1) = 45.18

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22)

* s22) = ((39/78) * 45.96) + ((39/78) * 45.18) = 45.57

s2M1 = s2p/N1 = 45.57/40 = 1.14

s2M2 = s2p/N2 = 45.57/40 = 1.14

t = (M1 - M2)/√(s2M1 + s2M2) = -7.32/√2.28 = -4.85

The t-value is -4.85282. The p-value is < .00001. The result is significant at p < .01.

Interpretation:

Null hypothesis is rejected on 0.1 levels

Learning outcomes are positively affected by use of simulation games package in teaching-learning process.

Findings:

A. The present research has shown that the use of simulation game packages enhances learning outcomes through the following factors:

- Students are fully engaged by simulations, leading to increased learning as they become deeply involved.
- Students exhibit more active participation in learning activities, games, and role plays, resulting in enhanced learning.
- Simulations require students to apply what they have learned in low-risk but real-life situations, allowing teachers to assess whether students have internalized information and can effectively use it as citizens.
- Simulations provide opportunities for critical and reflective thinking as students analyze and reflect on the roles they play.
- Culminating activities in simulations often involve an audience, which motivates students to work hard and excel.
- Discussions and debates within simulations are beneficial for better understanding of various concepts.
- Simulations increase interest in civics education and encourage greater participation.
- Simulations promote cooperation, collaboration, and the construction of students' own knowledge.
- Simulation games and role plays significantly contribute to achieving higher-level learning objectives.

B. The researcher has identified the following challenges associated with using simulation games in teaching-learning:

- Simulations are time-consuming methods, which pose a challenge for teachers in managing time within the school setting.

- Simulations require more preparation and are considered more complex learning activities, leading some teachers to avoid this method.
- There is a higher risk of failure associated with simulations.

Conclusion:

This study emphasizes that simulation games serve as an effective teaching method for secondary-level civic education. Well-designed simulation-based learning experiences positively influence students' learning outcomes, particularly in achieving higher-level objectives. The active participation of students in learning fostered by simulation games facilitates specific and focused engagement, enhancing students' understanding of their roles and responsibilities in a democracy. Additionally, the integration of simulation games in civic education stimulates student interest and engagement in the subject matter. While simulations have numerous benefits, they are also complex learning activities that require considerable preparation on the part of teachers and carry the risk of failure.

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