



Enhancing Creativity in the School Environment. A Narrative Examination

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Abstract. The cultivation of creativity within the educational environment is of utmost importance in the context of our contemporary, rapidly changing society. This research paper explores the importance, difficulties, and approaches to promoting creativity in educational settings. Creativity plays a crucial role in the growth and advancement of individuals, encompassing both educational and developmental domains. The absence of creativity has a pervasive influence on the entire school community, resulting in detrimental consequences, whereas its cultivation is advocated to improve the educational experience. This study aims to examine the significance of creativity within the educational setting. The present study constitutes a comprehensive examination of the existing body of literature from 1999 to 2023. Following a rigorous and comprehensive assessment of the articles, eleven (11) articles were selected for inclusion in the study. This study examines multiple research papers that investigate creativity in the educational setting. Specifically, it focuses on the perspectives of both students and teachers regarding the manifestation of creativity. Additionally, it explores the relationship between teachers' expertise and their ability to facilitate creative activities and the interplay between children's creative abilities and their academic performance. In summary, various factors influence the development of creativity and associated skills in individuals, with a notable emphasis on the school community. Nevertheless, educational institutions require assistance in transitioning from traditional approaches and effectively evaluating the concept of creativity. Even with these challenges, the imperative of prioritizing creativity in education is apparent, considering its pivotal role in fostering comprehensive student growth and equipping learners for forthcoming obstacles. The paper concludes by advocating for schools to adopt a proactive role in fostering creativity, thereby equipping students with the necessary skills to navigate the intricate challenges of the 21st century effectively.

Keywords: Creativity, Creative Thinking, School Community, Education, Teachers, Students

1. Introduction

The concept of creativity in education has been extensively examined and researched over an extended period. Multiple research studies have unequivocally demonstrated that creativity is undeniably a fundamental cognitive process in human existence, as it integrates various skills and dispositions that can significantly benefit individuals in their subsequent developmental phases. According to a school survey, a notable % of students, precisely 57.2%, reported that the school provides creative opportunities. However, further investigation is required; 24.4% of respondents reported the presence of numerous opportunities to foster students' creativity, whereas 18.4% acknowledged the lack thereof. According to the School Education Gateway (2023), As per the American Psychological Association (APA), creativity refers to the generation or advancement of novel work, theories, techniques, and ideas. A creative individual commonly demonstrates originality, imagination, and expressiveness. Despite extensive analyses, the factors contributing to individual differences in creativity still need to be discovered. However, creativity is a highly enduring personal attribute.

Promoting creativity aligns with the objectives of classroom instruction. The development and sustenance of creativity are crucial across all levels of education. Specifically, within the realm of primary education, there is a strong focus on fostering the growth of children's creative aptitude. In the context of secondary education, which encompasses a crucial transitional phase in the lives of young individuals, endeavors are made to broaden and sustain this creative spirit. Lastly, tertiary education endeavors to equip students with educational resources that enable them to make informed decisions and actively mold their professional and social trajectories creatively. In summary, cultivating creativity among individuals in the educational setting is a fundamental pedagogical endeavor (Tzachrista et al., 2023). Due to this rationale, educators are required to implement instructional approaches that foster creativity through various methods, including exercises aimed at generating ideas and providing emotional assistance.

2. Literature Review

Encouraging creativity in education is becoming more widely acknowledged as an essential competency for students in the contemporary era. According to Robinson (2001), there is a tendency for traditional educational approaches to overlook the cultivation of creative aptitudes, highlighting the necessity for a restructuring of the educational setting. A vital aspect of the discussion surrounding improving creativity lies in comprehending the factors that influence it. According to Amabile (1985), intrinsic motivation is crucial in fostering creativity, as it propels students to engage in exploratory and cognitive processes that stimulate creative thinking (Gkintoni & Dimakos, 2022). The school environment itself, both in its physical aspects and socio-emotional dynamics, can significantly impact creative tendencies (Gkintoni et al., 2021c; Gkintoni et al., 2023d). According to Amabile (1996), the presence of a supportive and challenging environment is crucial for the cultivation of creative thinking.

Furthermore, the significance of collaboration in fostering a range of viewpoints is highlighted by scholarly research such as the work of Paulus (2000), which emphasizes the necessity of creating cooperative educational settings (. Lucas, Claxton, and Spencer (2013) argue that integrating creativity-focused modules is crucial to curriculum design. In addition, problem-based learning allows students to engage with authentic challenges, thereby fostering the development of creative thinking skills (Savery & Duffy, 1995). Establishing an educational environment that fosters a willingness to take risks, as Dweck (2006) highlighted, while integrating artistic elements into regular instructional practices, offers students a range of opportunities for self-expression and the cultivation of innovative thinking (Winner et al., 2013). Despite the advantages of fostering this attribute, schools need help assessing creativity. The evaluation of creativity poses a significant challenge, necessitating potential enhancements to conventional assessment methods (Torrance, 1972). Additionally, it can be argued that

the persistence of conventional instructional approaches creates a barrier to innovation and progress (Robinson, 2011). However, given the changing requirements of the future, educational institutions must prioritize and foster creativity among students (Giannoulis et al., 2022a; Giannoulis et al., 2022b). It is imperative to acknowledge a significant intersection between creativity and leadership. Both activities encompass the act of conceptualizing novel prospects, questioning established conventions, and formulating resolutions to intricate dilemmas. According to Sternberg's (2003) theoretical framework, successful intelligence encompasses creativity, analytical thinking, and practical skills, all crucial for effective leadership. In their study, Mumford et al. (2000) highlight the significance of creative problem-solving in leadership, particularly when faced with unfamiliar circumstances. Consequently, cultivating creativity among students can establish a fundamental framework for developing leadership abilities (Gkintoni et al., 2022b; Gkintoni et al., 2023c). According to Amabile (1996), a supportive school environment fosters creativity. As Savery and Duffy (1995) proposed, educational institutions can implement problem-based learning to foster innovative thinking and empower students to assume control over their educational endeavors, consequently cultivating their leadership abilities (Antonopoulou et al., 2021a; Antonopoulou et al., 2021b; Antonopoulou et al., 2020; Antonopoulou et al., 2019). The integration of arts within the educational curriculum has been found to enhance creativity, as Winner et al. (2013) supported. Additionally, implementing student-led projects and peer mentoring has been shown to foster the development of leadership qualities and a sense of responsibility among students (Antonopoulou et al., 2023).

In addition, real-world applications, such as community projects, offer tangible opportunities for students to effectively utilize their creative and leadership abilities concurrently. Like any other educational transformation, ongoing challenges need to be addressed. There may be a need to reconsider conventional teaching and assessment approaches to facilitate the development of dual skills (Torrance, 1972, Sortwell et al., 2023). The perception of creativity as a fluid and unrestricted process contrasts with leadership's structured and accountable nature, giving rise to potential dichotomies. Nevertheless, the dynamic relationship between creativity and leadership exhibits significant potential for comprehensive student growth (Antonopoulou et al., 2022a). As educational paradigms transform to better prepare students for the future, there is a growing recognition of the importance of fostering creativity and leadership skills.

3. Methodology

Scope

The objective of this systematic review is to examine the significance of creativity within the context of the school community. The study sample comprises twelve research articles published in reputable scientific journals. These articles discuss the inclusion or exclusion of creativity in the school classroom and other contexts.

Material and Method

This study presents a comprehensive review of the existing literature conducted over two months, from April 22, 2023, to June 22, 2023. The search for relevant articles was conducted using a set of keywords, including "creativity, creative thinking, creativity development, education, educators, students, classroom environment, school grades, perception, promotion." The search was performed in various international bibliographic databases: ScienceDirect, American Psychological Association, Google Scholar, SAGE Journals, and ResearchGate. Additionally, synonyms and combinations of the identified terms were also considered during the search process.

The inclusion criteria for articles in the study were as follows: (1) Articles had to be written in the English language, (2) Articles had to be highly pertinent to the study's topic, (3) Articles had to be published between the years 1999 and 2023, and (4) Articles had to be published in a reputable scientific journal. The article should focus on either a qualitative or quantitative study. The sample should consist

of individuals, such as students, teachers, and parents, who are actively engaged in and have direct interactions within the school environment.

The present study employed the PICOS (Population, Interventions, Controls, Outcomes, Study design) framework as a criterion for article inclusion. The study incorporated articles encompassing a population of individuals actively engaged in the field of education, including students, teachers, and parents. The interventions encompassed using psychometric instruments and exercises to assess the progression of creativity. The inclusion of school community members and the provision of adapted spaces for conducting research in a safe environment were necessary components of the articles. These articles aimed to investigate the outcomes of the intervention and its impact on the development of creativity. Concerning the research design, the studies employed either qualitative or quantitative methodologies, as evidenced by using questionnaires, interviews, experiments, and observation (Study design). The current study also encompassed descriptive studies with and without pre- and post-measurements. Upon conducting a comprehensive search across various databases and implementing appropriate filters to refine the search criteria, 96 articles were identified. After careful evaluation, a total of eleven (11) articles were identified.

Evaluation

Following the compilation of the bibliography, the assessment of the articles is conducted utilizing predetermined criteria. Initially, the content of the articles was assessed by reviewing their titles in order to eliminate those that were deemed unsuitable. Subsequently, a comprehensive analysis was conducted on the synopses of the remaining studies, wherein their content was scrutinized and validated. The articles were selected for inclusion in our literature review based on their alignment with the purpose and theme of our study, as determined during the final review process. Subsequently, an evaluation was conducted to determine the methodological and qualitative merit of the studies, followed by identifying and including those that satisfied the predetermined eligibility criteria.

Researchers from various countries, including the USA, Brazil, Poland, China, Turkey, Russia, and Australia, published 11 articles. The studies mentioned above were published across various time intervals from 1999 to 2023. All publications were disseminated in English, with only a subset of two receiving financial support. The eleven studies included in this analysis employed a randomized design consisting of an intervention and a control group. Among these studies, four utilized interviews as their primary data collection method, three employed a questionnaire, two utilized an experimental approach, one employed a standardized test, one utilized open-closed questions, and one employed a methodology that combined constructivist and positivist principles.

The interventions conducted by the researchers involved the participation of students, teachers, and parents to investigate the manifestation of creativity within the educational setting. Concerning the research sample, four studies investigated teachers' perspectives on creativity, four explored students' viewpoints, and three examined a combination of these perspectives. Furthermore, one study included an additional evaluation of the parents' views. An additional classification of the obtained data involved the overall perspectives of the participants regarding creativity and its association with student's academic achievements and the opportunities made available to them. The data extracted from each study are as follows: The key components to be included in the academic write-up are the following: year of publication, country of origin of researchers, year/duration of implementation, funding, research design, statistical tests, purpose, sample, interventions, instruments, results, and conclusions.

4. Results

Views on Creativity

Ruya Ehtiyar and Gozdegul Baser conducted a study employing phenomenological methodology to explore the perceptions, evaluations, comments, experiences, and suggestions of a cohort of fourth-year students (n=10, female=7 and male=3) enrolled at a state university in Turkey. Their investigation focused on the concept of creativity within the context of university education. The researchers invited a select group of students to participate in a recorded focus group interview. Through this interview, the researchers aimed to ascertain the students' perceptions, opinions, and attitudes toward creativity in the context of education. Subsequently, employing thematic analysis, the interviews as mentioned above were categorized, and the inquiries were segregated into three distinct categories: general inquiries about creativity, inquiries concerning the nexus between creativity and university education, and inquiries soliciting recommendations from the participants. Upon analyzing the students' responses, it was observed that six distinct thematic sections could be identified. These sections encompassed various aspects related to creativity, including the conceptual understanding of creativity, its application within the context of university education, the differentiation between creative and non-creative practices in higher education, the impact of university education on student's creative abilities, the factors that influence creativity, and finally, the recommendations provided by the students themselves. Various external factors, including the environment, age, lifestyle, and notably the cultural context and pedagogical approaches employed by educators (such as the emphasis on rote memorization), have been observed to significantly impact the creative capacities of young individuals, thereby presenting a potential risk to their creative development. Fifty percent of the participants perceived that their creative potential remained unchanged during their tenure at the university. In contrast, the remaining fifty percent acknowledged a decline in their creative abilities. Based on the student's responses, the researchers concluded that creativity within the university context is commonly undervalued, and it is crucial to offer suitable avenues for fostering and manifesting creative abilities. The pedagogical approach in higher education should prioritize the cultivation of creativity, with instructors actively fostering the generation of innovative ideas rather than relying solely on the transmission and rote memorization of information. The study by Ehtiyar and Baser (2019) examines the research conducted by Tatyana Palei (2014), which utilizes applied sociological research. The primary objective of Palei's study is to investigate the phenomenon of creativity within the context of teachers, students, and parents who are also entrepreneurs. The research sample comprised 100 primary school teachers, 50 trainee teachers, and 300 parent businesses. The participants were selected using a clustering method, whereby individuals with similar group characteristics were grouped. The participants were categorized according to their geographical location and area of expertise. The data was collected using a questionnaire, wherein participants were requested to indicate their agreement or disagreement with statements and questions about creativity and its cultivation (e.g., "Is it possible to foster creativity independently?"). The research was conducted after acquiring the requisite permits from the education sciences final-year students who had already completed their comprehensive training. The task required an average completion time of 15-20 minutes per individual, while the subsequent analysis and interpretation of the obtained data spanned 25 days. In the end, 450 questionnaires were duly filled out and submitted. The subsequent examination of the data revealed that nearly all participants acknowledged the presence of creativity. Nevertheless, the proportion of educators who believed in fostering creativity was comparatively lower compared to the percentages observed among students and parents. A subset of educators, comprising 39% of the sample, believed that creativity is an inherent trait that cannot be cultivated, whereas a larger proportion of teachers, specifically 77%, expressed a willingness to instruct students in creativity-enhancing techniques following specialized instruction. Simultaneously, the proportion of participants asserting that creativity is dispensable for proficient decision-making and that no technologies are available for deliberate cultivation was twice as high



among teachers compared to business parents. In conclusion, a notable distinction was observed between experienced teachers and a larger proportion of in-service teachers who had undergone specialized training to instruct in the realm of creative technologies effectively. The survey findings indicate that teachers exhibit moderate conservatism, whereas parents in the business sector generally acknowledge the efficacy of incorporating creativity in the workplace. This study demonstrated that the integration of creative technologies in educational settings has the potential to address the scattered ambitions of students, fostering their creativity and innovation. Consequently, education can play a transformative role in shaping individuals' identities and equipping them with the necessary resources for their future educational and professional endeavors.

In a study conducted by Kettler et al. (2018), the researchers examined teachers' perceptions regarding student creativity, the association between teachers' creativity and their perceptions of student characteristics, and the significance of fostering creative thinking and student characteristics in education. A survey was conducted on a sample of 371 teachers across various states in the United States. The teachers were given a rating scale to assess student characteristics, ranging from very undesirable to desirable. The participants were also tasked with completing a concise self-assessment regarding their creativity and providing ratings for educational goals based on their perceived level of importance. The researchers employed an analysis of variance (ANOVA) to address the research questions, specifically examining whether there are variations in teachers' perspectives on the attributes of creativity based on the subject they teach.

Additionally, a self-report measure was administered to evaluate teachers' prevalence of creative characteristics. Ultimately, a ranking protocol was employed, wherein participants were tasked with assessing the level of significance associated with imparting creativity skills to students. The study's findings indicate that there were only slight variations in creativity traits based on the subject being taught. It was observed that teachers who possessed a higher level of personal creativity tended to evaluate their students' creative attributes more favorably. However, it was also noted that teachers generally ranked creativity as a lower priority among educational objectives. In a broader context, educators across all grade levels preferred students who exhibited traits antithetical to creativity instead of those who demonstrated creative thinking abilities. The derivation of the results was independent of age and years of experience, as there was no significant correlation between these factors and teachers' perceptions of creativity. In summary, teachers generally do not favor students' creative thinking, as they tend to prefer children who demonstrate obedience and adherence to established norms and regulations.

The present study investigates the viewpoints of educators regarding the creative abilities of young learners in public and private educational institutions. The study population consisted of 15 educators from public schools, 24 educators from private schools, and 156 students enrolled in kindergarten and primary school. Each teacher administered the ECCRS to a sample of four randomly selected students. The scale comprised two sections: one dedicated to capturing the teacher's demographic information and self-assessment of their creativity, and another section designed to evaluate the students' creativity. The findings derived from the analysis of mean scores on the Early Childhood Creativity Rating Scale (ECCRS) indicate that children enrolled in private schools exhibited significantly higher mean creativity scores compared to their counterparts attending public schools.

Moreover, the manifestation of the interplay between these two factors is demonstrated through the computation of correlations between the evaluations provided by students and the demographic characteristics of the instructor. The teachers employed in private schools tended to assign higher ratings to their students in terms of creativity while also emphasizing the completion of the Early Childhood Creative Rating Scale (ECCRS). Conversely, within the context of public educational institutions, a notable emphasis existed on skill acquisition and test readiness, resulting in limited

opportunities for experiential learning and exploration (Gkintoni et al., 2016). The findings indicate a negative correlation between educational attainment and creative aptitude among students, as evidenced by a decline in creativity rankings as students' progress from kindergarten to elementary school. Simultaneously, it was observed that there was no discernible correlation among the demographic characteristics of the teachers, as mentioned above, except their creativity score. The findings indicated a positive correlation between teachers' self-perceived creativity and their evaluation of their students' creativity.

Additionally, these teachers demonstrated a greater inclination towards embracing ambiguity and fostering creative expression within the educational setting. The teacher's perspectives significantly shape the educational practices and teaching methods employed in the classroom. The absence of a teacher's appreciation for creativity will manifest in the classroom atmosphere (Gkintoni et al., 2023d). In contrast, teachers who rated themselves highly on the creativity scale demonstrated a greater tendency to encourage children to engage in creative activities (Gkintoni et al., 2021a). In a broader sense, the research findings indicate that students' engagement in creative activities and utilization of creative thinking abilities are limited due to their primary emphasis on academic performance, mainly grades (Easona et al., 2009).

Creativity in School Community

The growth of creativity within the educational setting is contingent upon the expertise of teachers, who are influenced by their prior teaching encounters and the pedagogical instruction they have acquired during their initial educational pursuits. The present study conducted by Enock Swanzy-Impraim and colleagues aimed to address research inquiries about the encounters of teachers with creativity within educational settings and the subsequent impact on their current instructional approaches. This investigation involved an analysis of the perspectives expressed by 16 visual arts teachers at the secondary level in Ghana. This case study investigates teachers' reflections on the creativity training they have received through the utilization of semi-structured interviews and observational data. The collected data were documented, and the audio recordings were transcribed for textual analysis. The researchers engaged in a thorough analysis of the qualitative data by conducting multiple readings to develop a comprehensive understanding of the data's content. The participants' responses were subsequently subjected to inductive coding, identifying five distinct themes: limitations, free expression, self-directed learning, reproduction of similar ideas, and artistic productions grounded in a sense of responsibility (Halkiopoulou et al., 2023b).

Concerning the responses provided by the teachers, it was initially observed that they preferred restricting their students to grading programs. This preference can be attributed to the limitations they encountered during their own educational experiences, which subsequently impacted the cultivation of creativity. On the other hand, individuals who had embraced a more inclusive and progressive form of education similarly adhered to this creative methodology (Gkintoni et al., 2017). Furthermore, adopting pedagogical strategies and the prevailing school atmosphere compelled specific individuals to engage in independent, self-guided learning, thereby fostering innovative cognitive processes. Simultaneously, there were instances during their training where they engaged in the act of replicating assignments from their peers, resulting in an adverse impact on their ability to exhibit creativity, performance, and pedagogical efficacy (Gkintoni et al., 2022b). Ultimately, within the teachers' feedback, specific individuals prioritized achieving favorable grades and satisfying their instructors, a tendency that was subsequently reflected in their present teaching methods. This was evident through their implementation of strict regulations upon their students. In a broader sense, the study mentioned above focuses on examining secondary school teachers' practices. It reveals a correlation between their teaching methods and the training they received during their academic years (Gkintoni et al., 2023a). The observation mentioned above has piqued the curiosity of scholars, prompting them to advocate for a greater

emphasis on fostering creativity within educational settings. This would enable educators to incorporate creative methodologies into their teaching practices (Swanzy-Impraim et al., 2023).

The present study conducted by Anderson, Ross C., and colleagues (2021) centers on integrating creativity and the arts within educational settings. The Professional Development (PD) model emphasizes the significance of incorporating basic artistic activities in the classroom to foster creativity. This approach also elucidates the factors that have led to a shift in teachers' perspectives on creative learning and the methods through which these changes have occurred. The study employed an explanatory sequential mixed method design, integrating epistemological perspectives from postpositivist/constructivist (qualitative) and positivist (quantitative) research methodologies. Two phases were carried out. During the initial phase, a quantitative survey was administered to examine the transformation of teachers' perspectives on creativity, creative pedagogy, and the incorporation of arts education. Subsequently, in the second phase, teachers' reflections and narratives regarding their professional development (PD) encounters were collected (Halkiopoulos et al., 2021a). A total of 30 teachers from four rural schools were involved in the study. These teachers took part in a 14-hour online course focused on creative engagement and a 2-day experiential program at a Summer Institute. The teachers exhibited diversity in their subjects, years of teaching experience, and the grade levels they were responsible for. The online Foundation course comprised six modules, each containing two to four lessons. The duration of the course ranged from two to three hours. The course materials encompassed interactive video teaching packages, narrative presentations, interactive pop-ups, creative exercises, reflective processes, and short creative assignments. The quantitative findings from the initial phase of the study revealed noteworthy shifts in teachers' perspectives regarding creative pedagogy, learning processes, and the integration of arts in education. During the subsequent phase, the qualitative analysis uncovered alterations in the beliefs and emotions of teachers as a result of professional development. The study's findings indicated that the process of reflection, training, and practice significantly impacted the transformation of teachers' beliefs regarding creativity and the integration of arts in education. Under suitable guidance, individuals can generate novel concepts about creative learning and subsequently implement them within educational settings (Antonopoulou et al., 2022b; Antonopoulou et al., 2021).

The study conducted by Gong et al. (2020) examines the impact of regular visits to a children's museum on preschool-aged children's creativity development. The study employed a randomized control trial design to assess the impact of regular visits to children's museums. The study was carried out using two methods: the family function and the preschool function. Initially, 300 families residing in Beijing, China, were recruited for the study. These families had children who were four years old. The families must complete an online registration form to participate in the study. By doing so, they provided their informed consent and shared crucial demographic and familial details about their children. Out of the total sample of 300 families, it was observed that 287 children had participated in a prior examination. The participants in the study were randomly assigned to either the treatment group or the control group using a lottery method. This was necessary because some children had previously taken the test with their parents present. The preschool event, devoid of parental involvement, involved the participation of four distinct preschool classes. Among these, two classes were sourced from public schools, one from a private school and one from a private cooperative. The participants were once again allocated into treatment and control groups through a random process, and it was observed that there was a notable similarity between the two groups. The researchers assessed fluency, originality, and imagination in preschool children using Torrance's Thinking Creatively in Action and Movement (TCAM) methodology. The task assigned to the children involved completing questions through physical movements or verbal descriptions of actions. The experiments were carried out within controlled testing environments, specifically a designated testing room located within a university office and a nearby building, both of which were set up to simulate a family-oriented setting.



In contrast, during the preschool phase, the experiments were carried out within the playroom or an alternative designated space within the kindergarten. The mean difference t-test was employed in the data analysis to examine the balance of children in both the control and experimental groups, taking into account factors such as individual characteristics, family background, relational background, and basic level of creativity. The researchers again employed the mean difference t-test to examine the impact of visits to children's museums on enhancing creativity. In contrast, the researchers employed ordinary least squares regression analysis to evaluate the impact of additional variables on children's academic performance. The findings about family functioning indicated a state of equilibrium between the experimental and control groups.

Nevertheless, no significant differences were found concerning variables such as children's age, family composition, residence in the central region, mother's age and education, family income, and essential creativity. Additionally, it has been discovered that certain factors have the potential to impact the creative abilities of children. These factors include the foundational level of creativity, disparities based on gender, enrollment in a public educational institution, frequency of visits to museums, the degree of autonomy granted by parents, and the geographical location of the family. The results in the preschool model indicated an equitable distribution of scores among the groups concerning fundamental creativity. In summary, the findings of the study indicate that frequent visits to children's museums benefit the development of creativity in preschool-aged children.

Denise de Souza Fleith (2000) presents findings from her research that examine the perceptions of teachers and students regarding the factors that either foster or impede the cultivation of creativity within the classroom setting. The participants were chosen using convenience sampling, which included seven female teachers and 31 students. The student sample comprised both third and fourth-grade boys and girls. The survey data were obtained via semi-structured interviews, wherein participants were asked to provide descriptions of the classroom environment and activities that children both prefer and perceive as either enhancing or inhibiting. The study's findings reveal that educators provide an overview of their students' attributes and engagements. The educators observed that the educational setting plays a role in nurturing students' creative abilities, and delineated a classroom atmosphere that cultivates creativity through three primary lenses: instructors' dispositions, methodologies, and engagements. A range of instructional approaches were employed in the classroom to foster students' creativity, including providing autonomy in task selection, establishing art centers, and providing flexible instructions and choices. Various inhibiting factors of classroom climate were identified by teachers, including students' perceptions of their inability to express their ideas freely, the disregard for their ideas, and the lack of tolerance for mistakes. Barriers to cultivating creativity within educational settings encompass timed assessments, rigid frameworks and schedules, an overwhelming curriculum load, and insufficient time allocation. Ultimately, the students derived the most excellent satisfaction from engaging in various activities within the classroom setting, including artistic endeavors such as drawing, utilizing computer technology, composing written assignments and narratives, participating in mathematical exercises, and enjoying unstructured periods to independently select activities of personal interest. In summary, most students indicated they possessed adequate creative resources within the educational setting. Regarding extracurricular pursuits, the individual desired an increased frequency of field trips and guest speaker engagements.

In order to examine the extent to which contemporary educators offer opportunities for fostering creative thinking among students in educational settings, Sharon Morgan and Jill Forster conducted an investigation. Their study focused on analyzing the various resources available within classrooms that are designed to facilitate the development of creative thinking skills. The resources encompassed the suitability of the classroom setting and content, the instructional materials, and the teaching methodologies and models employed. The present study was undertaken within the framework of an ethnographic investigation, explicitly examining the perspectives of both children and teachers

regarding creativity within an educational setting. Twenty educators participated in a survey that consisted of open-ended questions that aimed to gather initial data.

Additionally, fifteen of these participants were further engaged in informal interviews. In order to provide the students in the classroom with a diverse range of creative experiences, they participated in activities that aligned with the curriculum teaching models proposed by Bloom, Parnes, and Taylor. These models offer distinct approaches to fostering creativity. Following Bloom's taxonomy, it was observed that every child actively engaged in the stages of Knowledge, Comprehension, and Application. Simultaneously, the children who demonstrated higher academic aptitude successfully progressed through the Analysis, Synthesis, and Evaluation stages. According to Taylor's model, participants were presented with the thematic prompt 'Water Garden' and were instructed to depict their mental associations evoked by this particular title.

In Parnes' problem-solving model, the children engaged in collaborative group discussions within the classroom setting to collectively navigate through the five stages of the model to address a given question. Concerning the findings of this study, it was observed that the educators expressed a need for assistance in comprehending the concept of creativity in a broader sense and in fostering the development of student's creative thinking abilities. Simultaneously, they encountered challenges in delineating the personalities of the students. The majority of teachers, approximately 80%, employed brainstorming and open listening strategies to foster children's creative thinking while neglecting alternative and potentially more innovative approaches such as poetry, dance, and drama. A limited number of teachers, precisely five individuals, possessed knowledge of Bloom's Taxonomy.

Furthermore, among these teachers, one individual demonstrated familiarity with three supplementary teaching models, while five teachers were only acquainted with a single teaching model. Nevertheless, the majority of participants demonstrated a certain level of ingenuity in employing various strategies within the academic disciplines of Mathematics, Social Studies, Science, and Language, albeit with some limitations. During the interviews with teachers, they expressed their endorsement of the absence of innovative ideas about a range of issues, including the deficiency of self-regulation among children, numerous behavioral challenges within the classroom, and the constrained availability of time. Based on the feedback provided by the children, it became evident that they are aware of the lack of creative activities and recognize the imperative and significance of their presence. The presence of multiple interpretations and the resulting confusion observed in teachers' responses underscored the pressing necessity for a well-defined conceptualization of creative thinking. The study revealed that the teachers exhibited a notable deficiency or absence of understanding regarding the personality traits of creative children. This deficiency in knowledge hindered the development of creative thinking and underscored the necessity for comprehensive teacher training in this area. Therefore, familiarity with various models of creativity equips educators with supplementary competencies that empower them to foster creative thinking in their instructional settings.

Creative Abilities and School Performance

Gralewski and Karwowski (2012) conducted a study to examine the correlation between creative aptitude and academic performance among high school students in Poland while accounting for the variables of intelligence and gender. The study encompassed 589 students, consisting of 284 male and 305 female students. These students were selected from 34 different classes, which were distributed across 34 high schools. Among these high schools, 26 were public institutions, while the remaining eight were private. It is important to note that only one class was chosen from each high school for this study. The Test of Creative Thinking-Drawing Production (TCT-DP) was employed to evaluate individuals' creative capabilities. This assessment encompassed six categories of factors: divergent thinking, general abilities, exceptional knowledge and abilities, task-oriented commitment, motivation,



and tolerance to ambiguity. The students were tasked with completing an unfinished project to assess academic intelligence by utilizing Raven's Progressive Matrices (RPM). The metric employed to assess academic performance was the mean grade attained across all subjects during the semester preceding the administration of the survey. The TCT-DP administration occurred before the administration of Raven's progressive charts, with the latter being conducted in a distinct session. In the administered IQ test, male participants exhibited marginally superior performance, whereas female participants demonstrated higher academic achievement as measured by their grade point average (GPA). There was a statistically significant correlation between creative abilities and intelligence, which was associated with GPA. In educational institutions characterized by a strong correlation between academic performance and creative abilities, the influence of intelligence appeared to be less pronounced.

In contrast, schools with a lower emphasis on creativity placed a greater emphasis on the significance of intelligence. The study results indicated that intelligence statistically correlates with GPA, whereas creativity did not. Differences were only observed in the correlations between schools located in small and large cities. Based on the observations mentioned above, these outcomes may be attributed to the influence of competition and the psychosocial environment among schools in urban areas, as well as the educators' proficiency in effectively incorporating students' creative abilities into the educational experience (Halkiopoulos et al., 2021b; Halkiopoulos et al., 2022).

In a study conducted by Gajda (2016), a correlational design was employed to investigate the association between creativity and academic performance while accounting for potential confounding variables such as intelligence and motivation. The present study comprised three distinct cohorts of students, totaling 1106 participants, who were selected from a pool of five public elementary schools (n=397), one middle school (n=448), and thirteen high schools (n=261) in the city of Warsaw. The four instruments were associated with creativity, academic accomplishments, cognitive aptitude, and drive. Initially, the participants' creativity was assessed utilizing the Test of Creative Thinking-Drawing Production (TCT-DP) developed by Urban and Jellen. This involved the respondents creating a drawing of items intentionally positioned asymmetrically on the test sheet. The assessment of academic performance was conducted by utilizing the Grade Point Average (GPA) as a standardized measure across all subjects within the sample.

In contrast, standardized achievement test results were utilized in the classes whenever feasible. The assessment of overall cognitive ability, specifically fluid intelligence, was conducted using the Standard Version of Raven's Matrix Test (TMS-R). This test involves the completion of tables and virtual systems based on a predetermined, logical principle. The final instrument employed in the research was the Motivational Orientation Inventory WPI (Work Preference Inventory) developed by Amabile, Hill, Hennessy, and Tighe. The motivation of middle and high school participants was assessed by teachers using a four-level scale to rate student behavior. Upon thoroughly analyzing the data, the researcher substantiated her initial hypotheses. A positive, albeit not robust, correlation was observed between creativity and academic performance. The study's findings indicate that fluency and elaboration significantly impacted academic performance, specifically school grades. However, no discernible relationship was observed between originality and nonconformity and academic achievement. The correlation between creativity and external achievement test scores was found to be stronger than the correlation between creativity and academic achievement. This finding suggests that teachers' biases toward creative students in the classroom may have influenced the observed relationship (Gkintoni et al., 2021b). The correlation between creativity and academic performance exhibited greater strength during the middle school years, owing to the prevalence of heightened creative abilities during this developmental stage (Gkintoni et al., 2022a). This phenomenon is particularly advantageous for learning outcomes, given the influence of students' extrinsic motivation levels (Gkintoni & Ortiz, 2023). In conclusion, it is noteworthy that while there was a notable correlation between intelligence in

elementary and middle school and academic performance, it was observed that cognitive development was primarily emphasized among middle school students.

5. Conclusion

In a broader context, it is imperative to acknowledge the constraints imposed on creativity within the realm of education. One of the primary factors contributing to this need for more attention is the cognitive orientation of educators. The pedagogical approach employed by educators is influenced by the education they have acquired throughout their academic tenure. A teacher who fails to appreciate the significance of creativity imposes constraints and restricts the availability of creative outlets within the classroom, primarily prioritizing grades and adherence to rules. Consequently, students tend to internalize this perspective over time. An additional rationale for fostering greater creativity within educational settings pertains to the restricted utilization of innovative technologies in pedagogical approaches. The integration of disorganized aspirations among students fosters their creativity and innovation, thereby enhancing their prospects for future educational and professional endeavors. The significance of highlighting the necessity of adequate guidance within the classroom setting cannot be overstated, as it plays a crucial role in fostering the development of novel ideas for creative learning and thinking.

In the context of higher education, there appears to be a tendency to undervalue creativity, resulting in a need for more adequate resources and opportunities for its cultivation and manifestation. Hence, it is imperative to cultivate a pedagogical approach that fosters creativity, whereby educators' endeavor to stimulate innovative thinking by curtailing the mere dissemination and rote acquisition of knowledge. Despite the considerable literature on creativity in education, additional research is imperative to enhance public awareness.

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