

CREATIVITY AS A 21ST CENTURY SKILL IN DEVELOPING DIFFERENT COMPETENCIES IN CLASSROOM TEACHING

Abstract

In recent years, interest in creativity as a 21st-century ability has increased, and it has emerged as one of the crucial competencies to be taught in schools. Yet, other studies point out that it can be challenging for teachers to implement in a classroom setting. For instance, fostering creativity may be hampered by including it in overloaded school curricula. In addition, teachers must simultaneously adopt the other 4Cs of the 21st century. Teachers may not be encouraged to build these competencies because these educational objectives can be time- and resource-intensive. The ability to think creatively is a vital life skill for success in the twenty-first century. Jobs that may not even exist today will likely be held by the next generation of workers. It is the duty of education to prepare pupils by instructing them on how to think rather than what to think. The goal of the current research is to draw attention to the relationships between innovation and other 21st-century skills that In-service teachers employ in their lesson planning (such as critical thinking, communication, and collaboration). We reasoned that by employing only a teaching-for-creativity approach in the classroom, creativity could be possible to develop the other "C"s as well if it has some characteristics with other talents. Hence, limiting instruction to creativity can help teachers advance their students' skills without having them lag behind in other subjects. In this study, we will investigate our study while taking into consideration the constraints imposed by teachers' pedagogical approaches. We'll take into account teachers' perceptions, evaluations, and routine behaviors in classroom interaction. In this study, In-Service teachers' opinions and perceptions were recorded using a Google questionnaire and an interview schedule for those working in government schools of the Directorate of Education.

Keywords: 21st Century skills, Creativity, In-Service Teachers , 4C's, Creativity Skills, critical thinking skills, Collaborative thinking Skills, Critical skills

Authors

Dr. Anamika Singh
Assistant Professor
DIET Rajender Nagar

Dr. Divya Mann
Assistant Professor
DIET KeshavPuram

Aisha Islam
Assistant Professor
DIET Rajender Nagar

I. INTRODUCTION

The ability to study, consider, place of employment, and live better in the modern world requires 21st-century abilities, which can be utilized everywhere. Within the talents are collaboration, interaction, metacognition, problem-solving, and international citizenship. They also include critical thinking and reasoning. Teachers are crucial in encouraging creativity. Children would be given the opportunity to express themselves and make a creative contribution to society as a result. It implies that pupils will be able to consider a topic from a variety of angles, including some that others would not. Students may embrace their inherent talents, from thorough organization to big-picture planning, using this 21st-century skill. In innovative classrooms, students are allowed to investigate the global context of communication. In their leisure time, students can have more fruitful conversations that foster original thought. Kids work together to study and solve issues in groups as a consequence.

- 1. Creativity in Education:** The present-day educational system values creativity. The move from gaining knowledge to competence growth throughout education has become an international phenomenon. Creativity is usually seen as a talent or ability inside educational environments. Nevertheless, the incorporation of competencies in a curriculum shouldn't necessarily be seen as a reduction in the importance of learning new things. Actually, it is the solid accumulation of knowledge that equips students to utilize it in original ways. Teachers must take into account both the opportunities they will give to their students as well as the methods that will assist them in acquiring the knowledge and abilities they need in their subject area. In actuality, creativity requires two distinct types of information: knowledge and skills connected to the learning area and knowledge and skills related to the process of imagination, including idea development through concept selection, and finally, the proper perspectives, qualities, and surroundings.

If instructors wish to foster their child's' creativity, they should concentrate on four key areas. Initially, creativity requires a supportive social and physical context. Students must feel mentally safe while they get creative. The role of the teacher is to ensure that all viewpoints can be heard and that criticism is given in a courteous manner. Instead of completely redesigning the classroom's physical setting, a few straightforward changes are required. children may grow more creative by, for instance, changing the size and make-up of student categories, utilizing tables and whiteboards, or taking children outdoors to come up with ideas. educating pupils about the options and services that are accessible to them. Anything as simple as raising students' knowledge of the tools and opportunities available in a classroom can boost the creation of ideas.

Second, teachers can assist students in developing the attitudes and qualities necessary for creativity, such as perseverance, self-control, resilience, and curiosity. More intellectually curious students are more receptive to new things and have the ability to approach challenges from several angles, which fosters creativity.

Third, educators may encourage creative thinking. Prior to idea generation, problems need to be expressed or solved. There are various methods for producing ideas, including the process of brainstorming whereby an individual or institution comes up with

as many potential concepts as they can. Another effective method is mental modeling, which also has the benefit of highlighting linkages as they emerge between ideas.

The final consideration is what arises from or derives from innovation. But, as with many other parts of education, it could be more advantageous to formatively assess their process as opposed to their final product. Frequently than not, it is beneficial to look at the process by which students generated their ideas, the efficiency of the technique utilized to capture those ideas, the applicability of the solutions, and the degree to which children have shown enthusiasm or resilience. As learners are given the opportunity to ponder on how they create, their capacity for metacognition skills develops and they gain a greater understanding of how their creative capacities evolve. In fact, it may indicate that the overall evaluation of an assignment of work may take into account the teacher's observations of the creative method, the learner's own experience with the entire procedure and reporting of it, and the physical or metaphysical character of the outcome.

- 2. Multidimensional Approach to Creativity:** The four main components of imaginative thinking identified by the multidimensional look are an intellectual component (such as IQ or knowledge), a concurrent factor (such as personality or motivation), a factor related to emotions (the effect of emotional qualities on creative potential), and an aspect of the environment (e.g., familial or educational environments). The association between two factors—cognitive and environmental—and 21st-century skills was the main focus of this study. Two factors influence this choice. The first is that the environmental elements impacting the school may be changed by management choices made by teachers, and the cognitive components can be fostered in the classroom via the use of the school curriculum.

Although we recognized that personality and mental variables can affect creativity, we also considered cognitive and cultural factors as the first goal for teachers, implementing into consideration the research that is currently accessible and potential teaching strategies. Nevertheless, we provide all four components of the multifaceted strategy to help our educators better understand the nature of innovation. So, encouraging creativity rather than other competencies may come more naturally to students and be easier to present to them (e.g., Critical thinking, Communication skills, Collaborative skills metacognition, or cooperation working).

- 3. Teachers' Role in Fostering Creativity:** The importance of instructors in fostering pupils' creativity should come without saying. It is logical to believe that how teachers react to their students' ideas, viewpoints, and recommendations during lessons will affect the student's future efforts and propensity to come up with fresh concepts.

In general, teacher tasks include supporting students in learning through transmitting knowledge and establishing a learning atmosphere. However, the roles that instructors play differ from civilization to civilization and from educational level to educational level.

- 4. The 21st-Century Skills:** Each competency for the twenty-first century falls into one of three categories:

- Learning skills
- Literacy skills
- Life skills

Students are given the mental skills they need to quickly adjust to and improve in a modern work environment through the four Cs curriculum. How well students can differentiate between facts, media sources, and the equipment which reinforces them is a measure of their literacy abilities. A lot of focus is placed on locating reliable sources in order to separate facts from the misinformation that abounds on the Internet.

The notion of life abilities looks at various facets of a student's everyday life. These qualities highlight both personal and professional qualities. All 12 21st Century talents that are important for a student's future career are covered by these categories collectively.

- 5. Creativity Skills and Communication Skills:** The ability to think outside the box and come up with unique remedies for problems is what it means to be innovative. Creativity communication is the ability to efficiently communicate such concepts and ideas. We believe that good thinking and communication skills deserve to be taught to all children.

Teachers in the 21st century needed to be creative. Teachers that are creative are more creative learners. Communication was another key quality. One facet of the teacher's pedagogical competency was communication ability. Communication abilities had a significant impact on the concepts that pupils were able to grasp. If a person actively uses 21st-century talents and believes they are important, they can be developed to the fullest extent possible. The aim of this study was to learn prospective teachers' opinions on the value of creativity and communication abilities for teachers, as well as the significance of developing these abilities for prospective teachers.

- 6. Creativity Skills and Collaboration Skills:** Encourage curiosity about new things, especially discovering foreign cultures, to promote creativity. A youngster can develop more mental connections and generate fresh ideas when exposed to different worldviews. Children should be encouraged to express their own original creative ideas, and their efforts should be rewarded when they devote time to these activities. By embracing variation in gender, ethnicity, mother tongue, and academic ability, you may encourage youngsters to recognize the advantages of group diversity. Also, this increases their empathy, which promotes more effective teamwork. Today's world is a global community. The development of traditional talents in new methods is becoming more and more necessary as technology advances. The 21st Century's abilities stand out as being absolutely necessary for survival.

These abilities help provide the groundwork for a variety of other abilities, including interpersonal relationships, critical thinking, collaboration, managing time, resolving issues distributing resources, and several more. The positive aspects are innumerable.

- 7. Creativity Skills and Critical Skills:** In order to hone their analytical and imaginative abilities, students should be able to control and utilize their mental processes. abilities and learning modes that encourage logical, strategic, flexible, and risk-taking thought.

After introducing fresh concepts and information, teachers should let the students decide what they want to study. This approach surely helps students' capacity to build critical thinking abilities. Studying the topics that fascinate students will help them learn more efficiently.

II. TEACHER SKILLS AND DIFFERENT COMPETENCIES

1. Objectives

- To access the Creative skills in developing other competencies practices by teachers for imparting 21st-century skills in classroom teaching.
- To "propose a potential approach for teaching 21st-century skills" that are put into practice in the classroom.

2. Sample

- 385 to 422 teachers from the Directorate of Education's total population of government school teachers completed the Google form questionnaire on creative, critical, collaborative, and communication skills. During the Inservice Teacher Training Programme, 57 of the teachers who completed the Google form were interviewed.
- The goal of this investigation is to understand how instructors actually see and understand teaching different courses at different levels in order to develop their students' 4 Cs of 21st-century skills.

3. Tools

- Questionnaire
- Interview schedule.

III. RESEARCH DESIGN

A research study's overarching plan or strategy is referred to as the research design. It describes the steps and techniques that will be utilized to gather and analyze data as well as the strategy employed to address the research question or test the hypothesis. The research design aids in making sure that the study is organized logically, effectively, and efficiently to meet the goals of the study.

This research uses a qualitative methodology, which normally entails gathering information using a variety of techniques, including surveys, interviews, document analysis, and so on. The study's setting and research question should serve as a guide when selecting a data collection technique. This study uses a qualitative approach, which often entails gathering information using a variety of tools, like surveys, interviews, and document

analysis. The research question and the study's setting should serve as guidance for selecting a data collection strategy. With the assistance of specialists in the field of education from various educational institutions, this study will produce a questionnaire, interview questions, and observation questions. The information was gathered using a Google Form, a semi-structured interview technique, as well as by watching the randomly chosen DoE teachers in the schools in the NW-A district.

IV. DATA COLLECTION

The information was gathered using two different methods: a form provided by Google and an interview. Specialists helped to design questions that addressed the four Cs. The inquiries in the preliminary versions of the several surveys on creative skills having different competencies-based questions were framed initially there were 28 items in the questionnaire and 5 questions for interviewing the teachers but after trying out 20 items were finalized and 6 questions for interview were finalized by the experts from NCERT and Jamia Millia Islamia. 47 instructors who were among the 399 middle and secondary school teachers who at random filled out a Google Form were interviewed.

- 1. Data Analysis & Findings:** The data were coded and processed using SPSS Version 24 and MS Excel in order to examine the data as well as assess the study.

Data Analysis and Interpretation for Creativity Skill with other competencies in classroom teaching

The average scores for every one of the 19 assertions, which were collected using a Google Questionnaire, are compared. The graph below displays the outcomes. The objective, **“To access the Creative skills in developing other competencies practiced by teachers for imparting 21st-century skills in classroom teaching”** is analyzed as per the following details.

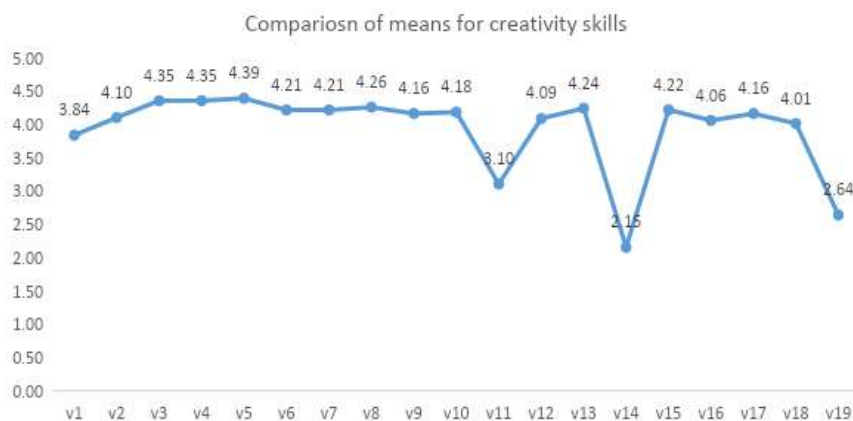


Figure 1

The phrases "I embrace novel concepts of students during my teaching" and "I establish an atmosphere in the classroom where students are encouraged to express their thoughts with teachers" had the greatest levels of acceptance, with average scores of 4.39 and 4.35, and 4.35, correspondingly. These are the best three methods instructors employ

to assist students in acquiring the critical-thinking abilities required for the twenty-first century. The assertions "In a team, I would rather not receive input regarding my ideas from another" and "**Creativity can be acquired, practiced, and improved, just like any other skill**" received the lowest degrees of acceptance, per the mean scores.

Which means that critical thinking, communication skills, and collaboration skill help the teachers and students to enrich their knowledge. Integration of different skills with creative skills demonstrates unequivocally the teachers' belief that a unique pedagogical approach is required to foster pupils' creative abilities by integrating different other competencies. So, it was necessary to develop some creative teaching pedagogies with other different competencies for incorporating creativity into learning. One of the strategies might be incorporating experiential learning into the curriculum. Also, including simulation laboratories in the classroom may encourage students to study in a more creative and collaborative way. It is also important to mention that teachers value the input of their students for making teaching and learning more meaningful by creating tasks and activities that inculcate different competencies along with creative skills. So, it is possible to organize some constructive discussions for developing different competencies before putting the ideas into practice, and everyone may then decide whether to adopt and operationalize a specific idea.

Depending on the results of the recommendations made under the objective of, **“To suggest if possible different tools and strategies are used by the teachers for imparting 21st-century skills” practiced in the classroom.**

Even though most teachers actually do so, according to the data gathered, more training should be provided to them on how to integrate different competencies with creative competency in order to create a culture of incorporating different competencies in classroom interaction, which will strengthen their perspective on teaching-learning. Teachers should also be trained in a variety of tasks for designing different pedagogies in their teaching, as well as creative thinking abilities and incorporating them into the teaching-learning process. One of the teachers' greatest positive aspects was their ability to establish an environment in which students could express (develop communication skills) their opinions/ ideas to their classmates and do different tasks in the group or pair (develop collaboration skills). However, in this case, the teacher's function as a facilitator is critical. Teachers must therefore be trained in encouraging Creativity as a 21st Century Skill in building various skills in classroom teaching, as well as learning and nurturing resilience in students.

Also, as shown in the graph, the component clustering column lists the statements that evaluate each and how different competencies when incorporated with other Creative skills / have resulted in the effectiveness of the teacher's teaching skill. About each component and statement, the overall average responses are indicated. The results are shown in below chart:

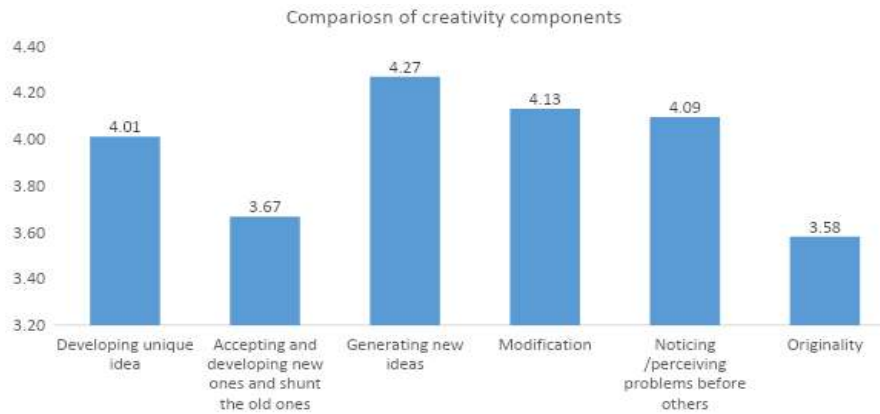


Figure 2

Out of the six elements, it can be seen that "generating new ideas" has the highest level of readiness when it comes to teaching creativity skills by integrating other competencies, next to "Modification" in the classroom with an average rating of 4.13, "Noticing/recognizing issues beforehand others" with a mean score of 4.09, and "Promoting peculiar concepts" because with a mean score of 4.01. The concept of "Originality" in thoughts is the least practiced. This means that in order to better prepare them to inspire creative thinking in their students, teachers will receive training on fostering original ideas and different pedagogical inputs for integrating other competencies along with creative skills. There is a great dearth/ requirement for more in-service training can be shown in the statement "Accepting and developing new ideas and shunning the old ones instructors may receive training on how to replace outmoded conceptions with new, novel ideas utilizing 21st-century skills among the in-service instructors when generations shift and new technology becomes accessible for teaching creativity with other abilities.

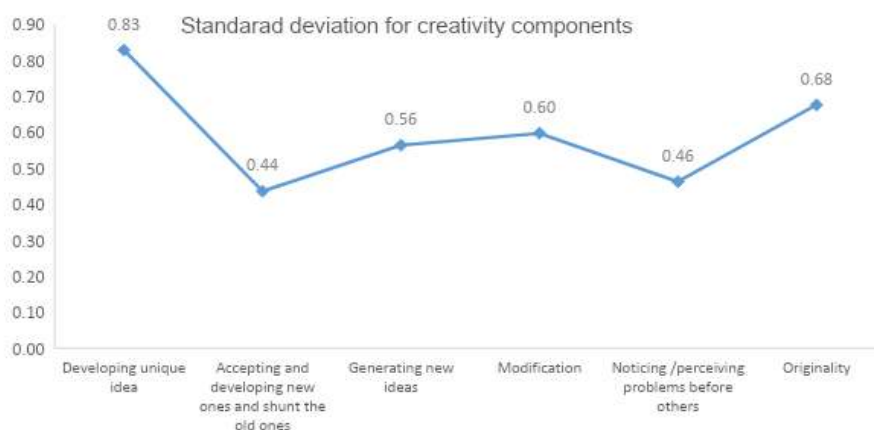


Figure 3

When the component standard deviations are studied in depth. The highest standard deviation is noticed in generating fresh ideas using different competency skills,

with a score of 0.83. This suggests that the teacher's preparedness for doing so differs the greatest, as does the originality of the ideas. The last variation is seen in "accepting and creating new ideas, rejecting old ones, and spotting/perceiving difficulties before others," indicating that teachers require training in 21st-century skills and how to bring together different competencies along with creative skills for better progress and prosperity of the new generation rendering their schools to meet global challenges in the field of education. There is no specific technique required to upgrade 21st-century skills besides having good quality in-service training on important 21st-century skills and also integrating different competencies in classroom teaching. Training programs with high levels of variability must use components with low levels of variability, whereas a more general training program can be created using components with low levels of variability.

V. SUMMARY AND CONCLUSION

The role of the teacher is evolving and becoming more demanding. In order to meet the needs of their pupils, teachers must use a variety of resources, strategies, and techniques. They must also have the skills and capacities necessary to promote a positive learning environment in the classroom and work cooperatively with many stakeholders inside and outside the school to provide children with timely assistance.

Teachers are required to develop or enhance the following skills and competencies:

- Teachers must have a positive attitude toward the advantages of having a varied collection of students in their classrooms. Teachers must be able to choose from a wide range of teaching techniques and active learning strategies (such as inquiry-based and project-based teaching, collaborative learning, and so on) in order to effectively work with and tailor learning for a diverse group of students who, despite being in the same learning environment, have different learning needs and preferences.
- Teachers must be kept up to date on the most recent research and evidence-based best practices in areas relevant to their job. Professional difficulties are also considered part of the learning process by teachers who are lifelong learners. They also obtain knowledge and information to share with other instructors and use in their everyday practice.
- In order to provide feedback to students and support their advancement toward learning objectives, teachers must incorporate methods for formative evaluation within their teaching and learning.
- Teachers must be able to identify ESL risk factors such as bad school and classroom climates, poor teacher-student interactions, negative peer influence, absenteeism, sickness, learning challenges, and so on. Furthermore, instructors should be well-versed in a variety of effective strategies for preventing early school dropout.
- Teachers must be able to successfully connect with students of various backgrounds and create strong, positive, and trusting relationships with them. They should be able to apply appropriate classroom management strategies and approaches to resolve conflicts and avoid bullying, as well as have interpersonal skills and knowledge to build a healthy school and classroom environment.

- Teachers with a good attitude and the capacity to collaborate in multidisciplinary professional teams and professional communities co-develop teaching and learning techniques, help to minimize early school departure, and are less likely to feel alienated. School leaders have an important role in supporting professional communities, school development initiatives, and continuous professional development by allocating funds, time, and space.
- Teachers should be encouraged and supported to take the initiative and serve as change agents and mentors both in and out of the classroom. Teacher leadership may be defined as a collaborative endeavour in which teachers work together to create knowledge and encourage professional development in order to improve their own and their peers' educational practices and school atmosphere. Their ultimate goal is to increase student retention and performance.
- Teachers must be able to communicate effectively as well as collaborate with and include parents in their children's learning and development.
- Teachers must be competent, cooperative, and creative in order to include external partners, especially local companies.
- Teachers must understand and be aware of their student's cognitive, social, and behavioral development (e.g., well-being).

The study suggests that in-service teacher preparation in light of 21st-century abilities is an essential educational goal for teacher development. The focus of teacher preparation programs on gaining the most recent educational updates and research skills motivates the achievement of teacher preparation. Because of the rapid evolution of education, in-service teacher training is a must. This emphasizes the significance of developing an updated curriculum based on core abilities relevant to 21st-century competencies. This emphasizes the significance of developing an updated curriculum based on core abilities relevant to 21st-century competencies. As a result, any educational reform and growth should be based on clear perspectives of future teacher duties and responsibilities in light of rapidly changing information and communication technology and globalized human activity. The current study includes a substantial portion of the future abilities that should be incorporated in teacher training programs, specifically internationally benchmarked 21st-century competencies.

The goal of this research work was to comprehend the viewpoint of the instructors who were integrating 21st-century competencies into their classroom practice, with an emphasis on creative skills and some arguments on how creativity is related to other 21st-century abilities. In order to inspire educators and instructors to investigate the impacts of implementing skills simultaneously or by using one skill to examine the effects on the others, it is hoped that this article will offer insights and suggestions. The four Cs work together to enable students to function as independent think tanks. Then, when those pupils band together, practically anything is possible!

REFERENCES

- [1] R. J. Sternberg, "Teaching for creativity: The sounds of silence," *Psychology of Aesthetics, Creativity, and the Arts*, vol. 9, no. 2, pp. 115–117, 2015. View at: Publisher Site | Google Scholar
- [2] T. M. Amabile, "A model of creativity and innovation in organizations," *Research in Organizational Behavior*, vol. 10, pp. 123–167, 1988. View at: Google Scholar

- [3] J. El-Murad and D. West, "The definition and measurement of creativity: what do we know?" *Journal of Advertising Research*, vol. 44, no. 2, pp. 188–201, 2004. View at: Google Scholar
- [4] K. Robinson and L. Aronica, *Creative Schools the grassroots revolution thats transforming education*, Penguin Books, 2015.
- [5] M. Besançon and T. Lubart, *La créativité de l'enfant*, Mardaga, Wavre, Belgium, 2015.
- [6] R. Cachia, A. Ferrari, K. Ala-Mutka, and Y. Punie, *Creative learning and innovative teaching: final report on the study on creativity and innovation in education in the EU member states*, Institute for Prospective Technological Studies, Seville, Spain, 2010.
- [7] A. J. Cropley, *Creativity in education learning?: a guide for teachers and educators*, RoutledgeFalmer, Abingdon, UK, 2009.
- [8] R. R. McCrae and L. J. Ingraham, "Creativity, Divergent Thinking, and Openness to Experience," *Journal of Personality and Social Psychology*, vol. 52, no. 6, pp. 1258–1265, 1987. View at: Publisher Site | Google Scholar
- [9] G. J. Feist, "The function of personality in creativity: The nature and nurture of the creative person," in *Cambridge Handbook of Creativity*, J. C. Kaufman and R. J. Sternberg, Eds., pp. 113–130, Cambridge University Press, New York, NY, USA, 2010. View at: Google Scholar
- [10] A. Craft, *Creativity in Schools: Tensions and Dilemmas*, Routledge, Abingdon, UK, 2005. View at: Publisher Site
- [11] D. Davies, D. Jindal-Snape, R. Digby, A. Howe, C. Collier, and P. Hay, "The roles and development needs of teachers to promote creativity: A systematic review of literature," *Teaching and Teacher Education*, vol. 41, pp. 34–41, 2014. View at: Publisher Site | Google Scholar
- [12] E. Karpova, S. B. Marcketti, and J. Barker, "The efficacy of teaching creativity: Assessment of student creative thinking before and after exercises," *Clothing and Textiles Research Journal*, vol. 29, no. 1, pp. 52–66, 2011. View at: Publisher Site | Google Scholar
- [13] P. A. Facione, *Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction*, The California Academic Press, Millbrae, Calif, USA, 1990.
- [14] J. H. Flavell, "Metacognitive aspects of problem solving," in *The nature of intelligence*, L. B. Resnick, Ed., pp. 231–235, Lawrence Erlbaum, Hillsdale, NJ, USA, 1976. View at: Google Scholar
- [15] M. A. AbKadir, "What teacher knowledge matters in effectively developing critical thinkers in the 21st Century curriculum?" *Thinking Skills and Creativity*, vol. 23, pp. 79–90, 2017. View at: Publisher Site | Google Scholar
- [16] NilupharAhmadiand **Maud Besançon** "Creativity as a Stepping Stone towards Developing Other Competencies in Classrooms" *Volume 2017 | Article ID 1357456 | https://doi.org/10.1155/2017/1357456* View at : Educational Research International View at: Publisher Site | Google Scholar
- [17] B. S. Bloom, *Taxonomy of education objectives?: the classification of educational goals. Handbook 1?: cognitive domain*, McKay, New York, NY, USA, 1956.
- [18] B. Lucas, G. Claxton, and E. Spencer, "Progression in student creativity in school?: first steps towards new form of formative assessments," *OECD Education Working Paper*, OECD, Brussels, Belgium, 2013. View at: Google Scholar
- [19] A. Georgsdottir and T. Lubart, "La flexibilité cognitive et la créativité," *Psychologie Française*, vol. 48, no. 3, pp. 29–40, 2003. View at: Google Scholar
- [20] E. Gambill, *Social work practice?: A critical thinkers guide*, Oxford University Press, Oxford, UK, 2006.
- [21] S. Bailin, R. Case, J. R. Coombs, and L. B. Daniels, "Common misconceptions of critical thinking," *Journal of Curriculum Studies*, vol. 31, no. 3, pp. 269–283, 1999. View at: Publisher Site | Google Scholar
- [22] R. J. Sternberg, "The concept of intelligence," in *Handbook of Intelligence*, R. J. Sternberg, Ed., Cambridge, UK, pp. 3–15, Cambridge University Press, 2000. View at: Google Scholar
- [23] M. Blamires and A. Peterson, "Can creativity be assessed? Towards an evidence-informed framework for assessing and planning progress in creativity," *Cambridge Journal of Education*, vol. 44, no. 2, pp. 147–162, 2014. View at: Publisher Site | Google Scholar
- [24] N. Jausovec, "The influence of metacognition on problem-solving performance," *Review of Psychology*, vol. 1, pp. 21–28, 1994. View at: Google Scholar