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CREATIVITY STUDIES

CREATIVE PROCESSES IN VISUAL ARTS IN EDUCATION: A CONCEPTUAL FRAMEWORK

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Abstract. The diversity and uniqueness of individuals and the multifaceted nature of creativity necessitate new models in various domains. This study reviewed previous studies and models of the creative process and presented a combined model (Swanzy-Impraim panoramic creative process model) of the creative process applicable to the visual arts in education and other artist-expressive domains. It positions the creative process in seven phases: (1) immersion, (2) problem/task identification, (3) ideation, (4) production, (5) outcome, (6) evaluation, and (7) responses. This conceptual paper explores creativity as a concept and its significance in the artists' expressive domain, reviews and maps creative process models, and develops a comprehensive Swanzy-Impraim panoramic creative process model. The model can support the creativity agenda in education and creativity enactment within the arts.

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1. Introduction

Creativity within the visual arts in the education domain is perceived as human competence exhibited through domain-specific skills and creativity-relevant processes beyond known knowledge, influenced by contextual constructs such as the environment, culture, and resources to generate new knowledge, solve problems, and sustainably produce novel ideas (Amabile, 2017; Seelig, 2012; Swanzy-Impraim et al., 2022; Swanzy-Impraim et al., 2023a, 2023b, 2023d). It involves the purpose, person, process, product, press, persuasion, potential, and the public (8Ps of creativity) (Calonico, 2016; Kaufman & Sternberg, 2010; Sternberg & Karami, 2022). Creativity has been recommended by reputable organisations such as the United Nations (UN), Organisation for Economic Co-Operation and Development (OECD), United Nations Educational, Scientific and Cultural Organisation (UNESCO), Partnership for 21st Century Skills, and the World Economic Forum (WEF) as an essential competency needed for employment in the 21st century workforce, a response to industry, and an educational aim and aspiration (Ershadi & Winner, 2020; Guo & Woulfin, 2016; Organisation for Economic Co-operation and Development, 2019). For instance, the WEF (Jones, 2013) has forecasted creativity as good for the global economy and environment, which is crucial for leadership and beneficial for the future of work.

Researchers claim that arts in education are more important than ever, positioning them as transversal to creativity through research, discourse, and common usage (An & Youn, 2018; Pelowski et al., 2016; Ulger, 2018). Additionally, it is conjectured that no sphere of life

meticulously bonds humans to creativity more than the arts – visual arts (Alter et al., 2009; An & Youn, 2018; Ulger, 2018). Importantly, creativity has been regarded as a significant competency in the educational context globally, and OECD countries are introducing curriculum reforms to promote creativity in policy documents, curricula, and syllabi (Egan et al., 2017; Maras & Shand, 2023; Mullet et al., 2016; Simonton, 2018; Swanzy-Impraim et al., 2022). It has evolved to be important in the educational sphere, gaining attention and recognition for several reasons: personal growth, artistic growth, academic growth, economic growth, critical thinking, problem-solving ability, and its analogical contributions in other domains (Cropley, 2020; Plucker et al., 2020; Swanzy-Impraim et al., 2023a).

Creativity has received considerable research attention, and numerous models have been curated historically to address several facets of creativity (Aldous, 2017; Anderson & Haney, 2021; Karn & Hattori, 2018; Lubart, 2001; Sternberg, 2020). These models address the following key areas of creativity: the definition of creativity, stages of creativity, creative processes, creative components, domains of creativity, and the relationship between creative individuals and their environments (Botella et al., 2013; Choi & Kaufman, 2021; Karn & Hattori, 2018; Sternberg, 2020). Creativity research is evolving and is a work in progress that has drawn global attention, with considerations in educational documents, policy documents, curricula, and syllabi (Harris & de Bruin, 2018; Shaheen, 2010). Researchers assert that creativity can be inspired, taught, developed, and nurtured through the arts – visual arts (Beghetto & Kaufman, 2014; Kupers et al., 2018; Shaheen, 2011).

Admittedly, an unflinching interest in the educational environment for developing students' creativity (Boldt, 2019; Kupers et al., 2018; Shaheen, 2011) necessitates an examination of the creative process. Although the central focus has shifted to creativity, the processes involved in developing creativity in students have received less attention (Kettler et al., 2018). The nature, process, and assessment of creativity pose challenges for teachers, particularly those in the visual arts in the education domain. Although there have been several creative process models (Aldous, 2017; Sternberg, 2020), there is a gap regarding domain-specific contexts and the applicability of models relating to the creative process in visual arts in education. The previous creative process models concentrated on most elements that have to do with the cognitive actions towards ideation, creative production, and outcome/product (Lubart, 2001) without acknowledging some constructs, such as the external assessment of the creative output from experts in the creative artistic domain and the detailed subprocesses within the creative process. This study attempts to fill this gap by proposing a sequential framework called Swanzy-Impraim panoramic creative process model (S-I PCPM).

The S-I PCPM addresses key issues of the creative process in the arts in an educational context and in other artist-expressive domains. This applies to the mini-c, little-c, Pro-C, and Big-C levels of creativity as proposed by Kaufman and Beghetto (2009). This study aimed to review previous studies and synthesise creative process models, conceptualise, and present a combined model of the creative process applicable to visual arts in education and other artistic domains. This article is timely and beneficial for the enactment of creativity in schools as a 21st century skill in education. Additionally, it contributes to the literature on creativity, demystifies the creative process, and assists teachers and students in understanding the concept of creativity and the artistic processes involved in developing creative outcomes/products in classrooms and studios.

2. The creative process

The creative process encompasses the stages, steps, procedures, or phases a creative person undergoes to produce an outstanding idea, product, or outcome for essential or instrumental purposes. For example, a sculptor may build a series of maquettes before arriving at the final sculpture (product) and obtain responses from expert critics (Botella et al., 2013; Chan et al., 2015; Henker et al., 2015; Lubart, 2001). The creative process is often perceived as a cycle of activities or events that leads to the creation of new products or knowledge (Caniëls, 2019; Lubart, 2001; Miceli et al., 2020). Several creativity theorists have advocated the notion of creative processes in three – seven stages. Table 1 highlights the mapping of creative processes proposed by early theorists to those proposed by recent theorists.

Table 1. Theorists and the creative process (source: created by author)

Author(s)/Year	Steps	Creative Process
Wallas (1926)	Four Steps	Preparation, Incubation, Illumination, and Verification
Guildford (1950)	Four Steps	Preparation, Incubation, Illumination, and Verification
Osborn (1963)	Seven Steps	Orientation, Preparation, Analysis, Hypothesis, Incubation, Synthesis, Verification
Chapman (1978)	Three steps	Inception, Elaboration and Refinement, Execution
Amabile (1996)	Four Steps	Problem Identification, Preparation, Response Generation, and Response validation, and Communication
Mace and Ward (2002)	Four Steps	Conception, Idea Development, Production, and Resolution
Adair (2010)	Three Steps	Defining problem, Generating feasible options, Solution
Puccio et al. (2011)	Four Steps	Clarify, Ideate, Develop, Implement
Taylor (2014)	Five Steps	Preparation, Incubation, Insight, Evaluation and Elaboration

2.1. Early frameworks of the creative process

The origin of the creative process is traced to the seminal work *The Art of Thought* by Wallas (1926); thus, the individual creative stage model, includes the following four phases: (1) preparation, (2) incubation, (3) illumination, and (4) verification (Aldous, 2017). Successive creative models have emerged from Wallas' (1926) model. For instance, (i) the structure of intellect model – divergent thinking and convergent thinking – by Guilford (1950); (ii) Osborn's (1963) model of applied imagination; (iii) Chapman's (1978) creative model; (iv) Mace

and Ward's (2002) creative process model; (v) componential theory of creativity by Amabile (1988); (vi) the bridge model by Adair (2010); and (vii) four-sight model by Puccio et al. (2011). These models were directed towards a specific facet of creativity: the definition of creativity, critical thinking process, creative process, levels of creativity, creative production, and creative evaluation/measurement.

2.1.1. Graham Wallas' individual creative stage model and Joy Paul Guildford's structure of intellect model

These are the four-phase methodological and sequential models developed by Wallas in 1926 and reintroduced by Guildford in 1950, consisting of the same four steps: (1) preparation, (2) incubation, (3) illumination, and (4) verification (Arendse, 2013). The preparatory phase is a problem identification phase in which the student, as a creative thinker, investigates and analyses the problem to gain in-depth insight. In the second phase, the incubation phase, the student goes through some mental relaxation, thinking through the problem, and working on the problem via physical activity/exercise (Aldous, 2017; Arendse, 2013). In the third stage, the illumination phase, the creative student allocates some level of effort, commitment, and time towards refining the ideas from the incubation phase. The final phase (verification phase) entails testing and verifying the outstanding idea of determining the most efficient approach or solution to the identified problem (Aldous, 2017; Arendse, 2013).

2.1.2. Alex F. Osborn's model of applied imagination

This seven-phase model consists of successive creative processes: (1) orientation, (2) preparation, (3) analysis, (4) hypothesis, (5) incubation, (6) synthesis, and (7) verification (Osborn, 1963). The orientation phase is the initial stage involving problem identification and description (Arendse, 2013). This model's second phase is the preparation stage, where the creative student, at this stage, gathers all the necessary information about the problem. The preceding phase is the analysis phase, where a creative student evaluates the information gathered and breaks it into smaller units (Arendse, 2013). Ideation is the next stage and involves creating alternatives through brainstorming to develop different options. The next phase is the incubation stage – the creative student allows the ideas to simmer and ponder over the options and then synthesises by putting the unit together and interconnecting the unit to form novel ideas. The final phase is the evaluation phase, in which creative students assess the workability and functionality of ideas (Arendse, 2013).

2.1.3. Laura H. Chapman's creative model

This model details three creative processes of production: (1) inception of an idea/concept; (2) elaboration and refinement of the idea/concept; and (3) execution of the idea/concept using a medium (Clark Winright, 1991). In the first phase, the inception of an idea suggests that creative students develop the motivation to generate their own ideas, which is synonymous with the idea development phase in the other models. The next phase, which is the elaboration and refinement phase in the creative student's production, involves revision, adding, and organising the initial concept before production. This is a reflective stage for a creative student, where the meaning and significance of the idea is broadly considered. In the final

phase, execution in a medium is the expressive process of the outcome from the first two phases using the appropriate medium, such as paint, clay, cement, plaster of Paris, fibreglass, and wood. The selected idea is rendered in more permanent media (Clark Winright, 1991).

2.1.4. Teresa M. Amabile's componential theory of creativity

This model is a detailed framework that constitutes the psychological and social elements required by an individual to produce creative outcomes or work (Amabile, 2013). This is a four-step model: (1) problem identification; (2) preparation; (3) response generation and response validation; and (4) communication. Its origin is traced to Amabile (1983), and it has undergone several modifications and extensions. Similar to earlier models, the componential theory of creativity began with problem identification. This entails the ability of creative students to identify problems in initiating the creative process (Amabile, 2013). The second phase, the preparation stage refers to training, domain-specific skills, and knowledge to assist creative students in dealing with problems. Response generation and response validation is the next phase that begins the quest for intervention. At this stage, the creative student generated a series of ideas. These were tested to validate the response (selected ideas/s). The final phase of this model is the communication stage, in which the creative student reveals the concept to their peers and teachers for endorsement.

2.1.5. Mary-Anne Mace and Tony Ward's creative process model

This model starts with idea conception, which suggests the art of recognising potential implicit concepts that can be transformed into a unique work of art (Mace & Ward, 2002). At this stage, creative students engage in the deliberate activities of idea conception, idea selection, discovery making, idea expansion, and idea enrichment. The second stage is the idea development phase which involves a series of development activities: structuring, restructuring, and extending the creative ideas of an artwork. Additionally, this phase involves problem-solving, decision-making, and experimentation (Mace & Ward, 2002). The third phase is production, where the required tools, materials, techniques, and equipment are utilised to produce creative work. The final phase, the resolution stage, involves finishing and evaluating the creative work. In this phase, the creative student considers the work creative. Creative work is exhibited, and non-creative work is abandoned or postponed for further alterations (Mace & Ward, 2002).

2.1.6. John Adair's bridge model

Adair (2010) perceived this model as a bridge constructed across a river resting on three supporting pillars: (1) defining the problem/aim; (2) generating feasible options; and (3) choosing the optimum solution. Defining the problem/aim in this model denotes understanding the problem and, thus, an idea of what a creative student wants to achieve. The aim should not be too clear or as clear as possible from the onset. Having a rough idea and allowing time to ponder it to be focused, as well as reducing the problem into simple terms (Adair, 2010). The second step, which is to generate feasible options, involves utilising time and information to develop more workable options towards achieving or arriving at a solution. In the final step, the choice of the optimum solution is to select the most suitable option among the workable options. It is a course of action that uses criteria to evaluate workability (Adair, 2010).

2.1.7. Four-sight model

This four-step model was developed by Puccio et al. (2011). The steps consisted of the four following phases: (1) clarify, (2) ideate, (3) develop, and (4) implement. The model clarification stage begins by exploring a theme, aim, or subject matter, and gathering information related to the aim (Creative Education Foundation, 2016). The second phase, the ideation phase, involves creative students exploring ideas that respond to the challenges or aims identified in the preceding phase. The third phase involves developing and evaluating possible solutions to select the most appropriate solution. The final phase, the implementation stage, formulates plans via the exploration of resources and actions to be taken to implement the solutions (Creative Education Foundation, 2016).

2.1.8. The consistencies between the models

The diverse models reviewed earlier share a common conception that the creative process begins with some level of familiarisation with the domain through immersion in the concept and ends with repeatedly testing the work or ideas to prove workability or functionality (Chan et al., 2015). Notably, the creative process transforms from known to unknown (Browning, 2008), implying that creativity begins with knowledge of the subject matter and ends with unfamiliar results (Hyejin Moon et al., 2020).

2.2. The Swanzy-Impraim panoramic model of creative process

This study focused on developing a model of the creative process informed by synthesising literature from several creativity experts and theorists who have advocated the concept of the creative process in the past years. It provided a combined model of the creative process applicable to 21st century visual arts in education. A thorough chronological review of the literature on the creative process was conducted and mapped to determine commonality and distinctiveness. The review began with the literature on creativity and creative process theories from early researchers (19th century) to recent researchers (21st century). The review guided the conceptualisation and development of the seven-step S-I PCPM: (1) immersion; (2) problem/task identification; (3) ideation; (4) production; (5) outcome; (6) evaluation; and (7) responses. It emphasises a combined model of the creative process using an acronym for the author's name – the S-I PCPM, informed by many researchers: Wallas (1926), Guildford (1950), Osborn (1963), Chapman (1978), Mace and Ward (2002), Amabile (1988); Adair (2010), Puccio et al. (2011), and Taylor (2025). The Swanzy-Impraim synthesis is informed by an interpretation of the literature (Sternberg, 2020), in which the creative process involves seven sequential stages:
1. Immersion – domain-specific knowledge/preparation;
2. Problem/task identification;
3. Ideation – idea development/incubation;
4. Production – development, refining, experimentation, implementation, verification, insight, and response generation;
5. Outcome – creative/final product;
6. Evaluation – self-testing/criticism, reflection; and
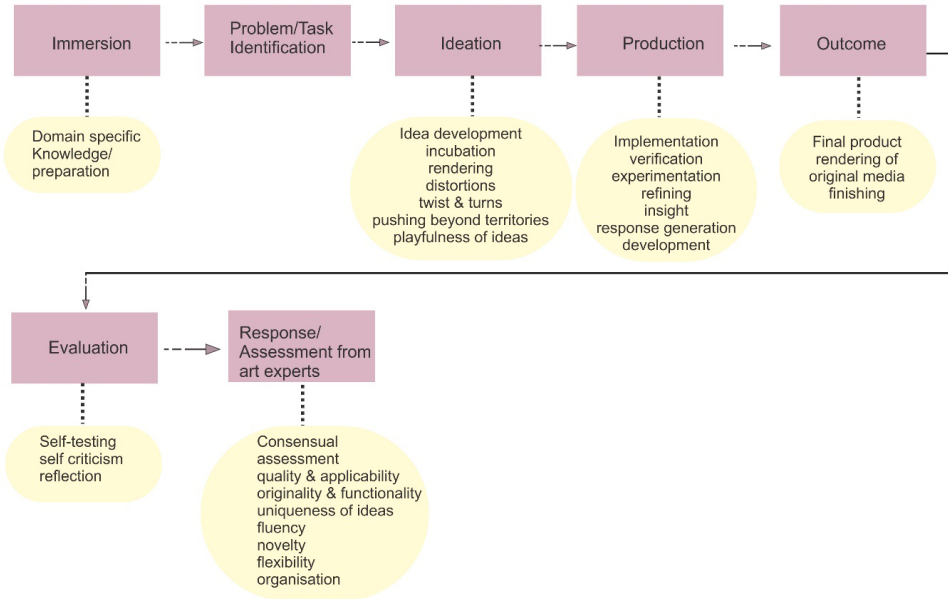7. Responses – assessment by informed critics.

Figure 1. Swanzy-Impraim panoramic model of creative process (source: created by author)

A graphical representation of the seven sequential stages of the creative process is presented in Figure 1. The model comprises seven rectangular shapes bearing creative steps and connecting arrows, indicating the order in which the steps follow. Additionally, the model has six oval shapes connected to rectangles with dotted lines beneath, representing the detailed subprocesses within the creative phases.

2.2.1. Immersion

Every creative process begins with familiarising and absorbing domain-specific knowledge and skills through immersion (Cunningham, 2018). This is achieved through teaching and learning, focusing on the new and meaningful interplay between actions, experiences, and events (Kaufman & Beghetto, 2009). It is similar to the mini-c and little-c stages of the 4C model. For example, a student of sculpture – working with clay, wood, or metal when designing and producing a new artefact – should have the basic knowledge and skills in the specific media, contextual styles, finishing techniques, and the elements and principles of design through the teaching and learning process (Hoff & Öberg, 2015).

2.2.2. Problem/task identification

Since creativity aims to contribute to new knowledge or solve a problem, learners should have background knowledge regarding the perceived problem intended to be resolved or the creative task intended to accomplish. This identification drives and determines the direction of idea generation. For example, a sustainability problem associated with garbage disposal in a dormitory can lead to finding a solution to reclaim and safely repurpose various materials by designing and creating innovative works of art (Girak, 2015; Seelig, 2012).

2.2.3. Ideation

The creative process requires the learner's active engagement in deep cognitive activity connecting to the subconsciousness to generate multiple ideas (Hartson & Pyla, 2012, pp. 251–297, 2019, pp. 293–325; Safin et al., 2016), for example, registering them through thumbnail sketches or working drawings. Jankowska and Karwowski (2020) posit that the initial idea in the creative and problem-solving phases is easier and more crucial for rendering mental imagery than textual representation. It requires visual arts students to use their imaginative prowess to generate a series of ideas for applying a design problem in the quest for a solution or to produce an artefact.

In addition, the ideation stage begins with the engagement of prior knowledge, processing the known knowledge into basic ideas, and reconnecting these through further developments, manipulations, distortions, rendering, twisting and turning, and playfulness of the ideas into special and outstanding ideas (Chan et al., 2015; Skillicorn, 2014). It involves playing with ideas and pushing ideas into new territories (Skillicorn, 2014). This process also supports constructivist epistemology (Ültanır, 2012).

2.2.4. Production

Production is a critical reflection phase (Calonico, 2016). Importantly, ideas are put into authentic action to test a design's viability, originality, and workability using appropriate materials and technology (Cunningham, 2018; Kozbelt, 2020; Perignat & Katz-Buonincontro, 2019). It involves experimental, implementation, elaborative, verification, refining, and insight stages (Aldous 2017; Boldt, 2019; Taylor, 2025). The phase sees a successful or conceptual idea reaching its final form (Hoff & Öberg, 2015). Thomas Edison's famous quote frequently characterises this process "1% inspiration, 99% perspiration" (Calonico, 2016, p. 18; Taylor, 2025).

2.2.5. Outcome/creative product

A creative product is a significant phase of the creative process, completing immersion, problem/task identification, ideation, and implementation. A creative product should fall within one of the following categories: a product with a new form of process innovation or a product with a new demand as a position innovation (Miceli et al., 2020; O'Quin & Besemer, 2011).

Therefore, a creative product can be an existing or new product with product, process, or position innovation, with the reflection of ideas, forms, and demands (Deckert, 2016). The final product is a rendering of the original media and its materiality and functioning, with all the necessary details and finishing for assessment accommodating appropriate criteria (Baer, 2011; Miceli et al., 2020; Taylor, 2025).

2.2.6. Evaluation

Evaluation requires self-testing, self-criticism, and reflection (Cunningham, 2018; Taylor, 2025), in which trusted colleagues or others can review new ideas or products using constructive criticism. Educators must encourage students' self-evaluation in the creativity-fostering process (Cropley, 1997; Dikici & Soh, 2015). New creative products or ideas often receive criticism and sometimes rejection when exposed for the first time (Skillicorn, 2014). In addition, it takes persuasive discourse from the creator to convince and change how people conceptualise a product or system (Kaufman & Sternberg, 2010; Sternberg, 2020).

2.2.7. Creative responses from arts experts (assessing creative products or responses)

Most educational contexts require feedback from experienced persons in the artist's expressive domain, for example, art professors, art teachers, art critics, art journalists, art writers, art researchers, and art historians – whether the product is creative or not – using appropriate criteria in context with the artefact (Chapman et al., 2019; Kupers et al., 2018). Regarding little-c, Pro-c, and Big-C, creativity relies on external assessments to determine and authenticate appropriateness and originality (Beghetto & Kaufman, 2013), and multiple criteria are assumed for assessing creative products and systems (Clark & Zimmerman, 2001; Zimmerman, 2009). For example, quality and applicability (Píriz Giménez et al., 2019), originality, functionality (Richards, 2010), uniqueness of ideas, fluency, novelty, flexibility, and organisation (Ershadi & Winner, 2020; Shriki, 2013) in the analysis of processes of production, media use, and problem-solving ability in the context of creative tasks within society value frameworks. Researchers refer to this kind of assessment as a consensual assessment technique and recognise it as the golden standard for measuring creativity in the artist's expressive domain (Baer & McKool, 2014).

3. Applicability and recommendations

3.1. Applicability of the model

This model is simplified and contextualised to the arts in education, and can be applied in various practical, activity, or project-based learning settings in classrooms and studios that engage learners in creative practice. Admittedly, teachers' and students' implicit understanding of the elements in the creative processes and subprocesses is crucial for the application of the model in an educational setting. For instance, when an art teacher gives students a design project for a flower vase with an ash tray to be rendered in clay as an end-of-semester project, this model can be used to accomplish this task. In this situation, the first step, immersion – the teacher should equip students with basic knowledge of clay, its properties, and production techniques earlier in the semester; the second step, task identification – task of flower vase with ash tray using clay given; third step, ideation – students generate varied ideas from natural or manmade objects or sources; fourth step, production – students select the oustanding idea from the ideation stage and produce the vase using any of the production techniques (modelling, slabbing, pinching, coiling) and finishing techniques (sgraffito, embellishing, embossing, incision, spraying, painting); fifth step, creative product – final outcome of the production stage which is unique and unfamiliar within the context of production; sixth step, evaluation – self-testing, self-reflecting, and allowing third-party opinions; and final step, creative response from the teacher – ultimate judgement from the experts (teacher) using any of the creativity assessment tools (Swanzy-Impraim et al., 2023c).

The S-I PCPM has wider applicability in studios and classrooms, enhancing the elucidation of intricate tasks in various studio areas, such as painting, sculpture, ceramics, graphic design, textile design, and jewellery. It offers a pictorial representation or layout of the stages involved in creative production for both teachers and students in schools, thereby aiding students in grasping complex concepts in their creative expeditions. In addition, the model is a sequentially framed layout that must be followed methodically to accomplish creative tasks in an educational context.

3.2. Recommendations

First, it is recommended that initial teacher education institutions responsible for training visual arts teachers adopt this model to train teachers to meet the creativity enactment policy agenda as a 21st century learning comptetency.

Second, policymakers, educational providers, and stakeholders should embrace the E-SI PCPM for the arts in education as an element that will serve as a panacea for the challenges teachers face in developing creativity among students.

Lastly, there is a need for students to comprehend the E-SI PCPM and prioritise integrating it steadily in their creative practices in classrooms and studios to enhance their critical thinking, innovative, and creative abilities.

4. Conclusions

In an attempt to demystify the creative process in art education, the study reviewed previous studies and synthesised models of the creative process, conceptualised and presented a combined model of the creative process applicable in visual arts in education and other artistic domains. The study revealed that although there has been a considerable research on creativity and the creative process, there was the need to examine it with a "microscopic lense" especially directing attention to the details of the subprocesses (Lubart, 2001) and the consideration of the educational context, external and consensual assessment among experts which is a requirement for assessing creativity as affirmed by Baer and McKool (2014). This should be considered for every creative process model in the context of visual arts in education.

Ultimately, this study concludes that the S-I PCPM is reliable for the phases involved in artistic creation in an educational context. The seven-phase creative process has embedded all the details of the creative act, taking into consideration the cognitive aspect: creative-oriented actions – (1) implementation, (2) verification, (3) experimentation, (4) refining, (5) insight, response generation, development, (6) self-reflection and self-criticism, testing for workability, and (7) external assessment from experts in expressive artist domains.

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