

Interactive effects of reward system on academic achievement in Bareilly District of Uttar Pradesh

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Abstract

A study was conducted to evaluate the interactive effects of the reward system on academic achievement in the Bareilly District of Uttar Pradesh and suggest recommendations for policymakers. The present study was quasi-experimental. The subject of the study were the children from primary, junior high school, and secondary classes of Uttar Pradesh Secondary Education Board (UPSEB/CBSE) schools/colleges of Bareilly District of Uttar Pradesh. The subjects included students of both female and male gender from rural and urban localities under the course of the present research as respondents. Two blocks (one rural and urban each) of Bareilly (UP) were randomly selected for the present research. One school of each of the three standards viz. primary, junior high school, and secondary was randomly localized to grave the information. Finally, 10 (five girls and boys each) students from each school/ college were randomly selected as the respondent in the present research work. Thus a total of 60 students acted as the respondent in the present study. The data for the research was collected with the help of standardized or validated tests (validity 0.84 and Reliability 0.91). Statistics dealt with all aspects of this, including the planning of data collection in terms of the design of surveys and experiments. Computer software like SPSS version 17 (SPSS, 1998) and Microsoft Excel version 2007 (MS Office, 2016) were employed for statistical calculations. Based on the present study it can be recommended that an intrinsic achievement system should be implemented and boy students and students from rural localities needed attention to the improvement of achievements in the Bareilly District of Uttar Pradesh.

Key words: Achievements, Bareilly, Extrinsic, Intrinsic, Junior high school, Primary education, Rural, Secondary education, Urban

Introduction

The report, learning without burden notes that public examinations at the end of Class X and XII should be reviewed to replace the prevailing text-based and quiz-type questioning, which induces an inordinate level of anxiety and stress and promotes rote learning. While urban middle-class children are stressed by the need to perform extremely well, rural children are not sure whether their preparation is adequate even to succeed.

The high failure rates, especially among the rural, economically weaker, and socially deprived children, force one to critically review the whole system of evaluation and examination. For if the system was fair and working adequately, there is no reason why children should not progress and learn.

Motivating students to achieve academically highlights the different philosophical debates over intrinsic versus extrinsic motivation. Educators want to

know how motivation can be increased for middle-level students who often arrive at middle school with a predetermined attitude about their ability to succeed or fail. The fundamental competitive view of our economic system often dictates how many reward systems are organized to motivate students. Rather than finding ways to recognize each student as an individual as suggested by middle school experts, teams often set out to develop systems that will manage both behaviour and academics by rewarding those who comply and punishing those who do not (Kohn, 1986; 1993; 1996).

Intrinsic motivation theory and research have a 40-year history beginning with White, (1959) who first challenged Skinner's empirical reinforcement theory with the theory of competence as a crucial element in motivation. Personal causation theory was developed by deCharms, (1968) as he researched young men's motivation to achieve measured against some internal standard of excellence. Bandura, (1982) proposed the theory of social learning and self-efficacy by studying peoples' self-regulation. This sense of self influences the choice of activity, how much effort one is willing to expend, and how persistent one will be in accomplishing a task. Deci and Ryan, (1986; 1992) provided evidence that extrinsically caused behaviour undermines motivation in the long run. Another aspect of self-efficacy is attribution theory, the individual's belief that persistence will get a job done (Lent, *et al.*, 1984; Schunk, 1989; Weiner, 1974). This research consistently demonstrates that a student's internal or intrinsic sense of self and belief in working hard to achieve a goal are the determining factors in whether or not he will succeed. More recent studies have focused on goal orientation and the idea that motivation is determined jointly by the expectation that the effort will lead to the goal (self-efficacy) and that the goal is worth attaining (Csikzentmihalyi and

Nakamura, 1989; Patric *et al.*, 1999). Educators have a difficult task developing a single extrinsic reward system that will match the motivational needs of various people. Thus, offering ice cream coupons or pizza may motivate a few students to improve their academic performance in the short term.

External rewards, while still popular, generally have only a short-term positive effect and possible long-term negative effects on learning. When students have a sense of control and choice, on the other hand, and are challenged just above their level of competence, they have increased intrinsic motivation, persistence, and belief that they can be successful.

Materials and methods

The present study was quasi-experimental. The subject of the study were the children from primary, junior high school, and secondary classes of Uttar Pradesh Secondary Education Board (UPSEB/CBSE) schools/colleges of Bareilly District of Uttar Pradesh. The subjects included students of both female and male gender from rural and urban localities under the course of the present research as respondents. Once the variables have been identified and defined, a procedure should then be implemented and group differences should be examined (Gribbons, & Herman, 1997). All the students studying in primary, junior high school, and secondary classes of Uttar Pradesh Secondary Education Board (UPSEB) schools/colleges of the urban areas of Bareilly were contributing to the population. The up-to-date list of the government-added and un-added institutions providing primary, junior high school, and secondary education in District Bareilly was used as the source list to find out sampling units. The up-to-date list was available on the official website of the government of Uttar Pradesh (<https://www.bareilly.nic.in>). The research was based on the subjects (samples). The

samples were drawn based on simple random sampling during the present research work.

The urban area of Bareilly city is divided into five Tehsils and 15 Community Development Blocks wards. Two blocks (one rural and urban each) were randomly selected for the present research. One school of each of the three standards viz.

primary, junior high school, and secondary was randomly localized to grave the information. Finally, 10 (five girls and boys each) students from each school/college were randomly selected as the respondent in the present research work. Thus a total of 60 students acted as the respondent in the present study. The research design is presented in the table 1.

Table 1: Research Design

Level	IA	EA	Boys	Girls	Rural	Urban	Total
Primary	10	10	10	10	10	10	5
Junior High School	10	10	10	10	10	10	5
Secondary	10	10	10	10	10	10	5
Total	30	30	30	30	30	30	15
<i>IA-Intrinsic award system, EA-Extrinsic award system</i>							

The independent variable of the present research was award systems whereas, the dependent variables were an achievement. In the present research, the research worker contacted randomly selected respondent children of the primary, junior high school, and secondary levels in various schools and colleges of the urban area of Bareilly city of the state of Uttar Pradesh individually and tried to be interrogated through appropriate tools. The data for the research was collected by the investigator with the help of standardized or validated tests.

To find out the reliability and validity of the test the questionnaire was administered over a sample of 90 students including classes 4, 7, and 9. The validity and reliability scores of the test were calculated using standard techniques. The reliability of the attitude Scale was determined by calculating the reliability coefficient on a sample of 90 subjects. The split-half reliability coefficient was found to be 0.84. Besides face validity, as well as items related to the variable under focus, the test has high content validity. It is evident from

the assessment of judges that items of the scales were directly related to the concept of attitude Scaling. To find out the validity from the coefficient of reliability (Garret, 1981). The reliability index was calculated, which indicated high validity on account of being 0.91. Every item had three alternatives; out of them only one was correct and had a score of 2. Similarly, out of three alternatives; only one was incorrect and had a score of 0. The remaining alternative had a score of 1. The total score secured by the respondents was thus calculated based on the responses to the questionnaire that they attempted. Achievement tests were intended to evaluate the achievement in English of the students of standards IV, VII, and IX. The syllabus outlines of English for these standards prescribed by the NCERT were carefully analyzed. The content outlines taught in the classes were reviewed thoroughly. Textbooks, reference materials, question banks, question papers, and handbooks of English for three standards were utilized as sources for framing items. The achievement test

questionnaires were developed after the review of a large number of related works of literature. The English textbooks were studied thoroughly and concepts were understood. Every chapter taught in the class was given importance and questions were selected with the help and advice of subject experts and also by choosing repeated questions by verifying many question banks. Both descriptive and objective items were placed while constructing the questionnaire. The maximum marks for the achievement test were decided to be 40.

The investigator prepared the final lists of schools to be covered in the present research and visited these institutions frequently as and when needed. The respondents selected as a sample of the universe were handed over/read over the questionnaires with the request to return them with their responses to the surveyor as early as possible. The surveyor re-contacted the respondents and tried to find their responses on the non-responded items. Responses to the questionnaire were classified into various meaningful categories. Thus, the material is presented in a classified format.

Statistics is the study of the collection, organization, analysis, and interpretation of data. It deals with all aspects of this, including the planning of data collection in terms of the design of surveys and experiments. Computer software like SPSS version 17 (SPSS, 1998) and Microsoft Excel version 2007 (MS Office, 2016) were employed for statistical calculations under the supervision and operation of the expert.

Results and discussion

Achievement scores of the respondent students of various categories have been presented in table 2. The achievement test scores achieved by the respondents on an overall basis were 16.58 ± 0.02 (median 16.63) with a standard deviation of 0.22

(minimum 8, maximum 24, and range 16) in 120 observations. The achievement test scores achieved by the respondents under the intrinsic award system were 16.95 ± 0.02 (median 16.92) with a standard deviation of 0.18 (minimum 11, maximum 24, and range 13) in 60 observations whereas the scores under the extrinsic award system were 16.22 ± 0.04 (median 16.25) with standard deviation 0.33 (minimum 8, maximum 24 and range 16) in 60 observations. The achievement test scores achieved by the respondents at the primary level were 17.78 ± 0.28 (median 18.25) with a standard deviation of 1.78 (minimum 8, maximum 24, and range 16) in 40 observations, whereas the scores at the junior high school level were 17.18 ± 0.2 (median 17.25) with standard deviation 1.28 (minimum 12, maximum 23 and range 11) in 40 observations and at secondary level were 14.8 ± 0.27 (median 15.13) with standard deviation 1.70 (minimum 9, maximum 24 and range 15) in 40 observations. The achievement test scores achieved by the boy students were 16.13 ± 0.11 (median 16.00) with a standard deviation of 0.83 (minimum 8, maximum 24, and range 16) in 60 observations whereas the scores achieved by the girl students were 17.03 ± 0.09 (median 17.25) with standard deviation 0.73 (minimum 9, maximum 24 and range 15) in 60 observations. The achievement test scores achieved by the students from rural localities were 16.01 ± 0.14 (median 16.00) with a standard deviation of 0.85 (minimum 8, maximum 26, and range 18) in 60 observations whereas the scores achieved by the urban localities were 17.16 ± 0.10 (median 17.15) with standard deviation 0.76 (minimum 8, maximum 24 and range 16) in 60 observations.

The highest achievement test scores achieved by the respondents in the intrinsic award system at the primary level (20.00 ± 0.26) followed by the intrinsic award system at the junior high school level, (17.25 ± 0.42) extrinsic award system

at the junior high school level (17.10±0.32), extrinsic award system at the secondary level (16.00±0.45), and extrinsic award system at primary level (15.55±0.65), whereas intrinsic award system at the secondary level recorded lowest achievements (13.60±0.46). The highest achievement test scores achieved by the respondents by girl students at the primary level (18.25±0.41) followed by girl students at the junior high school level, (17.64±0.46) boy students at the primary level (17.29±0.44), boy students at the secondary level (16.71±0.45), and girl students at the secondary level

(15.20±0.39), whereas boy students at the secondary level recorded lowest achievements (14.39±0.36). The highest achievement test scores achieved by the respondents from urban localities at the junior high school level (18.29±0.38) followed by urban localities at the primary level, (18.28±0.33) rural localities at the primary level (17.27±0.40), rural localities at junior high school level (16.06±0.26), and urban localities at the secondary level (14.91±0.46), whereas rural localities at the secondary level recorded lowest achievements (14.69±0.43).

Table 2: Comparative Achievement Test Scores of Respondents

Factors	Intrinsic/extrinsic		Boys/ Girls		Rural/ Urban		Overall
	Intrinsic	Extrinsic	Boys	Girls	Rural	Urban	
Primary	20.00 ±0.26	15.55 ±0.65	17.29 ±0.44	18.25 ±0.41	17.27 ±0.40	18.28 ±0.33	17.78 ±0.28
Junior High School	17.25 ±0.42	17.10 ±0.32	16.71 ±0.45	17.64 ±0.46	16.06 ±0.26	18.29 ±0.38	17.18 ±0.20
Secondary	13.60 ±0.46	16.00 ±0.45	14.39 ±0.36	15.20 ±0.39	14.69 ±0.43	14.91 ±0.46	14.8 ±0.27
Overall	16.95 ±0.02	16.22 ±0.04	16.13 ±0.11	17.03 ±0.09	16.01 ±0.14	17.16 ±0.10	16.58 ±0.02

Based on the present study it can be recommended that an intrinsic achievement system should be implemented and boy students and students from rural localities needed attention to the improvement of achievements in the Bareilly District of Uttar Pradesh.

References

Kohn A. 1986. No contest: The case against competition. Boston: Houghton Mifflin.

Kohn A. 1993. Punished by rewards, Boston: Houghton Mifflin.

Kohn A. 1996. Beyond discipline: From compliance to community.

Alexandria, VA.: Association for Supervision and Curriculum Development.

White R W. 1959. Motivation reconsidered: The concept of competence. Psychological Review. 66: 297-333.

DeCharms R. 1968. Personal causation: The internal affective determinants of behaviour. New York Academic Press.

Bandura A. 1982. Self-efficacy mechanisms in human agency. American Psychologist. 37: 122-147.

- Deci E and Ryan R. 1986. Intrinsic motivation and self-determination in human behaviour. New York: Plenum.
- Deci E and Ryan R. 1992. The initiation and regulation and regulation of intrinsically motivated learning and achievement. In: A Boggiano and T Pittman (Eds.), *Achievement and motivation: A social-development perspective*. Cambridge, MA: Cambridge University Press, pp. 9-36.
- Lent R, Brown S and Larkin K. 1984. Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology*, 31(3): 356-362.
- Schunk D. 1989. Self-efficacy and cognitive skill learning. In: C. Ames and R. Ames (Eds.), *Research on motivation*, Vol. 3. New York: Academic Press, pp. 13-44.
- Weiner B. 1974. Achievement motivation as conceptualized by an attribution theorist. In: B Weiner (Ed.), *Achievement motivation and attribution theory*. Morristown, NJ: General Learning Press.
- Csikzentmihalyi M and Nakumara J. 1989. The dynamics of intrinsic motivation: A study of adolescents. In: C. Ames and R. Ames (Eds), *Research on motivation in education Vol. 3*, New York: Academic Press, pp. 45-71.
- Patrick H, Ryan A and Pintrich P. 1999. The differential impact of extrinsic and mastery goal orientations of males' and females' self regulated learning. *Learning and Individual Differences*, 11(2): 153-172.
- Gribbons B and Herman J. 1997. True and quasi-experimental designs. *Practical Assessment, Research & Evaluation*, 5: 14.
- Garrett H E. 1981. *Statistics in Psychology and Education*. Bombay, Vakils, Feffer and Simons.
- SPSS. 1998. SPSS for Windows. Standard Version. New York, SPSS Inc., released on 18 December.
- MS Office. 2016. Microsoft office 2016: Microsoft Excel. New York, Microsoft Inc.

