Developing Students’ “mini-c” Creativity through Inquiry

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Abstract
In 2007, the American Association of School Librarians (AASL), a division of the American Library Association, unveiled the Standards for the 21st-Century Learner to foster high expectations for today’s learners. The purposes of this paper are to explore as well as operationalize the constructs of creativity to develop students’ creative potential through inquiry. This paper introduces the potential of the AASL Standards to foster student creativity. Starko’s contributions to developing the creative potential of children within a constraining educational milieu are presented.

Introduction
The 2007 AASL Standards provide the foundation for inquiry that “serve as guideposts for school library media specialists (SLMSs) and other educators in their teaching because these skills and dispositions are most effectively taught as an integral part of the content learning” (AASL, 2009, p. 5). This paper focuses on the import and opportunities of school librarians to increase student’s creativity through inquiry—the teaching of the latter being the principle role of school librarians. To achieve this goal, this paper is organized into three sections. In the first section the reader is introduced to the potential of the AASL Standards to foster student’s creativity. In the second section creativity and the importance of “mini-c” creativity is presented. In the third section the impediments to fostering student creativity such as pedagogy, school organization, and skills-based testing are discussed. I conclude the article by challenging school librarians to create school libraries of “curious delight,” which is the subtitle of Starko’s (2010) book Creativity in the Classroom.

The AASL Standards, Inquiry, and Creativity
The notion of the “creative challenge” (Freire 1989, p. 34) in developing critical perspective “to see deeply what is below the surface—think, critique, or analyze” (Wink 2011, p. 1) is the essence of inquiry. Kuhlthau, Maniotes, and Caspari (2007) described inquiry “as an approach to learning whereby students find and use a variety of sources of information and ideas to increase their understanding of a problem, topic, or issue” (p. 2). Inquiry engages students individually as well as collaboratively to connect the world with the curriculum (Kuhlthau, Maniotes, & Caspari, 2007). Stripling’s (2008) synthesis of inquiry frameworks (e.g. Audet & Jordan, 2005; Stripling, 2003; Kuhlthau, Maniotes, & Caspari, 2007) suggested the following steps:

- tap into prior experience and background knowledge;
- generate intriguing questions or problems that can be investigated;
- develop a plan for investigation;
- select resources—select, analyze, and evaluate information that addresses the questions or problems;
- organize information, find patterns, draw conclusions and new understandings;
- create demonstrations of learning and share with others; and
- reflect on the process and product of learning and generate new questions (p. 51).

The goal of creative inquiry is for all students to develop “an inquiry stance” with more emphasis on forming good questions rather than finding the answers (Cochran-Smith & Lytle, 1999, p. 250). The recognition that there is a problem—problem finding, or discovery—is associated more closely with creativity than solving problems already identified, or discovered (Runco, 2007; Csikszentmihalyi & Getzels, 1971; Getzels & Csikszentmihalyi, 1976).

The AASL Standards represent a paradigm shift to creative inquiry from the conventional “locate information—cut and clip—report” model of library projects that Loertscher, Koechlin, and Zwaan (2005) refer to as bird units. Similarly, Gordon (1999) characterizes this as “no-learning inquiry” that “has masqueraded as research for so long that the terms [research and inquiry] are used interchangeably” (para. 3). The school research process that Renzulli and DeWet (2010) describe as “looking up information” (p. 47) is viewed as an assessment practice by Gordon whereby classroom teachers accompany students to the school library to gather information, take notes, and write a summary; “creativity and inquiry were not perceived as
part of the process” (Gordon, 1999, para 3). Unpublished research conducted by Jones (2007) regarding the perception 18- to 24-year olds in North Carolina \((n=254)\) towards libraries ranks school library research as the most disliked aspect of library usage.

The critical nature of inquiry to nurture creativity is represented in AASL’s Standards for the 21st-Century Learner (2007). Characteristics of creative people such as openness (Runco, 2007; Feist, 1999), intrinsic motivation (Sawyer, 2006; Sternberg & Lubart, 1999; Amabile, 1983; Collins & Amabile, 1999), collaboration (Sawyer, 2006; John-Steiner, 1997, 2000), problem-finding/posing/solving (Guilford, 1975; Csikszentmihalyi & Getzels, 1970; Starko, 2010), knowledge acquisition (Runco, 2007), flexibility (Runco, 2007), perseverance (Amabile, 1983; Gruber, 1988; Cropley, 1997; Gardner, 1993), and divergent thinking (Guilford, 1968; Torrance, 1995) are represented in the AASL Standards as goals for students. For example,

- openness is represented in objective 4.2.3 to “maintain openness to new ideas by considering divergent opinions…”
- intrinsic motivation is represented in objective 4.2.2 to “demonstrate motivation by seeking information to answer personal question and interests…”
- collaboration is represented in objectives 1.1.9 to “collaborate with others to broaden and deepen understanding,” 2.1.5 to “collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems,” and 3.1.2 to “participate and collaborate as members of a social and intellectual network of learners”
- problem-finding/posing/solving is represented in objectives 1.2.5 “to demonstrate adaptability by changing the inquiry focus, questions, resources, or strategies when necessary to achieve success” and 1.1.3 to “develop and refine a range of questions to frame the search for new understanding”
- knowledge acquisition is represented in objectives 4.1.7 to “use social networks and information tools to gather and share information,” and 1.4.1 to “monitor own information-seeking processes for effectiveness and progress, and adapt as necessary”
- flexibility is represented in objective 2.2.1 to “demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn”
- perseverance is represented in objective 1.2.6 to “display emotional resilience by persisting in information searching despite challenges”
- divergent thinking is represented in objective 2.2.2 to “use both divergent and convergent thinking to formulate alternative conclusions and test them against evidence”

**Defining Creativity**

The modern study of creativity began in 1949 when Guilford (1950) used his inaugural address as president of the American Psychological Association (APA) to argue for the development of tests to measure characteristics of the creative personality and creative potential. Guilford (1950) asked, “(1) How can we discover creative promise in our children and our youth? and (2) How can we promote the development of creative personalities?” (p. 445). Guilford’s address and question posing launched six decades of studies as psychologists have attempted to measure and define the complex notion of creativity (Runco, 2004; Starko, 2010).

Three categories of creativity provide a framework to understand the continuum of creativity that “highlights the creative, transformative process involved in developing personal knowledge and insights” (Beghetto and Kaufman, 2007, p. 74). Creativity is important at both the individual and societal levels. At the societal level, creativity “can lead to new scientific findings, new movements in art, new inventions, and new social programs (Sternberg & Lubart, 1999, p. 3). Much of the creativity research has focused on eminent and eminent creators such as Darwin (Gruber, 1981) and Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi (Gardner, 1993). The Big-C notion of eminence recognizes the grand and permanent contributions of a few talented individuals. Efforts to understand Big-C contributions are Sternberg’s (1999) propulsion theory that considers how creative contributions move the field forward and Csikzentimihaly’s (1999) theory that influence on the domain requires individual effort and acceptance by the field.

A second category of creativity is little-c, or everyday creativity that differs from Big-C creativity in magnitude and definition. Although,
Big-C creativity represents monumental and everlasting creativity—the Beethovens, the Monets, the Edisons. Everything else gets lumped under little-c. For instance, if somebody is extremely creative but is not at the Big-C level, then they are considered to be at the little-c level. (Beghetto & Kaufman, 2007, p. 75)

Whereas the products of Big-C creativity are easily recognizable because they change the domain, it may not be fitting to place students’ first efforts at painting, musicianship, or writing in the little-c category. Further parsing of little-c creativity may be necessary to understand the developmental process of creativity. In proposing mini-c creativity, Beghetto and Kaufman’s (2007) point “is that all contributions judged to be creative by others (be they little-c or Big-C) have their genesis in mini-c” (p. 76). Table 1 shows how mini-c creativity differs from Big-C and little-c creativity.

Mini-c creativity represents students’ first steps to addressing the universality (or near universality) of creative potential (Runco, 2004). Beghetto and Plucker (2004) suggest that

It seems likely that all expressions of creativity start at the mini-c level (i.e., novel and meaningful intrapersonal interpretations and insights). And for a great many people, particularly young children, that likely is where it stops. However, for those who have the right combination of personal (e.g., expertise, motivation) and situational factors (e.g., environmental press, luck), their contributions may eventually become recognized as unique and worthwhile at the little-c (or possibly even Big C) level. (p. 377)

Table 1. Distinguishing mini-c from Big-C and little-c Creativity

<table>
<thead>
<tr>
<th></th>
<th>Big-C</th>
<th>Little-C</th>
<th>Mini-c</th>
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<tbody>
<tr>
<td>Scope</td>
<td>Breakthrough creativity that changes a domain</td>
<td>Everyday creativity that may make a solid contribution to the domain</td>
<td>Intrapersonal creativity that is part of the learning process</td>
</tr>
<tr>
<td>Example of a product</td>
<td>A painting by Van Gogh</td>
<td>A painting you create to give to a dear friend</td>
<td>A student's sketch pad with various combinations of light and shadow</td>
</tr>
<tr>
<td>Example of a person</td>
<td>Bill Gates</td>
<td>A colleague with original and insightful ideas</td>
<td>A high school art student</td>
</tr>
<tr>
<td>Assessment</td>
<td>Eminence criteria and/or historiometric analysis; e.g., examining impact or citations</td>
<td>Psychometric tests; Consensual Assessment Technique</td>
<td>Microgenetic methods</td>
</tr>
<tr>
<td>Experience</td>
<td>On average, more than ten years needed</td>
<td>Some level of schooling or general experience</td>
<td>Virtually none</td>
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The Constraints of Education to Developing Creative Potential

The AASL Standards are goals for all students in K-12 education regardless of intellect, language, ethnicity, class, or other characteristics. Developing creative potential is challenging given the constraints of education such as high stakes testing with its intense focus on accountability, uninspiring school climate and culture, and squelching of creativity by teachers.

Starko’s (2010) efforts to help educators understand their responsibility to nurture children’s creative potential is revealed in her many wonderings and questions: What is creativity? What role do our classrooms play in the development or discouragement of creativity? How do we help students develop creativity in ways that sustain and support their fellow human beings and the places they live?

Starko (2010) wrote that “the over-emphasis on high-stakes tests has caused some teachers to lower their sights to the oar in ways that are not healthy for our students or our world” (p. 4). The challenge for school librarians is to influence classroom teachers to raise their oars by assigning problem finding inquiry projects beginning with generative topics that are “accessible and interesting to students, excites the teacher’s intellectual passions, and is easily connected to other topics both within and outside the particular domain” (Wiske, 1998, p. 64). Generative topics provide opportunities to model problem finding and associate ideas throughout the curriculum that exemplify the qualities of exploration, innovation, joy, and questioning characteristic of school libraries of curious delight.

An analysis of Starko’s (2010) examination of creative theories and their meaning for education identified three themes especially relevant to creative inquiry: teaching problem finding and creative thinking, developing safe environments, and modeling creativity. Each is described.

Teach Problem Finding and Creative Thinking

Starko (2010) was fascinated with problem finding—“the identification and framing of problems” (p. 29), which she believed to be the essence of the creative process and thinking. Problem finding that fuels intrinsic motivation is a challenge when students are assigned readings and assignments and given specific instructions on how to proceed—when the message is that there is only one right way. Einstein and Infield’s well-known quote communicated the importance of problem finding to creativity:

The formulation of a problem is often more important than its solution, which may be merely a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old problems from a new angle, requires imagination and marks real advance in science. (Dillon, 1982, p. 98)

By creating opportunities to explore, inquiry is the ideal strategy for developing student’s minds (Kuhn, 2005; Tishman, Jay, & Perkins, 1993; Tishman, Perkins, & Jay, 1994; Bransford, Brown, & Cocking, 1999) and accumulating the “invaluable ‘capital of creativity,’ on which they can draw in later life” (Gardner, 1993, p. 31). However, Gardner’s (1993) ‘capital of creativity’ is unlikely to occur when children are restrained from such discovering activities, pushed in only one direction, or burdened with the view that there is only one correct answer or that correct answers must be meted out only by those in authority, then the chances that they will ever cast out on their own are significantly reduced. (p. 31)

Develop Safe Environments

Starko’s (2010) notion of curious delight hinges on classroom and school library support of exploration, innovation, joy, and questioning, but for some children these places may be few and far between. Many teachers “express strong approval of creativity in theory…but in practice, the situation is different” (Cropley, 2010, p. 297). The inherent values of creativity such as novelty, questioning, and dissatisfaction with the status quo may threaten teachers’ self-image and be unwelcomed in the classroom, a condition that Cropley (2010) called the “dark side of creativity” (p. 304).

School libraries of curious delight begin with school librarians who care. The notion of care (Dewey, 1933; Noddings, 2005) is central to learning because students who do not feel cared for and respected may disengage from learning. Cushman (2006) interviewed 65 students to gather their perspectives on high
school culture and climate. Students told her they wanted classes that are engaging. When “classes offer only a steady diet of tedium, these students would just as soon forget about school and look to the media, the streets, or peer relationships for interest and stimulation” (Cushman, 2006, p. 34). They asked for hands-on projects that combined high-interest topics with academic competencies, fair and consistent treatment, inspiring role models, and extracurricular activities such as sports and clubs that helped them express their passions, feelings, and competence. A survey of 470 students who dropped out revealed that they believed they could have succeeded if coursework had been more challenging, if classrooms had been more engaging, and if they had tried harder (Bridgeland, Dilulio, & Morrison, 2006). School librarians who care create interesting learning opportunities and safe places for exploration, innovation, joy, and questioning.

Model Creativity
The AASL Standards provide a framework for school librarians to model creative behaviors such as openness, perseverance, flexibility, employing a critical stance, and displaying initiative and engagement for students that are indicators of the Standards. Full implementation of the AASL Standards requires a different type of teaching than that to which some school librarians are accustomed. Rather than developing formal lesson plans, school librarians design learning opportunities that encourage students to develop and exhibit the creative behaviors identified above. Consequently, what occurs in the school library is not didactic instruction, but modeling of creative behaviors that are obtained developmentally over time. Some school librarians who continue to associate problem finding inquiry with the conventional “locate information—cut and clip—report” model may struggle with this new role imposed by the AASL Standards (Bush & Jones, 2010; Jones & Bush, 2009). Classroom teachers who have functioned under this old paradigm need to understand the heuristic nature of problem finding inquiry, which can be modeled too. Implementation of the AASL Standards requires school librarians to model creative problem finding inquiry behaviors for both students as well as classroom teachers.

Runco (2007) identified 10 specific actions to enhance creativity such as not to rush students, target transformational thinking, and build learning around students’ intrinsic interests. At minimum, he contended that educators should give opportunities for children to practice creative thinking, value and appreciate those efforts and model creative behaviors themselves. Creativity is enhanced when teachers model creative behaviors such as flexibility, originality, and openness, as well as demonstrate that “creativity is a valuable thing” (Runco, 2007, p. 155). Teaching for creativity is not an “add on” to the curriculum, but a “set of strategies for designing curriculum so that both content learning and creative thinking are enhanced” (Starko, 2010, p. 17). Modeling is one strategy to enhance the behaviors associated with creative thinking. School librarians may become models themselves, but, in addition, their knowledge of books and stories about creative individuals makes the school library a place where curious delight is a natural occurrence.

The Manifesto of Creative Inquiry
The development of students’ creative potential is likely to occur when school librarians minimize constraints to creativity by developing supportive school library programs that metaphorically till the land for planting and growth even though there is no empirical proof that this may happen. Starko (2010) faced a similar empirical dilemma when she applied creative theories to the classroom.

In the meantime, however, children are going to school facing an array of rigidly constructed, presented problems. We are left to choose whether we will continue business as usual until the research base is firmer or attempt to incorporate problem finding into our educational endeavors today. I opt for the latter. It seems only logical that encouraging the types of behaviors that make children explorers and questioners rather than passive accepters cannot help but enhance creativity, thinking, and learning. (p. 37)

I conclude with a Manifesto of Creative Inquiry patterned after Torrance’s (2002) Manifesto for Children consisting of seven guidelines gleaned from his analysis of the creative achievements of 101 children who were followed for 40 years. Torrance’s (2002) longitudinal research indicated the difficulty for some creative children to find “a kind of work that they could fall in love with, while others had fallen in love with their work in the early grades and were now pursuing it with intensity” (p. 9). Torrance (2002) found children who had tested high in creative potential; nevertheless they lost their creativity due to insecurity, lack of support, or inability to free “themselves of the expectations of others and to walk away from those imposed by their
parents, teachers, and others. Only about half of them had found a teacher or mentor who could help them” (p. 11). The difference for children who could hold onto their creativity was motivation, skills, and opportunities (Torrance, 2002).

The Manifesto for Creative Inquiry
1. The joy of discovery begins with problem finding. Make sure that teachers understand this and put a stop to those “locate information—cut and clip—reports.”
2. Inquiry begins with student’s interests, desires, and hopes. If students are bored, consider your complicity and do something about this.
3. Inquiry is a flexible and dynamic journey that begins with discovered questions and calls for thoughtful and deliberate choices.
4. Every inquiry is different. There is no one right way to conduct inquiry no matter what you learned in library school.
5. Students will take creative chances when it is safe to do so. Your job is to create a joyful school library environment that nurtures and celebrates exploration, innovation, and questioning.
6. It’s all about the kids who trump anything else you do.
7. A chief role of the school librarian is to model creative inquiry for children as well as adults.

Conclusion
Creativity can be modelled and taught through inquiry to increase the creative potential of all children. Although many educational systems continue to focus on skills-based lessons whereby there is only one correct answer, this type of didactic teaching does not prepare students for a world of uncertainty, change, and competition. Although the creators of the AASL Standards may not have intended to develop a document that so eloquently associates the school library with creativity, the Standards provide a framework for increasing student’s creative potential through problem finding inquiry.

Three key learnings:
• Student’s creative potential is enhanced by teaching about creativity.
• Inquiry is a natural way to foment creativity.
• An important role of the school librarian is to model creativity.

References


**Biographical Note**

Jami L. Jones is Assistant Professor in the Department of Library Science, College of Education at East Carolina University, Greenville, North Carolina, USA. Her scholarly and research interests include resilience, dispositions, and student engagement as well as creativity, which she explored at Columbia University’s Teachers College during the 2010-2011 academic year. Jones is developing a manuscript for Libraries Unlimited on the role of the school librarian in preventing dropout and increasing student engagement.