Effectiveness of Thinking Strategy on the basis of Creativity of Commerce Students

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Abstract

Creativity has emerged as the skill of the twenty-first century. Companies are looking for diversity not only in gender, age, ethnicity but also in thoughts and perception to spur innovation. Countries across the globe are recognising creativity as the core ability that needs to be developed among students. The National Education Policy (NEP 2020) aims to develop the creative and analytical skills of students through experimental learning. The present study aims to study the effect of thinking strategy, i.e., Cognitive Research Trust (CoRT) strategy on the creativity of students studying in Grade XII at Government-aided schools located in Gurugram and Faridabad. The study was experimental and opted for a non-equivalent control group design. The experimental group was given exercises in thinking based on the CoRT strategy while the control group continued with the conventional lecture method. The intervention was given for three months at the pace of one period per working day. One-way ANCOVA results revealed that the CoRT strategy had a significant effect on the creativity of students when compared with the traditional lecture method. Therefore, it can be inferred that the CoRT strategy can play a substantial role in the cognitive development of students.

Introduction

The world is evolving at a breakneck pace and so are the skills, needed to keep up with these changes. Now organisations are looking for more diverse, equitable and inclusive human capital. The diversity in thoughts and perceptions of employees

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is encouraged for its ability to shoot innovation (Human Capital, 2023).

Educational institutions bear a significant portion of the responsibility for preparing individuals for current and future employment positions. It is thought that as a student acquires more knowledge it will automatically enhance his or her thinking and logical power (De Bono, 1976). The rise of 0.3 points per year is observed in the average IQ scores of people when assessed through standardised intelligence tests (Flynn, 1984; Trahan et al., 2014). This phenomenon of gradual increase in the average IQ scores over time in the order of decades, with each emerging generation is popularly known as the Flynn Effect (FE) (Wongupparaj et al., 2023).

Flynn Effect named after its discoverer, James R. Flynn who first observed and documented this effect in his landmark study comprising the American population in 1984, the study was later expanded (Flynn, 1987) to include 14 other nations. From this, it can be inferred that people of the current century are more intelligent than the people of the last century but still, things are more complicated socially and economically than ever before. Thus, we can say that intelligence is not the solution to all the complexities that society faces there are other determinants as well that can play a crucial role in easing and untangling its complexities.

The technological advancement in the previous two decades has shifted the routine mechanical job to machines leaving humans with the non-routine travail job, this is where the role of creativity comes into the picture (Chen et al., 2009; Friedman, 2005; Moran, 2009; Nazir, 2020; Tepper, 2002). Research in any domain reflects current trends in society and the importance of creativity in the twenty-first century can be inferred from the fact that more than 85 per cent of research on this subject has been done in the past two decades (Gehlawat and Pandey, 2022). Florida (2004) described creativity as the most vital economic resource of the present century (as cited by Kaufman, 2010). Now, the question arises on what is creativity? The majority of theorists and researchers have defined creativity as the capability to produce a new solution to a given problem (Amabile, 1988; Campbell, 1960; De Bono, 1995; Runco, 2004). Creativity is also acknowledged as the ability to produce original ideas of economic value (Forster, 2015; Guilford, 1950). Simply put, creativity is the ability to think fluently and produce novel ideas that have practical applicability.

De Bono (1976) in his book *Teaching Thinking* pointed out how elite educational institutions create an illusion of producing brilliant minds when they admit only high-achieving students in the first place. Other researchers like Craft (1999) and Parnes (1970) have also

questioned the role of education institutions in developing the cognitive ability of students while Kaila (2005) has accused schools of failing students and 'killing' creativity. Creativity is the ability to think divergently, i.e., to explore a situation from as many viewpoints as possible. Today businesses need employees who are quick in thinking and can generate ideas that have the potential to provide a competitive edge. This is further supported by various business surveys and reports that show that creativity is among the top soft skills that employers look for while hiring an employee. Creativity is regarded as the driver of innovation and economic growth (Florida, 2004). Catching the hint, to prepare the future workforce, Governments from across the globe are amending their national education policy to include teaching creativity in their syllabus and India is no exception. After a long period of 35 years, India introduced its New Education Policy (NEP, 2020) with great emphasis on developing the creative potential of students and teaching them how to think through experimental learning. Therefore, the present study aims to investigate the effect of thinking strategy in developing the creativity of secondary school students.

Review of Related Literature

Creativity and Cognitive Research Trust (CoRT) Strategy

For decades the United States has flourished as the land of innovation and opportunity. It is America's tolerance to creative ambiguity and encouragement of new ideas that paid it back in the form of economic growth and prosperity. The foundation of the 'Creative Age' in the United States was put by the sharpest minds who drifted to it in search of better academic and career opportunities (Florida, 2004). Creativity is observed as a fundamental characteristic in all human beings but only a few can retain it as they attain maturity (Maslow and Stephens 2000). The above arguments have highlighted two points. First, the global competitiveness that the United States enjoys today is the result of creative synergy that migrated to the United States from across the globe and second, creativity is not a rare ability, it is fundamental to all human beings. Now the question arises on how a country cultivate its own intrinsic advantage by creating a pool of creative people itself? Or rather, Can people be trained to be creative thinkers? Years of research in the domain of creativity have earned it the status of a skill. Researchers view creative thinking as a skill that can be taught, it is seen as a microscope that can enlarge human perception irrespective of age and level of education (Csikszentmihalyi, 1988; De Bono, 1995; Sternberg, 2006; Torrance and Torrance, 1973).

Creativity is an intangible asset of human civilisation. It can be taught through adequate techniques (Best, 1982). Cognitive Research Trust

(CoRT) is one of the extensively used thinking strategy, given by Edward de Bono in 1973 at Cambridge University, England. De Bono (1985) believed that thinking is a skill, and it should be taught directly and not incidentally. The CoRT strategy uses a general operation approach and focuses on the process through the application of tools like PMI, and AGO (rather than content) which makes it appropriate for diverse thinking situations. The CoRT strategy comprises six parts, CoRT 1 to CoRT 6 and each part contains tools targeting different aspects of thinking to broaden the perception. These tools counter the natural tendency of the mind to look for certainty, security, and superiority and train the mind to look for alternatives. The greatest advantage of the CoRT strategy is that it is designed in such a manner that the teacher is not required to be formally trained in CoRT or teachers with brief training could be equipped to teach these skills (De Bono, 1985; McGregor, 2007). Further studies have shown statistically significant results in favor of the CoRT thinking strategy when compared with the traditional lecture method (Kim et al., 2013; Maniam et al., 2020; Pahuja, 2017). A limited number of experimental studies (Gupta, 2015; Kachhia, 1990; Pahuja, 2017; Singh, 2001) employing the CoRT strategy performed in India have yielded positive results and significant improvement has been observed in the cognitive skills of the participants. Factors like geography, demography, society, and economy play a significant role in the replication of results, i.e., the strategy that has benefitted one population may or may not have the same effect on the other population. Keeping in mind the negligible number of research conducted in India and no study that has been performed on Commerce students, the present research was undertaken.

Creativity and Business Education

Creativity is the *sine qua non* of the twenty-first century (Stokes, 2019). A survey conducted by IBM (2010) of over 1500 Chief Executive Officers belonging to 33 industries spread across 60 countries identified creativity as the most vital aspect for success in the future. Creativity is fundamental to innovation (Amabile, 1988; Schlee, 2014) which implies that entrepreneurs and unicorns built on innovative ideas also find their roots in creativity. World Economic Forum's Future of Jobs Report (2020), has named creativity and innovation as the essential skills for the workforce in the coming years. Why creativity should be taught to business (commerce) students? In the past few decades, entrepreneurs, and unicorns have established themselves as employment generators and accelerators of economic advancement, it has also gained the attention of governments from across the globe and has shifted the focus

of policymakers towards business schools to develop the creative and innovative skills of students who have interest in different dimensions of business. Past studies have reported that the creativity scores of business students were the lowest when compared with other students (McIntyre et al., 2003; Schlee, 2014; Wang et al., 2010). Education plays a pivotal role in indoctrinating creative and innovation skills. Thus, creativity training should be included in the curriculum of business students (Homayoun and Henriksen, 2018; Kerr and Lloyd, 2008; Markevičiūtė and Jucevičius, 2013; Weick, 2003). The craze among the young generation to start earning early and the rise in the number of young entrepreneurs have further substantiated the need to teach creativity to students beginning from the school itself. Experiments are the gateway to a futuristic society. Research in commerce and management should focus on testing and developing methods to solve the concerns about the present and future business environments. Researchers have time and again emphasised the need for teaching creativity to students starting from school. Best (1982) and Florida (2004) put forward that through good education, schools could be a place to cultivate and nurture creativity. In India, the formal education of commerce starts at a higher secondary level. The Grade XI forms an understanding of students about various aspects of commerce while Grade XII is when they have to apply that knowledge to gain good grades in exams and make crucial career decisions. Thus, in the light of arguments put forward in the present section Grade XII commerce students were taken as the sample of study.

Objective

To study the effect of Cognitive Research Trust on the creative development of Grade XII Commerce students.

Hypothesis

The study aims to test the hypothesis mentioned below:

H: There is no significant difference in adjusted mean score of creativity of Cognitive Research Trust group and lecture method group by taking pre-creativity as covariate.

Method

Participants and Tool

The sample consisted of Grade XII students (N=83) studying commerce in government-supported senior secondary schools located in the Gurugram and Faridabad districts of Haryana. One school located in Gurugram was randomly selected and designated as the experimental group (N=43), and one school located in Faridabad was randomly taken as the control group (N=40). The students belonged to the age group of 15–19 years (Mage = 16.77; SD years = 0.75). The sample meets the rule of thumb for adequate sample

size, that is, there should be at least 15 participants in each group for comparison (Alkahtani, 2009). Further, the central limit theorem also recommends a total sample size of at least 30 students. A standardised tool, the Passi Test of Creativity (PTC) was used to collect pre and post-data of verbal creativity of students. PTC (Verbal) comprised three sections: (i) Seeing problems test to assess (ii) Unusual uses test, and (iii) Consequences test. Each section was completed within a restricted time (as specified in the PTC manual) and the scores of all three sections were summed to get the total scores of creativity of students.

Experimental Design and Study Variables

The study was based on a non-equivalent control group design. There were two groups (the CoRT Group and the Lecture Method Group). The treatment called the CoRT strategy was given only to the CoRT group while the lecture method group continued with the regular lectures. Before starting the experiment, the participants were informed about the duration, purpose and procedure of the study. The PTC was administered to both the groups which constituted pre-creativity.

Procedure

Before starting the treatment, the creativity of the CoRT Group was assessed which was followed by the orientation where students were informed about the experiment and an introduction to the CoRT strategy was given. Similarly, the creativity scores of the lecture method group were also recorded. During the experiment the treatment, i.e., the CoRT strategy was given only to the CoRT group for three months at the rate of one period per working day while the lecture method group continued with the regular school activities. The students of the experimental group worked in self-organised groups of 4–5 members to generate thinking inputs. Since the CoRT strategy is concerned with the teaching of thinking through the application of tools. Thinking exercises are random ideas or questions developed to practice the CoRT tools. The examples of these thinking exercises (like "Should everyone be allowed to indicate where they would like their taxes spent?") are given by De Bono in his book, *De Bono's Thinking Course*. Similarly, thinking exercises were developed by the researcher for the practice of the CoRT tools like Plus, Minus and Interesting (PMI), First Important Priorities (FIP), Alternatives, Possibilities, Choices (APC), etc., and given to participants of the experimental group. The pre-test and post-test scores of the verbal creativity of the CoRT, and the lecture method groups were assessed separately with the help of PTC. The PTC was administered as instructed in the manual, i.e., the duration and scoring of each section of the PTC was kept as specified in the manual.

Statistics

One-Way ANCOVA was executed with the help of Statistical Package for the Social Sciences (SPSS) version 25.

Testing Assumptions

One-Way ANCOVA is employed to analyse the data as the dependent variable, i.e., creativity is a continuous quantitative variable and it is normally distributed (Kolmogorov-Smirnov test indicated that the scores of creativity are normally distributed in the CoRT Group, $W(43) = 0.10$, $p = 0.200$, and the lecture method group, $W(40) = 0.12$, $p = 0.163$). The Independent variable, i.e., thinking strategy has two independent levels that are the CoRT and lecture method. There is one covariate, i.e., pre-creativity and it is also a continuous quantitative variable.

Results and Interpretation

To test the hypothesis, the adjusted mean score of creativity of students belonging to the CoRT group and the lecture method group were compared by considering their pre-creativity as the covariate. The results of ANCOVA are depicted in Table 1.

The adjusted F-value is significant at $F(1, 80) = 83.56$, $p<0.01$ (Table 1). It indicates that thinking strategy had a substantial effect on the creativity of students when their pre-creativity is considered as the covariate. Hence, the hypothesis is rejected. Additionally, the adjusted mean scores of creativity of the lecture method group is 62.19 which is considerably lower than that of the CoRT group whose adjusted mean scores of creativity is 101.91. Thus, it may be said that the Cognitive Research Trust strategy was significantly effective in facilitating the creativity of students over the lecture method when students' pre-creativity was taken as the covariate.

Discussion

Results revealed that the CoRT strategy had a greater effect on the cognitive development of students in terms of their creative thinking ability. This finding is supported by Alkahtani, 2009; Cahyania, 2019; Gupta, 2015; Kachhia, 1990; Kim et al., 2013; Maniam et al., 2020, Pahuja, 2017, and Singh 2001. The study holds great significance and relevance in the present scenario. India is a rising and flourishing economy and it needs human capital

Table 1
One-Way ANCOVA of Creativity of Students by Taking their Pre-creativity as Covariate

Source of Variance	df	SSy.x	MSy.x	Fy.x	Remark
Thinking strategy	1	32570.56	32570.56	83.56	p<0.01
Error	80	31183.63	389.80		
Total	83				

(with the required skill set) that can match its pace of growth and development. Creative people are seen as the growth engines of an economy. Leaders across the globe are counting on them as employment generators. However, despite its rising importance the subject of creativity has long been ignored in schools where little or no attention is paid to the creative development of students. Often creativity is equated with the academic achievement of students and students with high grades are considered to be more cognitively developed than low-performing students. In a family setup as well, a good child is the one who questions less and abides by the general norms of the family giving them restricted freedom to exercise their thinking skills.

A thinking programme is needed in the classroom that is compatible with the present infrastructure, and can evoke the creative, cognitive and critical thinking skills of students. The advantages of the CoRT strategy are: (i) CoRT is a mix of divergent and convergent thinking tools (ii) no formal training of teacher is needed and (iii) it is not subject or age-specific. The present method of teaching (i.e., lecture method) follows a one-way transfer of information with almost insignificant participation of students and students are very rarely encouraged to share inputs in the class. The attention span among students is decreasing and they prefer the method of teaching that provides interactive learning experiences and encourages teamwork (Ettarh et al., 2018). The CoRT strategy could be the solution as it is a student-inclusive training programme that shifts the focus from teacher-centered learning to student-centered learning by endowing the students with equal responsibility for thinking and learning. Also, it liberates the students from the burden of producing only right answers, as the main focus of these tools is on generating as many alternatives, and then analysing their positive and negative aspects.

The goal of education should not only be limited to producing successful individuals but equal attention should be paid to developing the value system of children. The knowledge should make a person humble, respectful and tolerant of the opinions of others. De Bono was against the debate method where students are forced to pick a side, and then produce logic and reasons to defend it, he believed that it turns students into bad decision-makers. The CoRT strategy encourages participants to take into account as many opinions and probable situations as possible. During the experiment, positive changes were observed in the behaviour and perception of students belonging to the CoRT Group. They grew to be more cooperative and patient towards others. Students developed a healthy culture of

working in a coordinated group where the thoughts and insights of each group member were valued equally. These observations are consistent with the findings of the previous studies where creativity is found to have improved social harmony, psychological health, and general well-being of people (Carson et al., 1994; King and Pope, 1999; McKinnon, 1965; Plucker et al., 2004). The present study found that students can improve their thinking skills through regular training. Florida (2004) is of the view that similar to liberty and security, creativity should also be considered the 'common good'. In the present scenario where teachers are having trouble with students' attention spans, a strategy like the CoRT could be used effectively in conjunction with the current lecture method as it encourages students to contribute without being susceptible to conformity. However, the number of studies conducted in India on the effectiveness of the CoRT strategy in developing the creativity of students is very few to draw inferences. It is suggested that more such studies should be conducted on different samples (Pahuja, 2017). Also, Al-Samarrai and Alsalhi (2023) advocated that the research on creativity would benefit from including cross-cultural references.

To conclude, the application of creativity is not domain-specific, its usage is extended to both fields (i.e., science and social science). Research plays a significant role in the development and progress of a society. The results of experimental research provide powerful proof in the support of a hypothesis tested. Cooper et al., (2012) argued that the reluctance of social scientists to employ the experimental design has led to the retardation of scientific research in this domain. A thinking programme like the CoRT can be applied to different samples only if there is ample evidence to suggest that it leads to the cognitive development of participants. The globally rising political, social and economic importance of India has made it even more important to develop its pool of intellectuals (as recognised in the NEP, 2020), and educational institutions can play a significant role in the development of human resource capital of a nation. Keeping in mind the positive results yielded by the CoRT strategy on different samples of Indian students, this strategy could be of great help, as it is not subject or domain-specific, defies age or gender barriers, does not need any further investment in the existing physical infrastructure, minimum or no teachers' training is required and can be embedded in the existing curriculum along with the present lecture method.

Conclusion

The CoRT strategy is effective in facilitating the creativity of commerce students. The results of the present study depict that the cognitive skills of students can be developed.

Policy Implications

The findings of the study have shown that the CoRT strategy is superior to the traditional lecture method in developing the creative thinking of students. Therefore, keeping in view the NEP 2020 objective of developing the creativity of students to foster logical thinking and innovation, the CoRT strategy could serve as a viable tool for expanding divergent thinking skills among students.

Limitations and Future Research Directions

Every research is conducted within well-defined boundaries and the present study is no exception. The sample of the present study only included senior secondary commerce students studying in Government-aided schools located in Haryana. Due to time and cost constraints, the study was carried out only for a limited period. To generalise the results to a wider population more such studies are needed to be carried out on students—belonging to schools located in different regions and having a diverse academic background.

References

Alkahtani, K. 2009. Creativity Training Effects Upon Concept Map Complexity of Children with ADHD: An Experimental Study. Ph.D. Thesis, University of Glasgow.

Al-Samarrai, B. N. and N. R. Alsalhi. 2023. Openness to Experience, Divergent Thinking, and Gender Differences: Domain and Facet Traits. *Information Sciences Letters. 12(1) 269–276.*

Amabile, T. M. 1988. A Model of Creativity and Innovation in Organisations. *Research in Organisational Behaviour.* 10. 123–167.

Best, D. 1982. Can Ceativity be Taught? *British Journal of Educational Studies.* 30(3). 280–294.

Cahyania, I. 2019. Cognitive Research Trust Implementation: Influencing Students' Writing Skill in Elementary School. *International Journal of Innovation, Creativity and Change.* 7(3). 73– 86.

Campbell, D. T. 1960. Blind Variation and Selective Retention in Creative Thought as in Other Knowledge Processes. *Psychological Review.* 67(6). 380–400.

Carson, D., M. Bittner, B. Cameron, D. M. Brown and S. S. Meyer. 1994. Creative Thinking as a Predictor of School-aged Children's Stress Responses and Coping Abilities. *Creativity Research Journal.* 7(14). 5–158.

Chen, J.Q., S. Moran. and H. Gardner. 2009. *Multiple Intelligences Around the World.* San Jossey-Bass, Francisco.

Cooper, D.R., P.S. Schindler. and J.K. Sharma. 2012. *Business Research Methods* (11th ed.). McGraw Hill Education (India) Private Limited.

Craft, A. 1999. Creative Development in the Early Years: Some Implications of Policy for Practice. *The Curriculum Journal.* 10. 135–150.

Csikszentmihalyi, M. 1988. Society, Culture, and Person: A Systems View of Creativity. In R. J. Sternberg (Ed.), *The Nature of Creativity.* 325–339. Cambridge University Press, New York.

De Bono, E. 1976. *Teaching Thinking.* Penguin Books, London.

———. 1985. The Practical Teaching of Thinking Using the CoRT Method. *Special Services in the Schools.* 3(1-2). 33–47.

———. 1995. *De Bono's Thinking Course.* BBC Books, London.

Ettarh, R., H. Al-Hussaini, S. Hassan and N. Kilarkaje, 2018. Declining Attention Span in Medical Students: Fact or Fiction? *The FASEB Journal.* 32(1). https://doi.org/10.1096/fasebj.2018.32.1_supplement.506.6

Florida, R. 2004. America's Looming Creativity Crisis. *Harvard Business Review.* 82(10). 122–136.

Flynn, J. R. 1984. The Mean IQ of Americans: Massive Gains 1932–1978. *Psychological Bulletin.* 95(1). 29–51.

Flynn J.R. 1987. Massive IQ Gains in 14 Nations: What IQ Tests Really Measure. *Psychological Bulletin.* 101(2). 171–191.

Friedman, T. L. 2005. *The World is Flat.* Farrar, Straus, and Giroux, New York.

Forster, J. 2015. The Significance of Creativity in Our Lives. *International Journal for Talent Development and Creativity.* 3(1). 53–67.

Gehlawat, K. and R.S. Pandey. 2022. A Bibliometric Analysis of the Creativity and Business and Management Research Literature (1956-2021). Special Issue. *Korea Review of International Studies.* 15(7). 43–53.

Guilford, J. P. 1950. Creativity. *American Psychologist.* 5(9). 444–454.

Gupta, K. 2015. *The Effect of Creativity Training Programme on Concept Map Performance of Secondary School Students.* Ph.D. thesis, Kurukshetra University.

Government of India. National Education Policy. 2020. Ministry of Education. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Homayoun, S. and D. Henriksen. 2018. Creativity in Business Education: A Review of Creative Self-Belief Theories and Arts – Based Methods. *Journal of Open Innovation: Technology, Market and Complexity.* (4). 55.

Human Capital: Diverse, Equitable and Inclusive. 2023. *The Economics Times (India Leadership Council).* 1-4.

Ibm Ceo Survey. 2010. IBM 2010 Global CEO Study: Creativity Selected as Most Crucial Factor for Future Success. https://www.ibm.com/downloads/cas/XAO0ANPL

Kachhia, A. G. 1990. *Adaptation of the Cort Thinking Programme and to Study its Effect on the Childrens Creativity* Ph.D. thesis, Sardar Patel University.

Kaila, H. 2005. Democratizing Schools Across the World to Stop Killing Creativity in Children: An Indian Perspective. *Counseling Psychology Quarterly.* 18. 1–6.

Kaufman, J.C. 2010. Using Creativity to Reduce Ethnic Bias in College Admissions. *Review of General Psychology.* 14(3). 189–203.

Kim, C. H., B. N. Kim. and H. S. Hwang. 2013. The Effects of Creativity Training by CoRT Thinking Skills on Young Children's Creativity and Nature-Friendly Attitude. *Journal of Fisheries and Marine Sciences Education.* 25(6). 1263-1272.

King, B. and B. Pope. 1999. Creativity as a Factor in Psychological Assessment and Healthy Psychological Functioning. *Journal of Personality Assessment.* 72. 200–207.

Kerr, C. and C. Lloyd, 2008. Pedagogical Learnings for Management Education: Developing Creativity and Innovation. *Journal of Management and Organization.* 14. 486–503.

Maniam, M., T. K. Thanasamy, J. S. Raja. and K. Aluemalai. 2020. A Study on CoRT Program of Thinking Skills (Breadth) to Develop Expository Writing Skills Among Primary Pupils. *International Journal of Asian Social Science.* 10(5). 232–247.

Markevičiūtė, I. and G. Jucevičius, 2013. The Role of Creativity in Organisational Value Creation: Creative Competencies in Different Organisational Contexts. *Ekonomika Ir Vadyba: Aktualijos Ir Perspektyvos.* 2(30). 44–55.

Maslow, A.H. and D.C. Stephens (Ed.). 2000. *The Maslow Business Reader.* John Wiley and Sons, Inc.

McGregor, D. 2007. *Developing Thinking Developing Learning: A Guide to Thinking Skills in Education.* Open University Press. McGraw Hills Education.

McIntyre, F. S., R. E. Hite. and M. K. Rickard. 2003. Individual Characteristics and Creativity in the Marketing Classroom: Exploratory Insights. *Journal of Marketing Education.* 25. 143–149.

McKinnon, D. W. 1965. Personality and the Realization of Creative Potential. *American Psychologist.* 20. 273–281.

Moran, S. 2009. The Roles of Creativity in Society. *The Cambridge Handbook of Creativity.* 1–28.

Nazir, S. 2020. Creativity in Schools. A 21st Century Need. *The Pakistan Development Review.* 59(2). 311–320.

Pahuja, R. 2017. Effectiveness of Thinking Training Programme on the basis of Creativity of Students of Higher Education in Fazilka District (Punjab). Ph.D. Thesis, Punjab University.

Parnes, S. 1970. Education and Creativity. In *P. Vernon (Ed.), Creativity: Selected Readings.* Penguin Harmondsworth Books. 341–354.

Plucker, J. A., R. A. Beghetto and G. Dow. 2004. Why isn't Creativity More Important to Educational Psychologists? Potential, Pitfalls, and Future Directions in Creativity Research. *Educational Psychologist.* 39. 83–96.

Runco, M. A. 2004. Creativity. *Annual Review of Psychology.* 55. 657–687.

Schlee, R. 2014. Teaching Creativity to Business Students: How Well are we Doing?. *The Journal of Education for Business.* 89(3). 133–141.

Singh, V. 2001. Effect of Thinking Training Programme (CoRT Strategy) on Facilitation of Creativity amongst Tenth Grade Students. Ph.D. thesis, Devi Ahilya Vishwavidyalaya, Indore.

Sternberg, R.J. 2006. The Nature of Creativity. *Creativity Research Journal.* 18(1). 87–98.

Stokes, A. 2019. The Invention of Creativity: Modern Society and the Culture of the New. *Contemporary Sociology.* 48(1). 90–91.

Tepper, S. J. 2002. Creative Assets and the Changing Economy. *The Journal of Arts Management, Law, and Society.* 32(2). 159–168.

Torrance. E.P. and J.P. Torrance. 1973. Is Creativity Teachable? *Phi Delta Kappa Educational Foundation. Bloomington, Indiana.*

Trahan, L., K.K. Stuebing, M.K. Hiscock and J.M. Fletcher. 2014. *Psychol Bull.* 140(5). 1332–1360.

Wang, S., K. L. Peck. and J. Chern. 2010. Difference in Time Influencing Creativity Performance Between Design and Management Majors. *International Journal of Technology and Design Education.* 20. 77–93.

Weick, C.W. 2003. Out of Context: Using Metaphor to Encourage Creative Thinking in Strategic Management Courses. *Journal of Management Education.* 27(3). 323–343.

Wongupparaj, P., R. Wongupparaj, R.G. Morris. and V. Kumari. 2023. Seventy years, 1000 samples, and 300,000 SPM Scores: A New Meta-analysis of Flynn Effect Patterns. *Intelligence.* 98.

World Economic Forum: Future of Jobs Report. 2020. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf