

Artha-Journal of Social Sciences
2018, Vol. 17, No. 1, 9-22
ISSN 0975-329X | <https://doi.org/10.12724/ajss.44.2>

Impact of Edutainment Programme in Developing Life Skills with Specific Reference to Critical and Creative Thinking among Adolescent Students of Chattisgarh State

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Abstract

This study examined the influence of teaching methods, relevance, and effect of edutainment on the development of life skills. Using an Experimental research paradigm, the study compared the F values of Pre-test and Post-test of both Control and Experimental groups to know the influence of different variables on each other. The study was conducted in rural and urban areas of Bastar district, Chattisgarh demonstrated that the means of edutainment used such as brainstorming sessions, games, screening of Hindi movie 'Siddharth', and group discussions to convey subject matters like Human Rights, especially Rights of Children, were successful in developing both positive and creative thinking in them. The level of achievement using edutainment was more among Government school students, both in rural and urban areas.

Keywords: Edutainment, Life skills, Critical thinking, Creative thinking.

1. Introduction

Chhattisgarh is a developing state with a vast majority of its population belonging to educationally and socially backward

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categories. Most students in Government schools are first/second generation learners who have not developed adequately in areas of life skills, critical thinking, and creative thinking. In this very competitive age that we live in, the need for critical and creative thinking are of prime importance. This study is an attempt to see whether the integration of various means of edutainment can be helpful in the development of the aforementioned skills among adolescent students of Bastar District in Chhattisgarh. In the rural area, which is 35 kms away from Jagdalpur town, one Government School (Higher Secondary School, Bakkawand), one Private Aided School (Vimal Vidyashram Higher Secondary School, Chiurgoan) and one Private Unaided School (Jai Krista Convent School, Pahurbel) were selected for the study. In the semi-urban areas of Jagdalpur, one Government School (Govt Higher Secondary School, Jagdalpur), one Private Aided School (Deepti Convent School, Jagdalpur) and one Private Unaided School (Vidya Jyoti Senior Secondary School, Jagdalpur) were selected for the study. 30 students each of class IX were selected from each school and they were equally divided into Control and Experimental groups for which Pre-Test and Post-Test were conducted. The results were tabulated and analysed using Two Way ANOVA to check levels of interaction between different variables, i.) the area and ii.) the type of school for testing the research hypotheses.

1.1 Operational definitions of the terms used

1.1.1 Edutainment

Edutainment, also called entertainment education, is a new generation method of teaching and learning which integrates educational content and means of entertainment.

The different types and means of edutainment that can be assimilated into teaching and learning include communication satellite, audio and video, films and advertisements, Radio and TV, internet and electronic mail, educational games, zoos, museums, corporations, parks, and other public access areas.

The various characteristics of edutainment are entertainment, game/play, experience, comprehending individual and social roles,

simulation and reality, cognition and self-cognition, interaction, and so forth.

1.1.2 Life skills

Life skills are skills, techniques, abilities, talents or capacities that help one to be successful in his/her life – in the cognitive or thinking level, emotional or personal level, and interpersonal or social level.

1.1.3 Critical thinking

Critical thinking is the ability to analyse information, data, or experience in an objective manner. It includes sub-skills like analysing peer influences, impacts of media, attitudes, social values and norms. In short, it is the ability to engage in reflective and independent thinking to make rational conclusions about what to do or what to believe.

1.1.4 Creative thinking

Creative thinking is an ability that helps one to look beyond his/her direct experiences and address issues in a perspective which is different from the obvious. It indicates creativity and imagination in addressing issues. It adds novelty and flexibility to the situations of our daily life by means of lateral thinking and improves our ability to perceive patterns that are not apparent. Research argues that “both creative thinking and critical thinking skills are valuable and neither is superior” (Coughian, 2007-08), p. 9).

1.1.5 Adolescence

Adolescence is a transitional stage of physical and psychological development that occurs during the period from puberty to adulthood (age of maturity). This period of human growth generally manifests between the age of 10 and 21. It is the most complicated period in the process of growth and development of a human being.

1.1.6 Chhattisgarh

Chhattisgarh takes its name from thirty six ancient forts in the area. It is a heavily forested state in central India known for its temples

and waterfalls. It is the tenth largest state in India, with an area of 135,194 km². With a population of 28 million, Chhattisgarh is the 17th most-populated state in the country. A resource-rich state, it is a source of electricity and steel for the country, accounting for 15% of total steel produced. However, it is marked as an educationally and socially backward state in map of India.

2. Review of literature

Coughian (2007-08) argued that creative and critical thinking skills are important. The paper explained the processes and approaches involved in creative and critical thinking. It also presented a lot of strategies like reflection, self-awareness, judgement, and so forth to improve creative and critical thinking skills.

Lynch-Arroyo & Asing-Cashman (2016) in their study ascertained the levels of students' creative-critical mathematical thinking and problem solving when elements of edutainment are introduced as a pedagogical tool. The results of the study indicated that utilising numbers as teaching and learning tools generally facilitated movement of students' thought processes to levels of critical-creative thinkers, increased engagement, and promoted transition from limited perspectives to an evolved one.

Kusmarni, Winarti, & Kurniawati (2017) analysed, processed, and described various innovations based on edutainment in IPS learning. It also described the competencies/achievements based on the edutainment learning model. It used Research and Development Study for the first step which was a descriptive study and which tried to develop critical thinking through edutainment.

Capila and Khanna (2010) foregrounded the importance of developing self-awareness, critical, and creative thinking while improvising, skills pertaining to problem solving, decision making, and so forth. The study also revealed the processes of planning and performance. Post-performance review enhances their life skills development and motivates some of them to become catalysts of change.

These and other similar studies prove that there is a scope for this current study on the relevance of integration of means of

edutainment for development of life skills, especially critical and creative thinking among adolescents of Bastar District.

3. Research objectives

- i.** To find out the effect of edutainment on the overall development of adolescents of Bastar District in Chhattisgarh
- ii.** To determine the influence of edutainment on life skill development of the said adolescents
- iii.** To identify the effect of edutainment on development of critical thinking of the said adolescents
- iv.** To find out the effect of edutainment on the development of creative thinking of the said adolescents

4. Research hypotheses

- i.** There will be no effect of edutainment on overall development of adolescents of Bastar District in Chhattisgarh.
- ii.** There will be no effect of edutainment on the life skill development of adolescents.
- iii.** There will be no effect of edutainment on the development of critical thinking of adolescents.
- iv.** There will be no effect of edutainment on the development of creative thinking of adolescents.

5. Methodology of research: experimental research

5.1 Population and sampling

The study was conducted both in the rural and urban areas of Bastar District. Both in the rural and urban areas, one each of Government, Private Aided, and Private Unaided schools were selected. From each, 30 students of class IX were randomly selected based on probability sampling technique using lottery method and were equally divided into Control and Experimental groups. Pre-Test and Post-Test were conducted for both groups. The results

were tabulated and analysed using Two Way ANOVA to check levels of interaction between different variables and to test research hypotheses. The total number of samples were 180, including Experimental and Control groups. All students were from class IX and had the same IQ level. Thereby, the sample of population had homogeneity by nature.

5.2 Tools used in the study

- a) A questionnaire prepared by the researcher for initial survey to know the background of the population (students) was used.
- b) Edutainment programme prepared by the researcher which included brainstorming sessions, games, screening of Hindi movie on Rights of Children ('*Siddharth*' - Mehta, 2013) and group discussions was used.
- c) Questionnaire for Pre-test and Post-test which were standardised through pilot test and item analysis was administered.

5.3 Procedure followed

Initial survey was conducted to know the background of the students. Pre-test was conducted for both Control and Experimental groups to check the students' knowledge regarding critical and creative thinking. The first part of the questionnaire included questions related to critical and creative thinking. The second part of the questionnaire consisted of questions regarding Human Rights, especially children's rights. The results were tabulated. After Pre-test, the Control group was taught traditionally about critical thinking and creative thinking, Human Rights, and Rights of Children using traditional methods.

The Experimental group was taught the same topic through the means of edutainment. After watching the Hindi movie '*Siddharth*' (Mehta, 2013) on the Rights of children, students were given time for discussion and clarification of doubts which gave them a chance to express their ideas freely, critically, and creatively. Post-test was conducted for both groups to check the effect of edutainment in the development of critical and creative thinking.

The results were tabulated manually using Two-way ANOVA as there were two treatment variables/independent variables with different factors. After finding out the F value of both Pre-test and post-test for Control and Experimental groups separately, a comparison was made between the results. The variables of this research included dependent variable - level of development of critical and creative thinking of adolescent students of class IX in relation to area level (urban and rural) and type of the school (Government, Private Aided, and Private Unaided) and independent variable - use of edutainment programme. The validity and reliability of test items were checked. Necessary modifications were made in the questionnaire following a discussion with experts in educational research.

6. Analysis of Pre-test and Post-test results of Control group

6.1 Pre-test results of Control group

Table 1: Analysis of variance (Pre-test of Control group)

Source of variation	Sum of squares	Df	Mean squares	F
A. Area wise	10	1	10	0.045
B. Type of school	1072.09	2	536.04	2.431
Interaction A × B (Area wise × Type of school)	53.61	2	26.80	0.121
Error within treatments	18520.12	84	220.477	

The calculated value of F for main effect of area of school on the achievement of students in critical and creative thinking, irrespective of their type of school, has come out to be 0.045, for Df 1 and 84, which is less than F value 3.95 at 0.05 level of significance. The obtained value of F for main effect of type of school on the achievement of students, irrespective of their area, has come out to be 2.431, for Df 2 and 84, which is less than the F value 3.10 at 0.5 level. The estimated value of F for double interaction between A and B with respect to achievement of students has come out to be 0.121, for Df 2 and 84, which is less than F value 3.10 at .05 level.

6.2 Post-test results of Control group

Table 2: Analysis of variance (Post-test of Control group)

Source of variation	Sum of squares	Df	Mean squares	F
A. Area wise	8.1	1	8.1	0.036
B. Type of school	1075.4	2	537.7	2.422
Interaction A × B (Area wise×Type of school)	50.8	2	25.4	0.114
Error within treatments	18647.42	84	221.993	
Total	19781.72	89		

The calculated value of F for the main effect of one variable, the area of the school on the achievement of students in critical and creative thinking, irrespective of their type of school, has emerged as 0.036, for Df 1 and 84, which is less than F value 3.95 at 0.05 level of significance. The obtained value of F for main effect of type of school on the achievement of students, irrespective of their area, has come out to be 2.422, for Df 2 and 84, which is less than F value 3.10 at 0.5 level of significance. The estimate value of F for the double interaction between A and B with respect to achievement of students has come out to be 0.114, for Df 2 and 84, which is less than F value 3.10 at .05 level. These results show that there is not much difference between the achievement level of Control group in Pre-test and Post-test.

7. Analysis of Pre-test and Post-test results of Experimental group

7.1 Pre-test results of Experimental group

Table 3: Analysis of variance (Pre-test)

Source of variation	Sum of squares	Df	Mean squares	F
(A) Area wise	11.37	1	11.37	0.051
(B) Type of school	1160.60	2	580.30	2.623
Interaction A × B (Area wise × Type of school)	60.96	2	30.48	0.138
Error within treatments	18560.47	84	220.958	
Total	19793.40	89		

Area wise (A):The computed value of F for main effect of area of school on achievement of students in critical and creative thinking, irrespective of their type of school, has come out to be 0.051, for Df 1 and 84, which is less than F value 3.95 at 0.05 level of significance. This result indicates that students belonging to urban and rural areas do not differ significantly in their achievements in critical and creative thinking.

Type of school (B): The obtained value of F for main effect of type of school on achievement of students, irrespective of their area, has come out to be 2.623, for Df 2 and 84, which is less than F value 3.10 at 0.5 level of significance. This shows that achievement of students belonging to different types of school do not differ significantly.

Interaction A × B effect: The estimated value of F for double interaction between A and B with respect to achievement of students has come out to be 0.138, for Df 2 and 84, which is less than F value 3.10 at .05 level. This indicates that there is approximately the same difference in means of achievement scores of students belonging to urban and rural areas regardless of their type of school i.e., Private Aided, Government, and Private Unaided.

7.2 Post-test results of Experimental group

Table 4: Analysis of variance (Post-test)

Source of variation	Sum of squares	Df	Mean squares	F
A. Area wise	154.71	1	154.71	1.274
B. Type of school	1249.27	2	624.64	5.145
Interaction A × B (Area wise × Type of school)	48.97	2	24.49	0.201
Error within treatments	10187.45	84	121.398	
Total	11650.40	89		

Area wise (A): The computed value of F for main effect of area of school on achievement of students in critical and creative thinking, irrespective of their type of school, has come out to be 1.274, for Df 1 and 84, which is less than F value 3.95 at 0.05 level of significance but higher than that of Pre-test. There is a difference in the achievement levels of students of class IX as evidenced after administering the special treatment of edutainment.

Type of school (B): The obtained value of F for main effect of type of school on achievement of students in critical and creative thinking, irrespective of their area, has come out to be 5.145, for Df 2 and 84, which is much higher than F value 3.10 at 0.5 level of significance. This shows that achievement of students belonging to different types of school differ significantly after special treatment through edutainment.

Interaction A × B effect: The obtained value of F for double interaction between A and B with respect to achievement of students in critical and creative thinking has come out to be 0.201, for Df 2 and 84, which is less than F value 3.10 at .05 level. This is also higher than that of Pre-test. This indicates that there is approximately significant difference in the means of achievement as evaluated on the basis of the academic scores of students belonging to urban and rural areas regardless of their type of school i.e., Private Aided, Government, and Private Unaided schools. This shows that there is some difference in the means of achievement as evaluated in the academic scores of students of Private Aided, Government, and Private Unaided schools irrespective of their area, urban and rural.

8. Comparative analysis of Pre-test and post-test results of Control group and Experimental group

A close analysis of the results of Pre-test scores of both Control and Experimental Groups show that they are more or less the same. The Post-test scores of both groups differ significantly. Control group's post-test result is more or less the same as that of the Pre-test whereas Experimental group's post-test result is higher than that of Pre-test. The comparative analysis of results of Pre-test as well as post-test of the Experimental group proved that integration of edutainment programme in curriculum plays an effective role in the overall development of life skills, critical, and creative thinking abilities of adolescent students of Bastar District in Chhattisgarh.

Table 5: Analysis of variance of Pre-test and Post-test results of Control group

Source of variation	Pre-test		Post-test	
	Mean squares	F	Mean squares	F
(A) Area wise	10	0.045	8.1	0.036
(B) Type of school	536.04	2.431	537.7	2.422
Interaction A × B (Area wise × Type of school)	26.80	0.121	25.4	0.114

Table 6: Analysis of variance of Pre-test and Post-test results of Experimental group

Source of variation	Pre-test		Post-test	
	Mean squares	F	Mean squares	F
(A) Area wise	11.37	0.051	154.71	1.274
(B) Type of school	580.30	2.623	624.64	5.145
Interaction A × B (Area wise × Type of school)	30.48	0.138	24.49	0.201

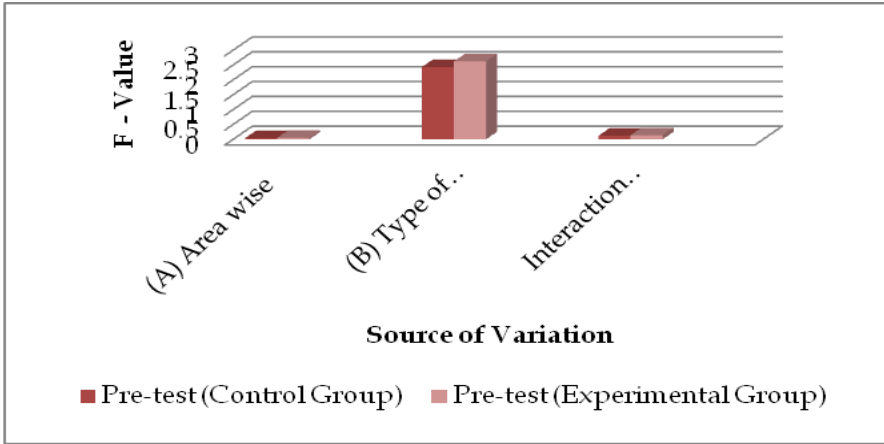


Fig 1 F Value of Pre-test results of Control group and Experimental Group

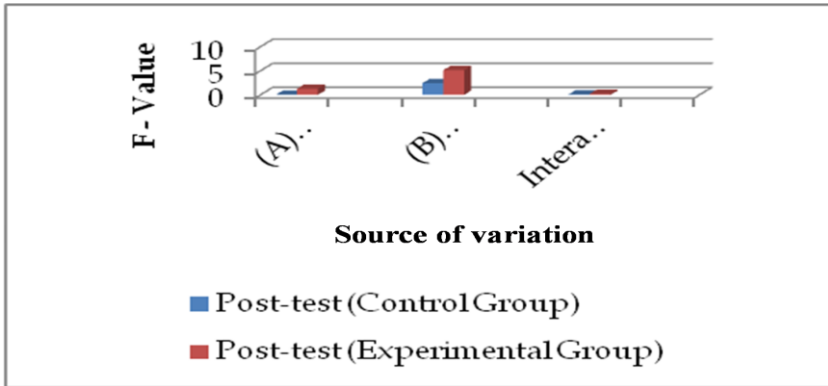


Fig 2 F Values of Post-test Results of Control group and Experimental Group

Table 7: Analysis of variance of Pre-test results of Control group and Experimental group

Source of variation	Control group		Experimental group	
	Mean squares	F	Mean squares	F
(A) Area wise	10	0.045	11.37	0.051
(B) Type of school	536.04	2.431	580.30	2.623
Interaction A x B (Area wise x Type of school)	26.80	0.121	30.48	0.138

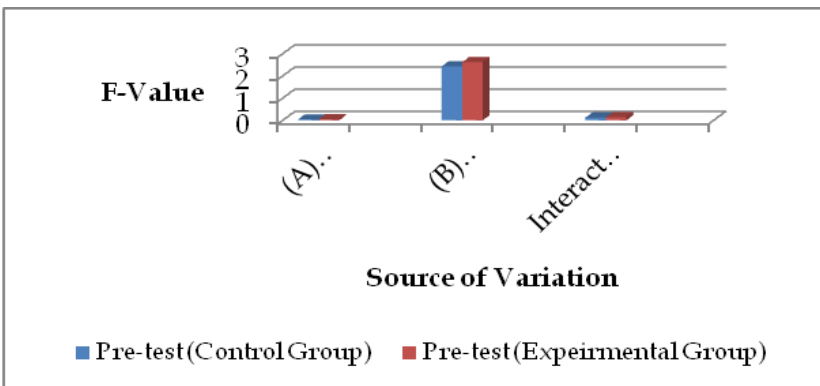


Fig 3 F Value of Pre-test Results of Control group and Experimental Group

Table 8: Analysis of variance of Post-test results of Control group and Experimental group

Source of variation	Control group		Experimental group	
	Mean squares	F	Mean squares	F
(A) Area wise	8.1	0.036	154.71	1.274
(B) Type of school	537.7	2.422	624.64	5.145
Interaction A × B (Area wise × Type of school)	25.4	0.114	24.49	0.201

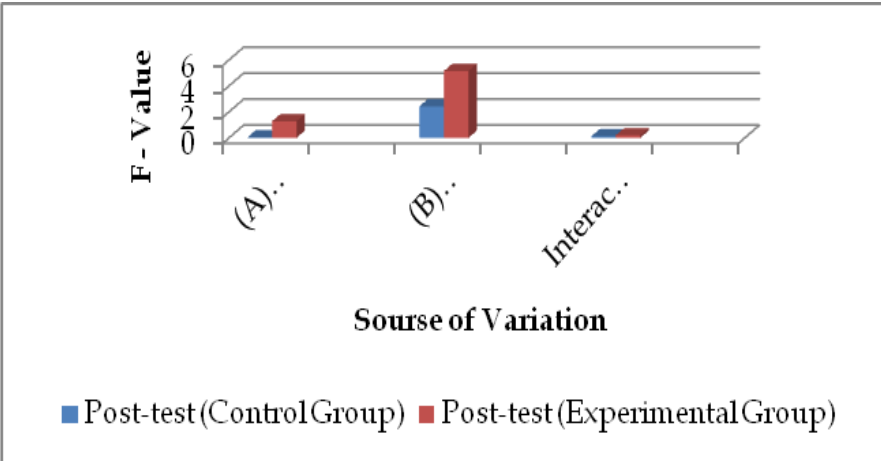


Fig 4 F value of post-test results of Control group and Experimental group

9. Summary and findings of the study

- i. There is significant effect of edutainment on overall development of adolescent students of Bastar District in Chhattisgarh.
- ii. There is significant effect of edutainment on life skill development of adolescents.
- iii. There is significant effect of edutainment on development of critical thinking of adolescents.
- iv. There is effect of edutainment on development of creative thinking of adolescents.

10. Major recommendations and conclusions

Edutainment is useful to both teachers and students in the effective transaction of curriculum and for better understanding. This study has proved that integration of the means of edutainment is effective in increasing the creative and critical thinking abilities of adolescent students. Edutainment is a creative means of imparting knowledge as per the new paradigm shifts of constructivism in teaching and learning. Edutainment is always creative and critical and it can develop the thinking capacity of adolescents. The teachers have the responsibility of integrating locally available means of edutainment according to time and context to improve the comprehension and performance levels of the students. It will make students more open, spontaneous, critical, and creative in their attitudes and in life. Today's teachers need to use edutainment as a means of educating through entertainment as this is the need of the hour. It will make changes in the life of adolescents of people as it is an interactional and innovative approach in Indian classrooms. It can easily integrate three domains of learning—cognitive, affective, and psycho-motor levels – for improving the performance of students. It can assure the integrated use of 3 “H s” (Head, Heart and Hand) in the teaching-learning process for the better levels of achievement and all-round development of adolescent students of Bastar.

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