Chapter 22

The Role of Technology in Providing Effective Gifted Education Services in Clustered Classrooms

Geri Collins
Mercer University, USA

Jeffrey Hall
Mercer University, USA

Bridget Taylor
Mercer University, USA

ABSTRACT

The purpose of this chapter is to examine the rationale of clustered classrooms and to explore methods of using technology to enhance the educational outcomes of gifted students in clustered classrooms. The need for this training is great because clustered classrooms can help teachers overcome the problems associated with mixed-ability groupings, tight budgets, and accusations of elitism that often plague gifted education services (Brulles & Winebrenner, 2012). The chapter includes research-based strategies for facilitating clustered classrooms, provides ideas for incorporating technology across multiple content areas, identifies what exemplary student products should look like, and offers a sample lesson plan that can be adapted to cultivate problem-solving skills, critical thinking, and collaboration in a clustered classroom. By highlighting and examining these issues, the authors hope that more teachers will utilize the clustered classroom model, providing outstanding educational opportunities that can benefit all students.

SETTING THE STAGE

In an era of constrained education budgets and high-stakes standardized testing, a vital pedagogical concern is ensuring that the unique needs of gifted students are still being addressed (Brulles & Winebrenner, 2012). Traditional approaches to offering gifted services, such as homogeneous classrooms or pull-out services, often fall victim to other needs when money is tight, due in part to the misguided belief

that "gifted kids will make it on their own" and perform well enough on standardized tests (Brulles & Winebrenner, 2012, p. 42). In the face of these challenges, one potential solution is the "clustered classroom" model, which consists of multiple clusters of students in a single classroom who "are grouped according to their ability and achievement levels" (Brulles & Winebrenner, 2012, p. 42). Alternatively known as within-class ability grouping (Kulik & Kulik, 1992), this model provides a compelling option for teachers and other stakeholders who are interested in providing a curriculum that is differentiated and better suited for gifted learners compared to whole-class instruction in a heterogeneous classroom. Instead of concentrating gifted students in a homogenous gifted classroom (which generally costs more money and can lead to accusations of elitism) or having mixed-ability groupings of gifted and non-gifted students (which can lead to stunted academic growth and resentment from gifted students), the clustered classroom model enables gifted students to remain in heterogeneous classrooms that include multiple levels of learners. Students in clustered classroom are grouped according to ability level, which can enable teachers to provide gifted-level academic opportunities for those who need it while avoiding the aforementioned problems that are often associated with other models of gifted education (Brulles & Winebrenner, 2012). Although "little empirical evidence is available attesting to its effectiveness" (Brulles, Cohn, & Saunders, 2010, p. 327), the evidence that exists about the cluster grouping of gifted students is promising. As a result, it is important that teachers of gifted students learn more about clustered classrooms and consider applying this model in their own schools.

Cluster grouping may be "a cost-effective way to provide gifted services," (Brulles, Peters, & Saunders, 2012, p. 200), but providing effective instruction and differentiation across clusters of varying skill levels and cognitive capabilities in a single classroom can be challenging. Although ability grouping generally yields positive results for high-ability students (Fuligni, Eccles, & Barber, 1995; Gentry & Owen, 1999; Kulik & Kulik, 1992; Teno, 2000), research on cluster grouping has also highlighted "teachers' inability to appropriately challenge students due to the diverse levels of prior knowledge, aptitude and motivation common in today's heterogeneous classrooms" (Kanevsky & Keighley, 2003, p. 21). Therefore, increased and specialized training with clustered classrooms is necessary for teachers to differentiate instruction at the highest level for all students.

In order to provide effective gifted education services in a clustered classroom, the first requirement is for teachers to understand the unique learning needs and characteristics of gifted students. This knowledge and understanding is not widespread because the "basic principles of special education, including giftedness, are omitted from many initial teacher training programs" (Matthews & Foster, 2005, p. 223). Although teachers may not have received any specialized training in gifted education, they can become proficient in meeting the needs of gifted students by reading published research and learning from mentor teachers.

Research has indicated several factors that enhance learning among gifted students. Kanevsky and Keighley (2003) identified the five characteristics of effective learning tasks for gifted students, labeled the "five C's: control, choice, challenge, complexity and caring [of the teacher]" (p. 22). The five C's should always be considered when developing assignments for gifted students in order to promote their interest in course work. In a heterogeneous classroom, this is best accomplished by differentiating assignments as necessary to meet the needs of gifted students and non-gifted students alike. Brulles and Winebrenner (2012) found that "gifted students more readily take advantage of differentiated learning opportunities when others are working at advanced levels" (p. 44). Thus, clustering groups according to student ability level and then differentiating assignments accordingly is an excellent way to provide gifted services. This is a challenging task, however, and easier said than done.

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