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## Cultivating New Ideas and Solutions in the Occupational Therapy Profession by Fostering Divergent Thinking

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# Cultivating New Ideas and Solutions in the Occupational Therapy Profession by Fostering Divergent Thinking

**Keywords**

creativity, convergent thinking, art, OT students

We all know at least one person who is always late to gatherings, completes assignments at the last minute, and has trouble getting organized. But that person is often the most creative and funniest among us. That person, perhaps, is a divergent thinker. Divergent thinking is the cognitive process of generating alternative ideas or possible solutions to problems (Wang, Hao, Ku, Grabner, & Fink, 2017). Divergent thinking involves fluency, flexibility, and originality of ideas (Hass, 2017). To solve problems, divergent thinkers have different starting points and change direction when needed, leading to multiple, potentially correct and appropriate, solutions. There is evidence that divergent thinkers are more creative, more open to new ideas, process more sensory information, and even have better visual perceptual skills (Chrysikou, 2012; Kraft, 2005; Wang et al., 2017). The characteristics of divergent thinkers include thought processes that are more fluent, varied, flexible, original, and elaborative (Kraft, 2005). For problem solving, divergent thinkers demonstrate high levels of problem sensitivity, which is used for identifying the problem, and redefinition, which is the ability to view a problem in different ways (Kraft, 2005).

The opposite of divergent thinking is convergent thinking. Convergent thinking is the cognitive process of generating the single, correct idea or solution to a problem through eliminating and filtering out information (Kraft, 2005). Much of our cognitive training, such as formal education and assessment of cognitive skills, focuses on convergent thinking. Measures, such as IQ testing, mainly assess convergent thinking (Kraft, 2005).

Most students in formal education spend their lives being taught to use convergent thinking, and there is evidence to suggest that this training represses and even decreases the neural connections needed for divergent thinking (Kraft, 2005).

### **Divergent Thinking and the Occupational Therapy Student**

The question, then, is posed about the importance of divergent thinking in our occupational therapy (OT) students. It seems as if many students who are attracted to the OT profession are comfortable with divergent thinking as demonstrated by their interest in a profession that is multifaceted, flexible, and sometimes not publicly well-defined. These students demonstrate a certain level of comfort with ambiguity. Among students who were enrolled in an introduction to OT course, many of whom were applying to the OT program, a divergent learning style was common (Dirette & Anderson, 2016).

A high level of interest in the OT profession by divergent thinkers, however, may not translate to a high number of OT students who are divergent thinkers. Because measures like grade point average (GPA) and Graduate Record Examinations (GRE) scores are often used as the basis for admission to OT programs (Bathje, Ozelie, & Deavila, 2014; Gutman & Falk-Kessler, 2016), the admission process may favor students who are convergent thinkers. The practice of admitting students to programs based on these criteria may improve curriculum outcome scores on measures such as the pass rates on the National Board for Certification in Occupational Therapy (NBCOT) exam, but may not improve success rates for

students on fieldwork placements. Bathje et al. (2014) found that undergraduate GPA did not predict success on fieldwork placements and only the GRE-written section was a significant predictor of fieldwork scores. This, perhaps, is because the GRE-written section tests critical thinking and analytical writing skills, such as the ability to articulate and support complex ideas clearly and effectively; skills closely related to divergent thinking.

While the demand for divergent thinking may be low for admission to academic programs, it is crucial for success on fieldwork placements. Divergent thinking is closely related to creative abilities (Kraft, 2005; Wang et al., 2017). In a survey by Campbell et al. (2015), 86.6% of fieldwork educators listed creativity as an essential professional attribute for success in a fieldwork placement, and that number rose to 95% if the fieldwork placement was in a pediatric setting.

### **Divergent Thinking and Occupational Therapy Practice**

The need for divergent thinking in fieldwork placements is also an indicator of how important it is for OT practice. The profession of OT thrives on divergent thinking. Divergent thinking, with its ties to creativity, is needed to generate treatment ideas and solutions to clinical problems. Creativity, the process of exploring diverse possible solutions and generating original ideas through divergent thinking (Kraft, 2005; Wang et al., 2017), has been shown to be a part of everyday OT practice for both clinical reasoning and the generation of treatment activities (Schmid, 2004).

In addition to using divergent thinking to generate treatment ideas and solve clinical problems, creativity itself is used as a treatment modality in OT. Occupational therapists have clients participate in creative activities to promote the restoration of function (Royeen, 2015). “Creativity is the core element of our behaviors; it incorporates an intrinsic motivation to complete a goal and taps into the innate desire for mastery we as humans instinctively possess” (Royeen, 2015, p. 3).

There is ample evidence to support the effectiveness of creative activities for improvements in self-efficacy, self-expression, transitions through illnesses and life phases, and socialization for a wide range of clients with varied diagnoses with whom occupational therapists work (Bathje, 2014a; Bathje, 2014b; Blanche, 2007; Griffiths, 2008; la Cour, Josephsson, & Luborsky, 2005; la Cour, Josephsson, Tishelman, & Nygard, 2007; Leenerts, Evettes, & Miller, 2016; Perruzza & Kinsella, 2010). Thus, the need for occupational therapists to be able to use divergent thinking in the therapeutic process is evident.

### **Fostering Divergent Thinking**

Given the importance of divergent thinking to the OT profession, the need to foster it in OT students is apparent. As a profession, we can either admit more students who are naturally divergent thinkers into OT programs or we can help build these skills in the students who are already admitted to our programs. To admit more students who are inherently skilled in divergent thinking, the criteria for admissions to programs may need to include factors other than GPA or GRE scores. Adding

measures that assess some of the skills that require divergent thinking may help with this selection process. For example, the Emotional Intelligence Admission Essay Scale, which examines an applicant's ability to interpret others' expressions, demonstrate open and compassionate interest in others, and negotiate interpersonal conflicts (Gutman & Falk-Kessler, 2016), does not directly assess divergent thinking but assesses skills that require divergent thinking. Using measures such as these in the admission process could increase the number of students who are skilled in or at least open to divergent thinking.

To better prepare currently enrolled students for fieldwork and practice, academic OT programs may need to focus on fostering these skills through coursework and other experiences. Students are usually already trained in convergent thinking by the educational systems, and there is typically more of a struggle to foster divergent thinking. While the left, dominant hemisphere of the cerebral cortex is largely involved in convergent thinking, both hemispheres are involved in the creative process (Chrysikou, 2012; Kraft, 2005). The right, non-dominant hemisphere generates original and divergent thoughts, and the left and frontal hemispheres of the cerebral cortex keep the right hemisphere in check (Kraft, 2005).

This process of learning to think divergently cannot be forced, but must instead be fostered. The creative process requires information, incubation, and respite (Kraft, 2005). Information is initially gathered using convergent thinking to gain knowledge about a subject. Preparation through the acquisition of expert knowledge forms a basis for

potential elaboration. Boyd and Goldenberg (2013) propose that the creative process does not require the proverbial "thinking outside the box," but rather requires working with known information in various ways. This process, however, cannot be forced and often requires respite for the information to be processed.

There is also evidence that a supportive environment is needed to help foster the creative process (la Cour et al., 2005; Schmid, 2004). The environment must not focus on the correct or routine answers, but encourage freedom of choice, have lower productivity demands, and have fewer time restraints. Because the creative process involves taking risks, the environment needs to be one where trust, safety, and support are evident (Schmid, 2004).

An example of the opportunity to build divergent thinking and foster creativity in OT students was published in a recent issue of *The Open Journal of Occupational Therapy* (OJOT). Lawson and Olson (2017) describe an international service learning program in Guatemala in which language barriers and limited resources for OT treatment lead to increased creative thinking in the OT students. Language barriers forced the students to rely on other sensory modalities, such as looking at facial expressions and hand gestures, and communication and limited resources encouraged the creative process by requiring the students to generate alternative treatment ideas or uses for objects.

### **In This Issue**

OJOT has consistently promoted divergent thinking through the inclusion of the Occupation

and the Artist features in each issue and the publication of articles (as cited above) that examine the creative process. In this issue of OJOT, Boisselle and Baxter (2017) explore how creative thinking is experienced by OT students. Their survey of master's students across semesters reveals consistent emphasis on creative thinking, which the students valued, believed could be learned, and thought important for clinical practice. Coppola, Miao, Allmendinger, and Zhang (2017) also explore creativity with OT students. In their article, they use survey and reflective essays to examine the impact of a visual arts module in an OT program. One of the lessons challenged the students' convergent thinking through interpretation of the meaning of works of art. Some of the students described frustration with this process because "there was no ultimate authority figure and no single answer." Ultimately, as a result of participation in this art-based program that challenged the students to think divergently, the students reported an expansion of their creative thinking. The editors of OJOT continue to encourage submissions like these that explore the benefits and development of divergent thinking and the creative process in the OT profession.

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