Thinking Skills and Creativity 25 (2017) 10–26

Contents lists available at ScienceDirect

Thinking Skills and Creativity

journal homepage: www.elsevier.com/locate/tsc

Developing assessment criteria of a lesson for creativity to promote teaching for creativity

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ARTICLE INFO

Keywords:
Assessment criteria of a lesson for creativity (ACLC)
Creativity assessment
Lesson for creativity
Creativity
Teaching for creativity

ABSTRACT

In the 21st century, the development of students' creativity has become a significant teaching objective for school teachers. International research has found that teaching for creativity is challenging for a number of reasons. Teachers' limited understanding of creativity and of pedagogies of creativity is among the most common reasons hindering teaching for creativity. To promote teaching for creativity in Vietnam, Assessment Criteria of a Lesson for Creativity (ACLC) was developed. It was used in guiding and assessing the teachers' preparation and implementation of lessons for creativity in a quasi-experimental design in one upper and one lower secondary school in Hanoi, Vietnam. This paper reports how the ACLC was developed and used in chemistry, history, language arts, and mathematics grade 10 classrooms at the upper secondary school in the 2015–2016 school year.

Findings indicate that the ACLC effectively supported the teachers in their preparation and implementation of teaching for creativity at these Vietnamese secondary schools. Findings also indicate that specifically guiding the teachers in how to use the ACLC and giving them prompt feedback on their teaching for creativity is helpful in promoting teaching for creativity.

1. Introduction

In the 21st century, teaching for creativity has gained significant attention in global educational literature. Countries have developed creative curricula to promote creativity development in their schools (Heilmann & Korte, 2010). However, training teachers in creativity development determines the success of teaching for creativity and can be done without creative curricula. Creativity training programs with creative tools and techniques in diverse exercises promoted trainees' creativity, and widely used by different organizations (Byrge & Tang, 2015; Torrance, 1972; Ulger, 2016). Cachia, Ferrari, and Mutka (2010) stated, creative curricula will not be effective without training teachers in how to develop student creativity. Further, Tran et al. (2016) found that a lack of guidance for teachers in terms of how to prepare, implement, and assess a lesson which aims to develop students' creativity and how to assess students' creativity were major challenges that limited teacher success in teaching for creativity. Therefore, the ACLC was developed and used to enhance teachers' competence in teaching for creativity without using a "creative curriculum."

The ACLC was piloted at one private upper secondary school (grades 10–12) in March and April, 2016 and at one public lower

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http://dx.doi.org/10.1016/j.tsc.2017.05.006
Received 17 November 2016; Received in revised form 11 May 2017; Accepted 21 May 2017
Available online 16 June 2017

secondary school (grades 6–9) in Hanoi, Vietnam in August and September, 2016. At the upper secondary school, the ACLC was used in four subjects: mathematics, chemistry, language arts and history in grade 10. At the lower secondary, chemistry was replaced by technology education. The curricula of these subjects were designed with a focus on the content and the transmission of knowledge rather than creativity development. Findings from the present study corroborate other studies that indicate teaching for creativity can be done without a designated creativity curriculum (Byrge & Tang, 2015; Cachia et al., 2010; Torrance, 1972; Ulger, 2016). This article presents the theoretical and practical bases for developing the ACLC, its aims, content, and implementation guidelines for teachers. It also analyses and discusses the findings regarding how the ACLC intervention supported teachers in their teaching for creativity. The article concludes with suggestions for promoting teaching for creativity at schools in Vietnam and other countries with similar settings.

2. Development of the assessment criteria for a lesson promoting creativity

2.1. Theoretical and practical bases

2.1.1. Creativity and creative competencies

Creativity is often defined as the exploring, imagining, and creative thinking processes which occur based on one's knowledge, motivation, emotion, and experiences that lead to creating new, useful and valuable products (ideas, solutions or specific things) (Ferrari, Cachia, & Punie, 2009; Runco & Jaeger, 2012; Vygotsky, 2004). In such processes, curiosity-driven people conduct an exploration to identify problems, observe and ask questions to find out how other people have created new things (Craft, Cremin, Burnard, & Chappell, 2007; Starko, 2013). Imagination consists of both creative and re-creative elements. Creative imagination refers to designing things in new ways or making connections to form new images (Ho, Wang, & Cheng, 2013; Vygotsky, 2004). Re-creative imagination helps recall and re-envision prior-images. Creative thinking is then the ability to generate new ideas or solutions and select unique or the most useful idea or solution to develop or apply in action (De Bono, 1970; Yaqoob, 2007). Curiosity, imagination, and creative thinking are considered core processes of creativity (Craft et al., 2007; Starko, 2013).

One important element of creativity is a person's positive motivation toward creativity (Fasko, 2001). Creativity often occurs based on an understanding of specialization and cross-disciplinary connections (Ferrari et al., 2009). Creativity occurs in an ecological system where students interact with teachers, peers, and others as well as with things, ideas, and spaces (physical, mental, virtual, and social), in which a new idea is shared and made better (Jackson, 2016). Creativity, therefore, includes inputs of knowledge (e.g., professional and cross-disciplinary and creative) and attitudes towards creativity and processes (exploring, imagining, and creative thinking) that occur in an ecological system and that result in a creative product.

Creativity has specific manifestations in different subjects. In chemistry, creativity means students are able to observe, conduct explorations, imagine, and make predictions regarding unknown phenomena; they also can build research hypotheses, conduct experiments, draw conclusions, and apply knowledge in practice (Ajoke & Joe, 2012; Holbrook, 2005). Mathematical creativity may refer to forming new questions for an exercise, imagining different ways to solve a math problem, and then selecting the best (Leikin, 2013). Creativity in history is questioning and imagining the past; using new approaches to analyze, explain, and evaluate historical events; and making connections of the past to the present and the future (Jackson, 2005). Creativity in language arts is typically shown by making new connections to form new words or new uses for old words and by the use of creative writing tools and techniques to compose new poems, stories and novels (Larson, 2009; Maybin & Swann, 2007).

2.1.2. Competence development in Vietnamese curriculum

In Vietnam, the Ministry of Education and Training (MOET) defines eight core competencies for students in the draft of the general educational curriculum (MoET, 2015). The focus of the new curriculum is not only on developing creative competence, but also a range of other lifelong skills for students (e.g., problem-solving; communication and cooperation; technology, science, and linguistic literacy). So all of the competencies were carefully considered in the development of the ACLC.

2.1.3. Teaching for creativity and pedagogy requirements

It has been generally suggested that to implement a lesson, there are six components a teacher should consider: (i) forming lesson objectives focusing on developing student knowledge, skills, and attitudes; (ii, iii, iv) identifying content and related teaching methods and teaching modes; (v) building a classroom environment, and (vi) managing time and the classroom (Milkova, 2016).

Tran et al. (2016, p. 1027) summarize teaching for creativity as a process of equipping students with a) knowledge of a particular discipline and related areas; b) knowledge about creativity; c) creative skills such as using creative methods and tools to explore, imagine, and produce creative products; and (d) the design of creative classroom environments in which students can express their creativity freely. Researchers (Craft et al., 2007; Ferrari et al., 2009; Krajcik & Blumenfeld, 2006) suggest teachers should provide opportunities for students to form connections between new information and prior knowledge and experiences and use real situations to apply their knowledge in creative activities. They should have knowledge and skills about teaching their own and cross-disciplinary subjects, especially skills in using creative tools to teach for creativity effectively. As learning is seen as an ecological system, teachers are required to develop student collaboration skills, such as listening, respecting others' opinions and using different tools to represent new ideas (Krajcik & Blumenfeld, 2006). Students have different levels of creativity, and teachers should develop to the fullest individual competence by establishing objectives for creativity development and identifying creative methods and resources in lesson plan design (Gorshunova, Medvedev, & Razdorskaya, 2014).

Researchers suggest teachers use questioning as the best way to develop students' curiosity and higher order thinking (Conklin,