

Curriculum Construction and Teacher Empowerment: Supporting Invitational Education with a Creative Problem Solving Model

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Abstract

This case study demonstrates how the Osborne-Parnes Creative Problem-solving Model (CPS) can be used to enhance teacher creativity through the collaborative and inviting processes found within Invitational Education, which counter the individualistic and product-oriented enterprises often associated with creative endeavors. Conclusions indicate that the model's three stages guided, via sequenced divergent and convergent thinking strategies, teacher curricular decision-making and, ultimately, the learning opportunities provided to students. The CPS framework encouraged participants to engage in and experience optimism, trust, respect, care, and intentionality, which are the five value-based assumptions of Invitational Education.

Introduction

Can the enhancement of creativity in classrooms be supportive of the attributes associated with *Invitational Education*, especially given the individualistic assumptions associated with creativity?

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Creativity, as reflected in more recent descriptions, is perceived as a mechanism for individual expression, self-realization, and self-fulfillment (Cropley, 2006). Barron (1969) suggested that creative people often resist socialization, go against the conventional routes and, instead, take individualistic paths when undergoing personal endeavors. Creativity is frequently expressed by the willingness to take sensible risks and resist the collective reasoning by purposefully choosing to be original and independent (Sternberg & Lubart, 1995).

Such independent and isolated views would have little place in *Invitational Education*, where the dimensions of being personally and professionally inviting of others are key goals (Purkey & Novak, 1996). The notion

that people should function within a communicative process, one focused on understanding and communicating messages related to one's potential (Purkey & Schmidt, 1996), would eschew the individualism and resistance to socialization often found in the literature related to creativity. Instead, *Invitational Education* is more supportive of the processes associated with democratic practice – or the ethical commitment that values cooperation and collaboration as key principles in all people (Purkey & Novak, 1996).

Invitational Education and Creativity

The cooperative and collaborative processes espoused in *Invitational Education* and employed by those engaged in creative efforts are rarely used to define creativity. Instead, creativity (and creative people, for that matter) is often defined by a particular product that has been generated. This product over process approach at examining creativity has had implications on teachers and school environments, as products or outcomes become the focus of creative endeavors. However, Cropley (2006) suggests that there is an alternative approach to examine creativity and creative environments – one that is centered on the social interactions surrounding creative efforts. In this approach, creativity is fostered not individually and in isolation (picture the image of the scientific genius working alone in a lab), but in a social network that fosters individual and group growth collectively (picture the image of a team of workers problem-solving).

Csikszentmihalyi's (1999) model does much to support the linkages between socially-oriented creativity (and its development) and *Invitational Education*. His model suggests that creativity is not simply an objective property, but instead an effect of social interactions between an individual and the environment in which he or she interacts. These social interactions can be structured to foster human potential in ways that allow people to add to, rather than subtract from, the process of being a beneficial presence to schools and those they serve (Novak & Purkey, 2001). However, current school climates are not always conducive to organizing the positive and inviting social structures that embrace creativity. Can curriculum, while adhering to national and state standards, be constructed and taught in a way that is both social and conducive to the cultivation of creativity? We believe so and believe that the creative aspect of teaching is not separate from the content, and fostering creativity requires a safe and flexible environment that supports, among other things, the collective posing of challenging questions and shared control (Worldwide Outreach for the Walt Disney Company, 2004). We also believe that creative curriculum innovation and implementation well support the five basic assumptions of *Invitational Education*: Optimism, Trust, Respect, Care, and Intentionality. By embracing and practicing these assumptions as part of curriculum construction, we can collectively work to increase our potential to improve the opportunities and experiences that are provided to students.

Creativity and the Larger School Agenda

The national journal *Independent School* devoted 80 pages in its Winter 2004 issue to “Releasing the Imagination,” providing a forum for authors whose publications discuss the link between creative insight and powerful learning, and the role of imagination in educational endeavors. As noted by one contributing author, this connection is being lost “in a world that increasingly advocates high standards through standardization of teacher instruction and student response” (Green, 2004, p. 12).

Although writings on the importance of creativity to human endeavors are extensive, the study of creativity and its role in the classroom is a fairly recent undertaking (Puccio, 1999). Important to refute is the myth that creativity is a special province of unique personalities or those persons deemed intellectually gifted. Torrance and Goff (1989) and Guilford (1981) challenged this fixed idea, stating that everyone has creative potential. Similarly, Kim (2005) noted a negligible correlation between creativity and IQ. If all people have the potential to be creative, as these arguments suggest, then what factors exist within schooling that either cultivate or extinguish creativity?

Creativity can be endorsed or ignored at all levels of education; national decisions regarding educational policy and daily choices made by teachers across America impact the degree to which creativity enters into the schooling experience. Also, rapid changes in a knowledge-based and a

technology-saturated environment have led to an urgency in revolutionizing some of the ways educational training has been for centuries (Fatt, 2000). This evolution of societal needs presents a real opportunity for educators to address how creativity features in today’s schools.

Outside of the United States, there has been a strong interest for creative models of education; for years, schools worldwide have adopted the strategies designed by Italian educators Reggio Emilia and Maria Montessori for infusing creativity into schooling pedagogy that advances meaningful learning (Hertzog, 2001). In 2002, Singapore launched its Global Schoolhouse Project in order to facilitate the cultivation of creativity in its educational institutions in an effort to “inject entrepreneurship and innovation into the Singapore DNA” (Sidhu, 2005, p. 51). The results from several creativity-based studies out of MacQuarie University in Sydney, Australia have sparked the advent of new courses and academic programs that use creative problem-solving training as a means to enhance student skills, both academically and for future employability (Reid & Petocz, 2004). In comparison to the aforementioned countries, the United States has been slower to acknowledge the importance of creativity in educational contexts.

National and state legislators, local policymakers, and school administrative teams can have a large impact on whether or not creativity is a supported skill within certain school districts. Many researchers agree (Brabant & Hochman, 2004; Fatt, 2000;

Ritchhart, 2003) that administrative efficiency and collegial support is a crucial factor in the successful promotion of creativity in the classroom, and that school officials must have a diverse response to standardization (Ritchhart, 2003). This support includes having effective academic management (McGoldrick, 2002), allowing structured time for reflection of practice and meaningful evaluations among colleagues (Brabant & Hochman, 2004), and even the introduction of educational courses that center on creative skills and applications (Brabant & Hochman, 2004; Fatt, 2000).

Teacher Creativity

As instrumental stakeholders in planning, implementing, and assessing curriculum, teachers may benefit from undertaking creative pedagogical processes. Perhaps contrary to popular sentiment, a creative teacher does not have to reflect a fixed and elite personality trait, something along the lines of Robin William's charismatic and exhaustingly innovative character in the film *Dead Poets Society*. In fact, there are many broad and accessible forms of teaching practice that embrace creativity in daily instruction. Many strategies support the acquisition of skills, knowledge, and understanding, but also involve students with material in new ways, using new modalities, approaches or ways of thinking. Creative instructional practices often recognize the multiple ways in which human beings are smart (Gardner, 1983) and "happen whenever teachers ask themselves, how can I make this content more engaging

and meaningful for my students?" (Ritchhart, 2003, p. 4).

Encouraging teachers to decrease content coverage in lieu of active engagement and analysis within the learning process is one key element for the promotion of creativity (Jackson, 2003). Ritchhart (2003) offers that a creative curriculum starts with a teacher's insight into his or her subject matter, begins with issues that lack easy answers, and involves "looking at what one is asked to teach with an eye towards shaping it in new and more productive ways" (p. 3). Notably, research (Fatt, 2000; Brabant & Hochman, 2004; Strom & Strom, 2002; Ritchhart, 2003) also advocates frequent and reliable collaboration between colleagues, and the organization of helpful teacher workshops that demonstrate how to think about curriculum differently.

Finally, teacher creativity requires a shared effort and commitment, especially in light of the existing demands generated by current educational standards, the implications of mandated testing, and expected educational practices as stipulated by national and state mandates. Many researchers (Brabant & Hochman, 2004; Fatt, 2000; Florida, 2002) confirm the crucial importance of outside support in promoting creativity, and that school officials and teachers must have a diverse response when implementing creative practices (Ritchart, 2003). Two key characteristics of this support include the allowance of structured time for reflection on practice and meaningful dialogue with peers regarding creative curriculum and pedagogical decisions (Brabant & Hochman,

2004). Additional studies advocate frequent and reliable collaboration between colleagues and the organization of teacher seminars and colloquiums focused on new and different ways of thinking about methods to enhance creativity in classrooms. (Fatt, 2000; Ritchhart, 2003; Strom & Strom, 2002; Weisbart, 2001). Collectively, these were the influences that guided the development and implementation of our investigation.

Method

The model we employed to guide our collaborative process was the Osborne-Parnes Creative Problem-solving Model (CPS), which we used as a means to facilitate teacher reflection, classroom creativity, and curriculum construction. Initially developed by Alex Osborn and Sidney Parnes in the 1960's, the CPS model is an established and applied method for teaching critical thinking skills and metacognitive strategies, particularly in the realm of gifted education (Treffinger & Isaksen, 2005). CPS has also been found to yield positive outcomes in additional populations, including inmates, high-school dropouts, underachieving native populations, and at-risk urban youths (McCluskey, Baker, & McCluskey, 2005). In our situation, we applied the CPS model as a shared method to guide teacher reflection and to enhance teacher curricular decision-making regarding the development of creative instructional processes and learning activities.

The implementation of the CPS model specifically within teacher curriculum development is a novel process and, as such, we wanted to test the model in a manner that fostered both thinking and dialogue in an effort for all involved to better understand the influence of CPS on teacher actions. Hence, we wanted to invite a participant who was reflective, willing to share reflections, and demonstrated effective practices (see Cornett, 1990 and Elbaz, 1983 regarding case study participant selection). A second grade teacher from a Jacksonville, Florida elementary school, Melissa Ross, was invited, and agreed, to participate in the project. Melissa, as noted by peers and colleagues, was highly reflective and had demonstrated strong practices as a beginning teacher. In addition, being new to the profession, Melissa was grappling with the many influences on teacher decision-making and was curious about how the CPS model could be used to enhance how she implemented critical thinking skills and facilitate her reflection.

The CPS model implementation consists of three distinct stages, each devoted to a particular objective (see Figure 1). The process involves a facilitator who guides the interaction, a resource person or team to help generate ideas and provide follow-up assistance for taking action, and the teacher participant. We elected to use an outside CPS-experienced facilitator to lead each phase of the project – enabling us to act as the resource team while we observed and collected data related to the process. Therefore, four individuals were involved in this project: Melissa, as the teacher

participant; the authors, as both researchers and resource team members; and the facilitator.

The first session, entitled “Exploring the Challenge,” acknowledged Melissa’s objectives, explored relevant factual information

pertaining to those objectives, and identified a workable problem statement or question related to the objectives (e.g. “In what ways might I integrate art into my American history unit?”). The second session, “Idea Generation,” was entirely devoted to suggesting possible ideas that

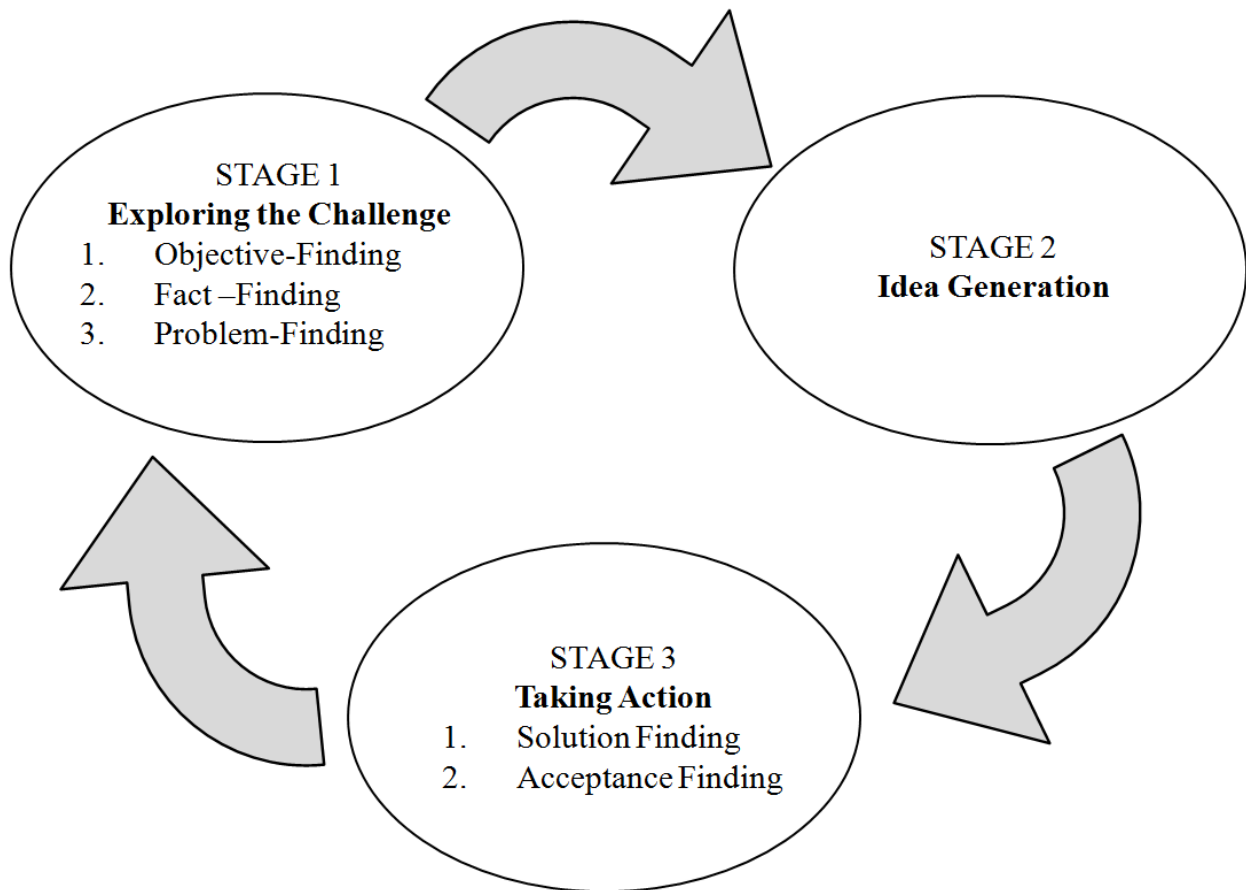


Figure 1 The CPS Model

addressed the problem statement. These ideas were generated through brainstorming, brainwriting, and prompts and techniques aimed at exploring possible solutions. The final session, “Preparing for Action,” evaluated the generated ideas against specific criteria, and culminated with a pragmatic action plan, complete with timeline, in order to implement the final selected idea. We conducted the three sessions, each approximately 60 to 90 minutes in length, with Melissa. Each session was not more than two weeks from the last. Materials used included an easel with chart paper and colored markers for the visual recording of thoughts, ideas, selection criteria, and steps for action. Melissa’s own classroom was used for the sessions. Within each phase, Melissa was asked to employ, via the guidance of the CPS facilitator, two distinct modes of thinking: divergent and convergent. Both of these thinking modes are associated with creativity and creative thinking as the former centers on quantity and novelty of ideas while the latter involves combining and selecting ideas based on criteria (see Dewulf & Baillie, 1999).

Exploring the Challenge

In the first stage, the facilitator helped Melissa to identify curriculum goals she had for her classroom. Melissa’s goals were varied, including establishing engaging social studies instruction appropriate for second-grade students, connecting content under study with those in the school’s surrounding community, and generating more student responsibility within her

instruction. Once the goals were established, we examined the external influences on the development of these goals. In other words, what and who were the various people, objects, and other factors influencing Melissa’s curriculum development? Melissa noted that there were many stakeholders (e.g., parents, colleagues, administrators) and circumstances (e.g., costs, standards, pacing guides) that affect her teaching and need to be considered when planning. We used divergent thinking strategies to help Melissa contemplate how her goals related to the myriad of external influences and convergent thinking strategies to focus on attainable outcomes. By the end of this stage, Melissa had identified a specific curriculum issue that might benefit from the investigation, and had restated the issue in the form of a workable question: “In what ways might I create feasible and interactive social studies experiences for my students which encourage meaningful learning?”

Idea Generation

In the “Idea Generation” stage, Melissa and the resource team listed possible solutions for the problem statement. We spent nearly one hour using divergent thinking strategies to brainstorm a wide range of answers that addressed the question. The team’s suggestions ranged from painting a community mural to publishing a student-produced neighborhood journal in the vein of a *Foxfire* experience (Wigginton, 1985). Importantly, this stage of the process is centered on generating any and all ideas that address the problem statement. During the

stage, neither Melissa nor the resource team immediately judged or critiqued the ideas. In fact, our brainstorming often led us to embellish another's idea, allowing us to generate thoughts that would most likely not have been possible without collaboration. Once confident that we exhausted all possible solutions, the facilitator asked Melissa to select several of the ideas that she strongly favored and could be examined in the third stage of the process.

Taking Action

The final stage prompted the exploration of criteria by which to judge the narrowed list of ideas that Melissa selected in stage two. We considered the previously identified external influences important to Melissa's planning as well as her original question. Which ideas were cost effective? Which could be accomplished within the required curriculum? Which supported meaningful social studies experiences? At the end of this stage, Melissa chose to focus on the construction of an interactive, three-dimensional map of a local zoo by her students as part of planned field trip. As session three progressed, we drew up an action plan to implement the map project. The facilitator concluded this stage by acknowledging the potential benefits of Melissa's plan and delegating the various responsibilities associated with each step of the action plan. We were left with a solution that addressed Melissa's initial desires, matched the outlined criteria, and to which we were now accountable via a set and agreed upon action plan.

Conclusions

Although the CPS model identifies distinct roles for those involved, the process relies on the collaborative efforts of individuals committed to work together to creatively improve a given environment (Treffinger, Selby, & Isaksen, 2008). As it was evidenced in our efforts, the CPS model was also supportive of the five basic assumptions of *Invitational Education*: Optimism, Trust, Respect, Care, and Intentionality. From the beginning, we were actively engaged with the people, places, and procedures of curriculum development in a manner that fostered human potential and growth – there was a clear *intentionality* to this project. As a team, we conducted the three stages of facilitation over a six-week period in Melissa's classroom. This context provided the key location to conduct our curricular efforts as we had access to and interacted with the commonplaces and stakeholders influential on Melissa's teaching. Each session started with a review of our purpose and ended, explicitly, with measures used to assess our goal of improving the curriculum. Furthermore, our overall efforts did not cease until the team, including Melissa, was satisfied with the solution. As a group, we consistently interacted positively, contemplatively, and geared our thoughts toward Melissa's stated interests and obstacles. In a post-facilitation interview, Melissa indicated that when a teacher has the opportunity to engage with the process, CPS is a helpful way to utilize the support of others in redefining or surpassing perceived limitations and improve one's practice. We believe that CPS is an emergent process

supporting meaningful reflection while minimizing the premature elimination of potentially useful thoughts and ideas so important for teacher planning. The aspect that makes CPS especially applicable to classroom teachers is its evolving nature; although the process itself has structure, the problems, facts, and ideas discussed rely entirely upon the person or persons with whom the process is conducted.

As illustrated by our solution, CPS can assist in the generation of innovative curriculum and creative activities, but it also informs pedagogy. In many elementary schools, particularly in early grade levels, it is difficult to find meaningful social studies content that can be instructed in engaging, active ways (O'Connor, Heafner, & Groce, 2007). In Melissa's case, we are comfortable in concluding that she not only transformed her explicit curriculum, but also how she perceives curriculum generation. Viewing all the information relevant to one's existing challenge can be extremely empowering. In Melissa's words, "It was pretty neat to see how you could go from a broad topic to expanding your ideas on and on... all the ideas are do-able, and they are not as abstract as I would have thought." She also acknowledged that her views on creativity were altered as a result of this project. As Melissa said, "This was a much more engaging alternative to simply modifying existing lessons from textbooks or other published sources." Melissa's words illustrate how *optimism* is reflected in the process when she said, "I believed I could plan this way, but I rarely get the chance to practice this on a regular basis. It provides a

way for me to really unlock my thinking and improve my planning."

Several themes emerged during this case study. The most overt is the notion of perceived control. At several points in the CPS facilitation, it became clear that Melissa, in her regular planning efforts, often prematurely eliminated ideas based on perceived limitations and external boundaries. There are, of course, many legal and political stipulations on what can and cannot occur in a public school classroom, but more often than not, we found an idea to be workable after undergoing a small amount of consideration. For instance, at one point, the momentum in a session shifted towards some community outreach projects such as developing, manufacturing, and selling a product that would be useful in the students' community, or perhaps visiting the surrounding neighborhoods to interview employed citizens about their job and place in the economy. Initially, this idea seemed time-consuming and expensive, and Melissa expressed great concern over the legality of taking children off school grounds during class time. By this point in our deliberations, it was clear that mutual *trust* was well established, which allowed us to expand our research and brainstorming and the idea not only seemed plausible to Melissa, but she had also attained a better understanding of school policy and the actual, rather than perceived, limitations on instructional activities. *Trust* extended beyond just our interactions, but went to a level that included each member of the team to believe in the other and to do the right thing. This was important as Melissa was potentially

stretching beyond her typical frameworks and was truly challenging her own assumptions about her role as a curricular gatekeeper. As she summarized, “I have a lot more control than I thought I had.”

Another theme that emerged was that of informed reflection. Using the CPS process as a scaffold, we were able to work together on clearly stated and prioritized objectives. Everyone engaged in the process was privy to the reasons for, the facts surrounding, and the potential answers to Melissa’s challenge. The resource team is helpful firstly in the sense that they provide additional minds to think through a problem; secondly, the resource team becomes intimately connected to the process, having been present in the initial “Exploring the Challenge” session. This not only better informs their ideas and possible solutions, but the team members also take a sincere ownership of the problem and *care* about the process, its potential solutions, and Melissa’s growth. We were interested and concerned that the process come to fruition and provide a meaningful solution for Melissa. This intimacy helped the resource team prompt Melissa, exposing verbally the personal values and beliefs that influence her decision-making. The resource team frequently met outside of the regularly scheduled CPS sessions to review progress and to consider possible resources that could be used in upcoming sessions. There existed within the resource team a genuine sincerity and desire to help Melissa throughout the CPS process and, afterwards, as we co-instructed lessons in her classroom as part of the field trip and mapping activities.

A third theme that surfaced was that of committed collaboration – both during and after the CPS facilitation. In every phase, but particularly in the last two sessions, we continually sparked new ideas, questions, and elaboration of proposed solutions under the guidance of the facilitator. Interestingly, our collaboration continuously reflected *respect* for each other, and for Melissa, in particular. Even though the CPS process brought a structure to curriculum development, we were always aware that the process was firstly about Melissa and her self-direction. We were accountable to facilitate for her a framework for curriculum development. We believe that occurred, as a powerful synergy seemed to arise when we shared ideas, which sparked new questions, which in turn generated more solutions to the challenge. The collaborative process persisted after the last CPS session and post-facilitation interview; we (as the resource team) met regularly and continued to work with Melissa to assist her in implementing the map project. Our collaborative involvement prompted our agreeing to teach several Social Studies lessons based around this concept, and all three educators collaborated during the implementation of Melissa’s action plan.

In Melissa’s case, the CPS model guided our efforts at finding a pragmatic solution to her challenges. Its implementation by knowledgeable practitioners can facilitate reflective pedagogy as well as promote behaviors associated with creativity. In emphasizing processes with products, Plucker (as cited in Beghetto, 2005) noted that creativity is “the interaction among

aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context” (p. 255). This definition also illustrates the aim and outcome of this effort: Inviting collaboration amongst professionals to identify and implement workable solutions and resources in response to specific teacher needs. Empowering teachers to benefit from their own creativity is a worthwhile pursuit.

We feel that duplication of this work, and perhaps further investigations into using this process on a wider scale could help alleviate the isolation and stress many educators feel on a daily basis. Although today’s teachers are faced with a multitude of expectations and demands, there are still ways in which educators can successfully integrate creativity into their own reflection and planning, and eventually into the learning experiences of their students.

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