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Impact of Storytelling Versus Traditional Methods in Enhancing Divergent Thinking Skills in Social Science: The Role of Student Participation and Learning Motivation among Class 7 Students

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Abstract

Rational: This study investigates the impact of storytelling as a pedagogical intervention in contrast to traditional teaching methods on the fluency, flexibility, originality, and elaboration of divergent thinking skills in social science among seventh-grade students. This study examines these effects while statistically controlling for student participation and learning motivation as covariates.

Design of the study: The researchers used a quasi-experimental design with a pre-test and post-test control group to evaluate the effectiveness of a storytelling-based approach as compared to a traditional teaching method in improving divergent thinking abilities for 78 students attending Delhi NCR area schools affiliated with the Central Board of Secondary Education. The students were randomly assigned to either an experimental group that received instruction using the storytelling method or a control group that received instruction using the traditional method. Each of the students' divergent thinking ability scores were obtained at both the beginning and end of the instructional program. In addition to determining if there is a statistically significant difference in the amount of improvement in the divergent thinking ability between the two groups, the researchers also utilized ANCOVA and GLM statistical procedures to account for any potential differences in the level of student participation and student motivation to learn that existed between the two groups of students.

Major Findings: In all four dimensions of divergent thinking assessed, the storytelling method produced a strong improvement of large effect sizes. ANCOVA showed that method of treatment was the variable affecting divergent thinking skills (after controlling for student attendance ($F(1,75)=76.6$, $p<.001$, $\eta^2=0.505$) and learning motivation ($F(1,75)=53.84$, $p<.001$, $\eta^2=0.418$). Student attendance was a significant covariate, but learning motivation did show independent significance. The effect of gender was not significant statistically.

Implications of the study: Storytelling is a superior way to teach social sciences, which are beneficial for increasing creative and divergent thinking in young teenagers. The data supports developing curriculum that includes student-cantered, narrative-based content to foster 21st century skill development**.**

Originality: This study was one of the studies conducted in India to assess how the use of storytelling affects creative and cognitive processes in social sciences classes for 7th grade students, providing strong justification for innovative curriculum development in this area and in general to increase student creative thinking beyond their ability to read.

Keywords: Storytelling, Divergent Thinking, Social Science Education, Student Participation, Learning Motivation, Experimental Study, India

Introduction

Divergent thinking, encompassing fluency, flexibility, originality, and elaboration, forms the basis of creativity in problem-solving and innovation. In Indian social science classrooms, however, learning practices often rely on rote methods, which limit opportunities for creative development. Although the National Education Policy (NEP, 2020) emphasizes the need for creative and experiential learning, it offers limited guidance on practical implementation strategies at the classroom level.

Storytelling, a traditional form of communication, has gained renewed attention as a pedagogical approach that supports creativity, comprehension, and the exploration of multiple perspectives. While the benefits of storytelling for language learning are well documented, limited research has examined its direct influence on cognitive creativity in school-level social science education, particularly among early adolescents. The present study seeks to address this gap by investigating (a) the effect of storytelling on divergent thinking in social science learning compared with conventional teaching methods, and (b) how this relationship interacts with students' engagement and motivation to learn.

Objectives of the study

1. To examine the effect of instructional approach (storytelling method versus traditional method) on the divergent thinking abilities of Class 7 students in social science, while statistically controlling for student participation as a covariate.
2. To examine the effect of instructional approach (traditional method versus storytelling method) on the divergent thinking abilities of Class 7 students in social science, while controlling for learning motivation as a covariate.

Hypothesis of the study

Hypothesis 1: When student participation is controlled, the instructional approach (storytelling versus traditional) will have a significant effect on the divergent thinking abilities of Class 7 students in social science, with the storytelling method expected to produce higher levels of divergent thinking.

Hypothesis 2: When learning motivation is statistically controlled, students receiving instruction through the storytelling method will show higher divergent thinking abilities in social science than those taught through the traditional method.

Limitations

The study was confined to a small sample which was selected in one metropolis, and this can be a threat to the external validity of the results. The duration of intervention was just a few weeks back-to-back; longitudinal research is needed to measure long-term outcomes. The research was largely based on the quantitative techniques of measurement; the further research must include the qualitative observations and personal student impressions that will help to achieve more subtle interpretation of the classroom processes.

Review of Related Literature

Studies have found that storytelling, compared to other traditional forms of instruction, is an effective way of teaching in social sciences as it engages students at both emotion and cognitive levels. This level of active practice develops creativity and increases the memory level (Igartua and Vega Casanova, 2016; Slater and Rouner, 2022). Student motivation and following in the context socio-cultural background, learning is further reinforced by the introduction of culturally relevant narratives (Neina et al., 2023). It is also through storytelling that the learners are able to look at a variety of perspectives and think more broadly than the traditional, less interactive, means that they have. These thinking processes coincide with main dimensions of divergent thinking which are originality, fluency, and flexibility (Williams, 1970).

Storytelling promotes co-construction of knowledge and actively fosters participation by promoting creative learning processes in a socio-constructivist perspective (Da Silva & Vieira, 2022; Grave Meijer, 2020). Conversely, when not facilitated by positive formative feedback, traditional methods supplied might restrict the elaborative and reflective skills of students (Gleaves and Walker, 2013). Telling stories provides valuable challenges and thought-provoking opportunities, which are necessary in the context of inquiry-based learning in the social science. It also enhances intrinsic motivation, which is an unquestionably related phenomenon to cognitive engagement and cognition necessity (Turner et al., 2021).

Pedagogical innovations that are ethically responsive and student-centred like storytelling are beneficial in educational transformation. On the other hand, traditional methods threaten to limit the opportunity to be creative and to reinforce the existing education hierarchies (Koon, 2022; Gunnarsson, 2021). To analyse these relationships, analytical models like the Partial Least Squares Structural Equation Modelling (PLS-SEM) and multivariate analyses would be quite fitting because they help to examine the complex relationships between variables like motivation, participation, and divergent thinking (Hair et al., 2017; Wold, 1982; Tabachnick and Fidell, 2013; Kothari, 2009).

Gaps in the Literature

The earlier literature body has neglected early adolescent who are students in Class 7, and based on the little it has examined, it has not encompassed the possibility of confounding variables like learning motivation or classroom participation. In addition, hardly any experimental studies have explored the role of storytelling in enhancing divergent thinking in the context of an Indian social science education.

Methodology of the study

Research Design

A randomized pretest- post-test control group experimental design was adopted in the study. Two groups were created, one experimental group that was instructed through storytelling and other groups that were control groups and the number of students in the group was 39. The four to six weeks of intervention was based on the most important concepts in social science.

Participants

The participants were the students of Class 7 of CMSE-based schools in the Delhi-NCR area. Inclusion criteria were used to support the retention of every participant till the intervention period. Students and their guardians were informed and gave them informed consent beforehand to take part.

Procedure

Pretest: A validated test tool was used to help pre-test the levels of divergent thinking.

Intervention: In the experimental group, the intervention was an instruction of the form of narrative-based sessions that combined fictional and real-life stories concerning the curriculum material. The conventional teaching methods that included the use of textbooks were used in the control group.

Post-test: To evaluate the changes in performance, an intervention of the same divergent thinking test was carried out after the intervention to both groups.

Tools, Techniques, and Measures

The intervention was put in place and assessed using a combination of assessment and instructional tools. The researcher prepared 20 lesson plans on the storytelling approach, with each lesson plan presented in great detail following the NCERT Class VII Social Science curriculum and subject experts were consulted and validated it. The lesson plans included the use of narrative introduction, interactive discussions, creative exploration, and reflective activities in the subjects of history, geography, and civics. These were to be used to develop skills of divergent thinking namely fluency, flexibility, originality, and elaboration. The intervention lasted 20 weeks and included 48 sessions of 50-minute lessons, which allowed students to be exposed to storytelling pedagogy to a considerable amount to develop creativity and critical thinking.

To measure the variables, the research employed Creativity Assessment Packet (CAP) created by the Dr. Frank E. Williams to figure out the ability to think divergently, and other instruments developed by the researchers to assess the involvement of students and their motivation to learn. The analyses of data were carried out with SMART-PLS 4 and Partial Least Squares Structural Equation Modelling (PLS-SEM) in order to prove the validity and reliability of constructs. The external loading that dominated the indicator reliability was over the 0.70 standard level, to 0.974 in case of elaboration items. The values of alpha of Cronbach were 0.702 (storytelling-based instruction) to 0.931 (fluency) thus proved a high level of internal consistency. The composite reliability coefficients (ρA and ρC) also reached above the 0.70 mark. The Average Variance Extracted (AVE) values were more than 0.50 and the participation of students has an AVE of 0.893 which shows comprehensive convergent validation as well as a high level of explained variance. In general, the psychometric data showed strong reliability and validity measurement of the instruments applied in the evaluation of the effect of storytelling on Class 7 students in their development of divergent thinking.

Data Analysis and Interpretation

To evaluate the main effects of the instructional method while accounting for learning motivation and student participation, Analysis of Covariance (ANCOVA) and General Linear Modelling (GLM) techniques were applied. When assumptions of normality or homogeneity were not met, robust statistical procedures were employed to support the accuracy and reliability of results.

1. ANCOVA Results: Effect of Treatment (Controlling Participation)

The outcome of the pretest showed that there was no significant difference between the scores of the two groups in all the dimensions of divergent thinking and thus the randomization was successful. The homogeneity of variance was assumed and the Levene test proved this assumption p =.147. The effect size of the treatment, F (1, 75) = 76.60, p =. 001, η2 =. 505 was large. The participation of students did not show a significant influence, but the differences were moderately positive with a F(1, 75) = 10.50, p =.002 and η2 =.123. Controlling the factor of participation, the mean scores of the experimental (storytelling) group were much higher than the control group scores in all aspects in relation to the divergent thinking that showed the success of the storytelling-based instructions approach.

2. ANCOVA Results: Effect of Treatment (Controlling Motivation)

The F-value of the treatment showed a large effect size, F (1, 75) = 53.84, p =.001, η2=.418. Learning motivation appeared to have no significant effect, F(1, 75) = 2.05, p =.156, η2 =.027. The story telling approach was a good predictor of greater post-test score in divergent thinking despite motivation modulation. This points to the consideration that the learning motivation although relevant did not affect the divergent thinking outcomes as an independent variable. Other comparisons have shown that there is not a statistically significant difference based on gender under experimental conditions or having factored-out covariates (p >.05), and therefore can conclude that, in that regard, storytelling does lead to the experience of creativity regardless of gender.

Interpretation of the study

The findings suggest that storytelling can be a better teaching strategy rather than traditional style of teaching the students to learn divergent thinking skills at the middle school. The effect sizes are large which is a sign that storytelling involves both cognitive and emotional processes that play a contribution role in thinking creatively. Even though learning motivation itself did not have a standalone effect on performance, student participation was realized to amplify these benefits further. Such findings note the necessity of the variety of instructional practices in Indian social science classrooms. It is possible to go beyond the use of text-based routines and integrate storytelling to offer significant and contextually rich experiences in learning. Story-based instruction provides students with creative problem-solving, which reflects the real-life situations thus enhancing perceptions at a deeper level of learning and application of social science concepts.

Implications of the study

This study is based on the constructivist idea, where pedagogy is expected to be proactive in constructing meaning by using interesting in-real-life tasks. Instructors are urged to apply narrative-based methods of teaching the lesson plans. In the case of peer-to-peer learning, apply class discussions and group storytelling. Obtaining professional training in story-based pedagogy will be always a better possibility.

Aligning with Policy Initiatives

The NEP 2020 highly emphasizes the use of storytelling into an experiential, inquiry-based, and student-centred approach to learning to facilitate creativity, critical thinking, and conceptual understanding. This aim is supported by the outcomes of the study as they demonstrate that storytelling significantly enhances the ability of

Class 7 students to think in a divergent manner when it comes to social science. By employing the concept of storytelling to cultivate empathy, cultural awareness, and local history, it promotes cognitive and emotional growth as well as the focus on the NEP on the idea of holistic, multidisciplinary, and value-based education. As a pedagogical practitioner, this strategy helps the NEP achieve its mission of making learning an experiential, inclusive, and transformative approach through its emphasis on the value of storytelling as a key facilitating resource.

Recommendations and Suggestions

Inculcate storytelling tactics in standard teaching of social sciences. Teach narrative-based pedagogies to train teachers. Encourage project-based learning based on peer narration. Do longitudinal studies to check the outcomes over time. Increase sample size and mix on socioeconomic and cultural backgrounds. Compare telling stories with other forms of innovative instruction (e.g., project-based learning, role play).

Conclusion

Storytelling significantly increases the divergent thinking of Class 7 students in the social sciences following the removal of the motivational factor of learning and student involvement. These findings justify the inclusion of storytelling in the academic practices and policy because it is necessary to formulate innovative and flexible students, who are able to face difficulties of the twenty-first century.

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