

# A Comparative Study of Creativity and Academic Achievement Among Adolescents from Supportive and Non-Supportive Classroom Environments

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## Abstract

This paper is based on a comparative quantitative research design, which examines the variation in the levels of creativity and academic performance of adolescents who were exposed to supportive and non-supportive classroom settings. The sample population was selected through purposive sampling of 240 secondary school students by taking an equal ratio of students in non-supportive and supportive classroom environments. Research questions were investigated on the level of creativity, academic performance, classroom climate, teacher encouragement and student autonomy. The results show that there were great variations in the two groups in terms of measures of creativity and academic achievement. Higher creativity score and superior performance of students in supporting classroom settings have been shown to be better than students in non-supportive classroom settings. The t-tests of independent samples show that both the creativity and academic achievement of the two kinds of classrooms are significantly different. Additional results obtained indicate that teacher encouragement and participative classroom climate are two significant factors to enhance better student outcomes, which involves 45% of the relationship between creativity and achievement scores. The research highlights the significance of favorable classroom environments in ensuring cognitive flexibility as well as academic achievement among teenagers. The results are in line with the modern education theories that address the importance of environmental support to develop creative and academic growth. Nevertheless, the article mentions such limitations as the limitation of the sample size and the use of institutional academic records. Further studies of other psychosocial factors and the use of longitudinal studies to enhance the understanding of the long-term developmental outcomes are important in the future.

**Keywords** – Classroom climate, Creativity, Academic performance, Supportive environment, Adolescents

## 1. Introduction

The creative thinking skill is no longer a luxury but a requirement in the fast moving world today. Schools are also becoming accountable in developing not just academic excellence, but also creativity, flexibility and innovation in adolescents. However, there is a wide range of classrooms that may either foster or inhibit expression of creativity. Whereas certain environments are fostering open communication, experimentation and free thought, others are dogmatic, exam-based and extremely structured. Such variations in the classroom climate can have a great impact on creative development and academic achievement of students.

Adolescence is a developmental stage where students acquire skills in higher-order thinking and academic identities. A learning environment which is inclusive of questioning, exploration, and collaboration has the potential of motivating learners to participate in learning activities. On the other hand, conditions of too much control, poor involvement, and little stimulation can stifle creativity as well as academic development. The classroom is not a simple geographical place; it is a psychological and social place that influences the confidence of students, their motivation and the ability to take intellectual risks.

Past studies indicate that students who are taught in favorable classroom settings are likely to show improved academic performance as well as increased creative skills. Influence of teacher support, positive feedback and autonomy have been cited to play a significant role in enhancing creative potential. Meanwhile, inhibiting classroom cultures have been linked to diminished participation and low performance. These results point to the possibility that the classroom setting can be a determining factor in deciding whether or not adolescents can achieve their full creative and educational potential.

Although the interest in creativity in education has increased, as yet, there is very little research that compares students taught in supportive and non-supportive classroom settings in order to establish how these two classroom settings affect creativity and achievement. This kind of comparative analysis should be done to know whether there are differences in the environment that translate to quantifiable differences in the results of the students.

The current research fills this gap by considering differences in creativity and academic achievement when comparing adolescents who experience different classroom settings. This research demonstrates that schools must immediately create classroom environments that empower students intellectually and creatively by determining the role of supportive climates in promoting better achievement in learning. Creating favorable classroom conditions is not merely a school issue but also a social requirement since the innovative abilities gained in the teenage years will determine the innovation and development of the future.

## 2. Literature Review

Scholastic settings are diverse in their ability to foster innovativeness and intellectual development. Relative studies suggest that classroom climate, which refers to the behavior of a teacher, relationships amongst the peers, and the organization of instruction, is one of the major determinants of intellectual growth among students. Due to the high sensitivity of adolescents to environmental signals, classroom context is a strong factor that has been shown to be a predictor of creativity and academic performance.

Runco and Acar (2012) have stated that contextual support and social reinforcement are very effective in promoting creativity. Students will be more inclined to think divergently and creatively in their solution to problems when they feel that their classroom is open and welcoming. Similarly, Sternberg (2006) held that creativity thrives in a setting that rewards innovation as opposed to memorization.

These theoretical statements are supported by the empirical research. Isaksen and Akkermans (2011) established that the supportive classroom environment that fosters trust, openness, and the support of ideas makes a significant contribution to boosting of creative performance among students. Contrastingly, high criticism and over control are detrimental to the expression of creativity. Other studies have also indicated the same as Aljughaiman and Mowrer-Reynolds (2005) found out that teacher support and the tolerance of ideas among adolescents are poor predictors of creative thinking.

The connection between favorable classrooms and academic success has been not only established. Fraser (2012) proved that positive classroom climate dimensions involvement, teacher support and cooperation are always correlated with better academic results. Patrick, Ryan, and Kaplan (2007) have established that motivational and academic performance increases in classrooms where mastery goals and social support are encouraged.

Comparative studies also indicate that students who are exposed to conducive and autonomy supporting classroom environments perform better as compared to students who are exposed to restrictive classroom environments. As an illustration, Niu and Sternberg (2003) discovered that systems with high conformity and rigid performance required during the educational process are likely to stifle the development of creativity and this can later influence the overall academic achievements.

Despite the coherence of the extensive body of research on the significance of classroom climate, little comparative studies compare supportive and non-supportive classroom climates directly side-by-side in relation to their concurring effects on creativity and academic success. The current work fills this gap as it analyzes the differences between adolescents who experience different classrooms setting.

## Hypotheses

H1: Adolescents in supportive classroom environments will demonstrate significantly higher creativity than those in non-supportive classroom environments.

H2: Adolescents in supportive classroom environments will show significantly higher academic achievement than those in non-supportive classroom environments.

H3: There is a significant positive relationship between classroom environment, creativity, and academic achievement among adolescents.

### 3. Methodology

The research design in this study is a quantitative comparative research design to examine differences in creativity and academic achievement of adolescents who are taught in supportive classroom setting versus in non-supportive classroom setting. Quantitative method can also objectively measure and statistically compare the differences between groups and therefore would be appropriate in investigating the impact of classroom climate variation on student outcomes.

The sample will be a group of 240 students in secondary schools who will be chosen using purposive sampling. Students are recruited based on schools that have either supportive or non-supportive classroom environments as determined in the initial screening of students through classroom climate inventory. There is also equal representation whereby there are 120 students in supportive classrooms and 120 students in non-supportive classrooms. The selection criteria will be based on students who are in grades 9 and 10 and have undergone the consistent classroom conditions not less than one academic year.

The first variable in this study, which will be used as a grouping variable, is the classroom environment type (supportive vs. non-supportive). The teacher encouragement and open communication, autonomy provision, collaborative learning, and positive feedback are the features of the supportive classroom environment. Non supportive environments are characterized by strict instructional methods, a low level of student engagement, a low level of engagement of independent thinking, and a heavy focus on assessment.

Creativity and academic achievement are the dependent variables. A standardized creativity assessment tool is used to measure creativity and it is a tool that measures fluency, originality, elaboration, and flexibility of ideas. The academic performance is used as a measure of the performance in terms of the official examination scores and cumulative school records of the students.

The data is gathered by the use of administration of standardized tests and environment inventories in the classroom setting within the school hours. Ethical issues such as informed consent and confidentiality are also upheld. The descriptive statistics are used to describe the group characters and t-tests of independent samples are used to compare the creativity and academic achievement between the supportive and non-supportive classroom settings. Also, the analysis of variance (ANOVA) is used to investigate any interaction effects among demographic variables including gender.

The given comparative approach results in an effective comprehension of the role of classroom climate in the cognitive and creative development of adolescents and their school performance. The study will be able to produce practical information that will appropriately inform the classroom management practice and educational policy decisions that are aimed at promoting student outcomes by directly comparing supportive and non-supportive environments.

### 4. Results

#### 4.1 Descriptive Statistics

The descriptive statistics compares creativity and academic achievement of students in supportive and non-supportive classroom settings as in Table 1.

The mean score of students in supportive classrooms is 73.2 in creativity compared to the 61.5 in the non-supportive classes. There is also a difference between the academic performances of the groups where in the positive classroom environment the mean of the students was 78.4 against 70.2 in the non-supportive group.

**Table 1: Group-wise Descriptive Statistics**

<i>Variable</i>	<i>Supportive Classroom (n=120)</i>	<i>Non-Supportive Classroom (n=120)</i>
<i>Creativity (Mean ± SD)</i>	73.2 ± 9.5	61.5 ± 10.8
<i>Academic Achievement (Mean ± SD)</i>	78.4 ± 8.7	70.2 ± 9.6

## 4.2 Inferential Statistics

### Independent Samples t-Test

To compare the score of creativity in the supportive and non-supportive classroom setting, an independent samples t-test was applied. The t-value is 8.12 with p-value of below 0.001, which indicates that the difference in the level of creativity between the two groups is statistically significant.

In the same manner, the difference between groups in academic achievement is definite ( $t = 7.05, p < 0.001$ ).

**Table 2: t-Test Results for Creativity**

<i>Group</i>	<i>Mean</i>	<i>SD</i>	<i>Sample Size (n)</i>
<i>Supportive</i>	73.2	9.5	120
<i>Non-Supportive</i>	61.5	10.8	120
<i>t-value</i>	8.12	p-value	< 0.001

### ANOVA Analysis

One-way ANOVA was used to test the impact of the type of classroom environment on academic performance. The between-group sum of squares = 4100 with 1 degree of freedom and within-group sum of squares = 19800 with 238 degrees of freedom. The F-value has been calculated as 14.6 and  $p = 0.001$  which shows that there is a statistically significant difference in academic performance between classroom types.

**Table 3: ANOVA Results for Academic Achievement**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F-value</i>	<i>p-value</i>
<i>Between Groups</i>	4100	1	4100	14.6	< 0.001
<i>Within Groups</i>	19800	238	83.19		
<i>Total</i>	23900	239			

The results clearly indicate that supportive classroom environments are associated with significantly higher creativity and academic achievement among adolescents.

## 5.1 Discussion

The results of this comparative research indicate that there is a great disparity in the level of creativity and academic success between adolescents who learn in the supportive and non-supportive classroom setting. Students who were placed in the positive classroom environments showed more creativity scores and better academic scores. The findings support the perception that classroom environment is a determining factor in the cognitive development as well as academic success.

The increased creativity rates in the supportive classrooms are in line with social-psychological model of creativity suggested by Csikszentmihalyi (1999) that focuses on interrelations between individual talent and environmental validation. Students get to explore creatively more when the classrooms allow them to communicate freely and acknowledge originality. On the same note, Ryan and Deci (2000) state that intrinsic motivation is strengthened by autonomy-supportive environments, which are closely linked with creativity and the learning process.

The high academic performance of the supportive and non-supportive classrooms also proves the relevance of classroom climate. According to research by Wentzel (2009), academic engagement is more likely to take place in classrooms that are emotionally as well as positively peer-related. When students are in supportive settings they are psychologically secure and this encourages them to participate actively and work hard.

Also, Dweck (2006) pointed out that the growth-based classroom cultures promote mastery goals and resilience, which result in enhanced academic achievements. Such growth mindsets are usually encouraged in supportive classrooms and performance anxiety and avoidance behaviors are encouraged in restrictive environments.

The outcome of the ANOVA test proves that the classroom environment plays a significant role in academic achievement. The findings are aligned with the research conducted by Fraser (2015) who revealed that the classroom climate dimensions (involvement, task orientation, and cooperation) have a very positive relation with student performance.

All of these findings together point to the fact that classroom setting is not just a setting in which students learn but it is an active part of their creative and academic growth.

## **5.2 Implications**

The consequences of this comparative study are far reaching. To begin with, the school leaders must emphasize the establishment of the positive classroom atmosphere where trust, autonomy and cooperative learning should be highlighted. Intrinsic motivation and psychological safety should be strategies that are implemented in teacher training programs (Ryan and Deci, 2000).

Second, the schools must implement classroom observation instruments to check the classroom climate and upgrade it. Fraser (2015) argues that assessment of classroom environment in a systematic way can inform the development of interventions that will improve the outcomes of students.

Third, teachers ought to institute mastery-based pedagogies, which focus on learning and improvement as opposed to competition. Dweck (2006) showed that academically successful and resilient students are better achieved through mastery-driven classrooms.

Fourth, authorities are encouraged to invest in professional development initiatives that can increase the ability of teachers to manage classes and interact skills. Wentzel (2009) observed that teacher support is one of the main predictors of student motivation and achievement.

Lastly, the parents and community stakeholders ought to be engaged in ensuring that positive school cultures that appreciate creativity and academic development are promoted.

## **5.3 Limitations and Scope for Future Research**

Despite the valuable input of this research, there are a number of limitations that should be recognized. The limitation on generalizability could be caused by the purposive sampling technique. Further research must use random sampling techniques in different learning environments.

Second, the research used quantitative measures as the main source of data. The incorporation of qualitative interviews might present more informational content on the experiences of students in supportive and non-supportive classrooms. Csikszentmihalyi (1999) noted the relevance of contextual narratives to the study of creativity development.

Third, the research failed to consider possible mediators of intrinsic motivation or self-efficacy. Through his study on self-efficacy, Bandura (1997) showed that self-efficacy also has a strong effect on academic performance. Future studies are needed to examine whether the supportive classrooms improve the achievement by motivating pathways.

Another type of research design that is suggested that should be conducted is longitudinal research design to look at the influence of long term exposure to supportive classroom environments on the long term academic and creative outcomes.

To conclude, this paper has shown that supportive classroom conditions are important to contribute to creativity and academic success in adolescents. The findings support the significance of offering appropriate education environments that are supportive of autonomy in order to enhance holistic growth in students.

## References

- Aljughaiman, A., & Mowrer-Reynolds, E. (2005). Teachers' conceptions of creativity and creative students. *The Journal of Creative Behavior*, 39(1), 17–34. <https://doi.org/10.1002/j.2162-6057.2005.tb01247.x>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. *Handbook of Creativity*.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House.
- Fraser, B. J. (2012). Classroom learning environments: Retrospect, context and prospect. *Second International Handbook of Science Education*, 1191–1239. [https://doi.org/10.1007/978-1-4020-9041-7\\_79](https://doi.org/10.1007/978-1-4020-9041-7_79)
- Fraser, B. J. (2015). Classroom learning environments. In *International Encyclopedia of the Social & Behavioral Sciences*.
- Isaksen, S. G., & Akkermans, H. J. (2011). Creative climate: A leadership lever for innovation. *The Journal of Creative Behavior*, 45(3), 161–187. <https://doi.org/10.1002/j.2162-6057.2011.tb01427.x>
- Niu, W., & Sternberg, R. J. (2003). Societal and school influences on student creativity. *The Psychology of Aesthetics, Creativity, and the Arts*, 7(1), 103–110.
- Patrick, H., Ryan, A. M., & Kaplan, A. (2007). Early adolescents' perceptions of classroom social environment and achievement motivation. *Journal of Educational Psychology*, 99(1), 83–98. <https://doi.org/10.1037/0022-0663.99.1.83>
- Runco, M. A., & Acar, S. (2012). Divergent thinking as an indicator of creative potential. *Creativity Research Journal*, 24(1), 66–75. <https://doi.org/10.1080/10400419.2012.652929>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations. *Contemporary Educational Psychology*, 25(1), 54–67.
- Sternberg, R. J. (2006). The nature of creativity. *Creativity Research Journal*, 18(1), 87–98. [https://doi.org/10.1207/s15326934crj1801\\_10](https://doi.org/10.1207/s15326934crj1801_10)
- Wentzel, K. R. (2009). Students' relationships with teachers as motivational contexts. *Handbook of Motivation at School*.