

# Cluster Grouping for the Gifted and Talented: It Works!

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## Abstract

Cluster grouping, as an organisational strategy for gifted and talented education, has been discussed, implemented and researched in the United States for several decades. Outcomes have been positive, yet the potential benefits of this model for the New Zealand context remain largely unrecognised. Cluster grouping involves the placement of a group of gifted and talented learners in one or more classrooms in their respective year group, with the remainder of students heterogeneously grouped. Used in conjunction with differentiation, pull-out programmes, and effective professional development for teachers, it can deliver a full-time, cost-effective programme for gifted and talented students. This article discusses the benefits of the strategy to school communities as a whole, and considers both affective and achievement outcomes for students. Implementation is presented in theory and in respect of a case study – a New Zealand school that has successfully adapted the concept in accordance with its individual needs.

## Introduction

As schools grapple with the realities of staffing, budget and resource restraints which can limit the feasibility of special programming, meeting the needs of gifted and talented students becomes a complex issue. Identifying and serving this population may inadvertently take a back seat to other reforms and priorities, such as children with disabilities (Gentry & MacDougall, 2007). Children veering from the norm in either direction will require increasingly differentiated educational experiences, but the singling out of any minority group may raise controversy.

With inclusion based on the premise of equality, the 'one-size-fits-all' approach of mixed ability classes may deny the gifted student an equitable learning experience. As the debate has raged over ability grouping in general, and research has produced conflicting outcomes on the subject, teachers have been left to cope with the advent of full inclusion and an ever-increasing range of social problems. There is no doubt that all students will benefit when curriculum and instruction is adjusted to their individual level of achievement and skill, but meeting these individual needs in the classroom can seem an almost impossible task (Gentry & MacDougall, 2007).

To reach their full potential, gifted and talented students must be motivated by the "consistent opportunity to learn new material and to acquire the behaviours that will allow them to cope with the challenge and struggle of new learning" (Winebrenner & Devlin, 2001, p.2). At the same time, they need to develop "a realistic appraisal of their own ability" by comparing themselves with others of similar ability (Fiedler, Lange & Winebrenner, 1993/2002, p.2). Often seen as elitist, ability grouping is merely an educational response to a group of students exhibiting individual differences in both their cognitive and affective development. As such, there must be provision for this methodology in our schools.

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In the United States, recent decades have seen cluster grouping gain favour as a grouping strategy of choice in gifted education. With budget cuts forcing educators to look at non-traditional options for providing effective learning environments within the favoured inclusive and heterogeneous classroom, the cluster concept emerged as a viable and cost-effective approach to ability grouping (Gentry & Owen, 1999/2004). As a model, it is capable of providing a full-time gifted programme, where differentiated instruction becomes a feasible option for teachers and more likely to occur (Gentry, 1999). Moreover, gifted students are afforded a sense of belonging, in an environment where daily and consistent interactions with intellectual peers can be maintained. They can also expect to be supported by a teacher who acknowledges and actively addresses their unique academic and affective needs (Peters, 2005).

With an increasing awareness of the obligation to meet the learning needs of the gifted and talented, mandated by the 2005 amendment to the National Administration Guidelines [NAG1(iii)] (Ministry of Education, 2007), New Zealand schools continue to experiment with programmes for this group of students. With cluster grouping currently a little-known strategy, this article presents a definition and rationale for its implementation, along with a case study of a New Zealand school successfully utilising the concept.

## Definition

Cluster grouping is a programming option or organisational model designed to meet the needs of gifted students in a heterogeneous classroom setting. Students in a particular year group, who are identified according to the policies and procedures at individual school level, are purposefully assigned to the same classroom with a teacher suitably trained in gifted education. The aim is to meet the intellectual, social and emotional needs of these students, with differentiated instruction and opportunities to interact with their intellectual and their mixed-ability 'age' peers (Schuler, 1997). They will represent the top 5-8% of ability in the year level, and usually comprise around 20% of their nominated heterogeneous class. A higher number of gifted students, possibly due to a broader categorisation of giftedness, may require two or more designated cluster classrooms. All other classes will include a group of high ability students who are not gifted but may serve as academic role models for other students (Winebrenner & Brulles, 2008).

The three non-negotiable components of cluster grouping are:

- groups of 3 to 10 gifted students placed in heterogeneous classrooms.
- differentiated curriculum and instruction within these classrooms for the gifted cluster.
- teachers in these classrooms who have experience in gifted education, and who are given opportunities for on-going professional development and support.

(Gentry & MacDougall, 2007).

These teachers will understand that children of exceptionally high ability "are as far removed from the 'norm' as are students with significant learning difficulties" (Winebrenner & Devlin, 2001, p.2).

In the Schoolwide Cluster Grouping Model, all classrooms are carefully structured in their composition, with all students classified according to their abilities and potential for grouping considerations (Winebrenner & Brulles, 2008). The aim is for a balance of abilities throughout the year level, whilst reducing the range of abilities found in any one classroom. Research has indicated that these manipulated grouping practices allow teachers to be more responsive to the needs of all their students, engaging in practices that reflect positive achievement outcomes for those of all abilities (Brulles, 2005 as cited in Winebrenner & Brulles, 2008).

Cluster teachers must possess the skills to recognise and nurture gifted behaviours in a differentiated learning environment that provides flexible grouping opportunities and is

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challenging for all students. They will need to explore effective instructional strategies to address the specific learning needs of gifted students, such as acceleration, curriculum compacting, using open-ended questions, and integrating higher order thinking skills (Gentry & MacDougall, 2007). Levels and pace of curriculum will be determined by students' readiness, with the understanding that they may work at different levels for different subjects (Winebrenner & Brulles, 2008). It will be important to facilitate independent studies and research investigations, incorporating students' passions and interests wherever possible (Winebrenner & Devlin, 2001).

Co-operative learning experiences may still be utilised in the cluster class, with teachers afforded the flexibility to determine situations in which homogeneous or heterogeneous groupings will be most appropriate. Gifted students should not feel exploited by being used to help others (Winebrenner & Devlin, 2001), and co-operative learning will need to be balanced with opportunities for segregated and fast-paced accelerated work, opportunities to work alone and competitions amongst their intellectual peers (Fiedler et al., 1993/2002).

## Rationale

Many studies have explored the grouping of gifted children, producing strong evidence that they will learn far more effectively when grouped together and provided with challenging material adapted to their learning style (Cathcart, 2005). Specifically, ideal placement will be with students of similar ability in their areas of strength (Kulik & Kulik, 1990; Rogers, 1993 as cited in Winebrenner & Devlin, 2001). Socially and emotionally, gifted students are better supported to understand and accept their learning differences when surrounded by gifted peers, and more likely to develop a healthy self-concept (Winebrenner & Devlin, 2001). The question of how best to provide for the multi-faceted needs of these exceptional students is still being explored in our schools.

Streaming or tracking, the old-school approach to grouping, tends to be inflexible and usually involves permanent assignment of students to classes taught at a particular level. Even when homogeneous grouping effectively provides for the academic needs of the gifted, it can be fraught with philosophical, political and socio-emotional issues for the school community at large. Ability grouping in the cluster model offers an alternative approach, in line with New Zealand's inclusive ideologies and policy directives. It creates an awareness of the need for intentional and informed practices to address the needs of gifted and talented students, catering for both their advanced rate of growth in areas of giftedness and the asynchronous development that often results.

Cluster grouping affords gifted students the opportunity to work and learn together on a full-time basis, without the stigma attached to special classes. Alongside their academic peers, they will be "more comfortable working at extended levels of complexity and depth in a given area...[and their] willingness to take risks in learning increases when they spend time with learning peers who are similar to them in interests and abilities" (Winebrenner & Brulles, 2008, p.3). Their capabilities in terms of learning at advanced levels can be maximised, with provision for independent research or learning projects, and group projects with students displaying similar interests or ability (Davis & Rimm, 2004).

Gifted students potentially differ from their classmates on three dimensions – the pace at which they learn, the depth of their understanding, and the interests that they hold (Maker, 1982 as cited in Parke, 2000). The cluster teacher will be skilled in the management of their learning, addressing and accommodating the defining characteristics of the gifted. Students will require guidance in developing the skills necessary to understand and interpret a differentiated curriculum, using the resources made available to them to become fully responsible for their own learning (Parke, 2000). They must explore their abilities, and also their affective needs, to achieve self-understanding and to become autonomous in guiding the development of their individual talents (Feldhusen, 1993, p.37, quoted in Dexter, 1998).

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Cluster grouping will avoid the problem of schools attempting to combine high achievers with gifted learners for the sake of grouping convenience. These two groups of students learn and experience school in completely different ways. Unlike high achievers, the gifted will not fit comfortably into the 'system', and mastery of the given curriculum will not motivate them. Rather, they have a need to focus on what they perceive to be important and are intensely driven by their areas of interest. They may experience extreme anxiety as a result of the conflict between the perform/conform expectations of school and the need to follow their instincts and passions (Cathcart, no date). Lack of awareness of the technical difference between themselves and high achievers may cause confusion and self-doubt, further contributing to the vulnerability and low self-esteem which often hinders their development of social skills. By eliminating high ability students from the cluster class we remove this conflict, allowing gifted children the opportunity to truly share with like-minded peers and to learn the skills of companionship (Cathcart, no date).

The cluster grouping model has demonstrated positive outcomes for all students, boosting the self-confidence and achievement of both low and average-to-high achieving students when the gifted students are removed. The expectations are raised for these 'non-clustered students', who will now be required to contribute and become accountable for learning processes in the classroom. The dynamic can change markedly when the competitiveness and domination of the top few students is removed. This is in keeping with Schunk's research on role-modelling, whereby role models are most effective when similar in ability to those for whom they are motivational (1987, as cited in Winebrenner & Devlin, 2001).

The model reinforces Renzulli's belief that the practice of "diagnosing and remediating weaknesses should be replaced with a talent development approach to enrichment learning and teaching that recognizes student interests, strengths, and talents as a basis for their education" (1994, as cited in Gentry, 1999, p.60). With its focus on individual abilities and needs, the cluster concept provides teachers with more opportunities to identify students performing at higher levels, and facilitates on-going assessment of their strengths and abilities (Gentry and MacDougall, 2007). Collaboration is encouraged as teachers work together to plan effective curriculum and instruction for different levels of student achievement and readiness. In this way, the use of gifted education expertise may be effectively transferred to general education practices, as teachers learn to provide modified versions of gifted education strategies and opportunities for all students (Winebrenner & Devlin, 2001).

Other positive spin-offs include whole-school ownership in a programme developed collaboratively, higher teacher expectations, and greater teacher ability to meet individual needs when catering for a reduced range of ability levels in the classroom (Gentry & Owen, 2004). The latter is an essential aspect of the model, allowing the teacher to spend "a proportionate amount of instructional effort and curriculum development time on the gifted cluster, which may not be possible when a classroom contains only 1-2 of these students" (Rogers, 1993/2002, p.3). Current thinking may see schools intentionally spreading children with common characteristics across the various classrooms in a year group to ensure that no teacher is either "overburdened or overblessed", but this can result in little differentiation for students with exceptional needs (Braggett & Moltzen, 2000, p.792 as quoted in Riley, Bevan-Brown, Bicknell, Carroll-Lind & Kearney, 2004, p.89). Research has clearly demonstrated that teachers are more likely to accommodate the special learning needs of gifted students in their classroom when they are 'a noticeable group' (Winebrenner, 2001 as cited in Winebrenner & Brulles, 2008).

Cluster grouping is also an ideal organisational strategy to cater for gifted students with learning disabilities and asynchronous development, providing the necessary challenges for areas of strength and less stigmatisation for areas requiring extra support. Twice exceptional students can be helped to excel in the company of their gifted peers by focusing on developing talent and self-esteem, while ensuring that learning difficulties do not hinder achievement.

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A major advantage of cluster grouping from a cultural perspective is the increased likelihood of gifted students from ethnic minority groups having 'cultural peers' in their mixed-ability classroom (Riley et al., 2004). It will be imperative that a range of effective identification methods are employed to ensure full representation in the cluster groups of students from culturally diverse backgrounds, as well as underachievers and gifted students with disabilities (Schuler, 1997).

It has been suggested by Winebrenner and Devlin (2001) that placement in a cluster group should be dependent on demonstration of the need for a differentiated curriculum, rather than by 'proof' of giftedness. The existence of more than one cluster in a year group could allow for students highly capable in specific subjects to be grouped together. One class may also be designated for a cluster of children with special learning needs, if they stand to benefit both socially and academically from this arrangement. Even in non-cluster classrooms, however, the reduced range of ability levels allows teachers to give more attention to those children with significant learning difficulties.

Gentry and Owen's (1999) longitudinal and causal comparative study of a schoolwide cluster grouping programme at primary level used both quantitative and qualitative methodologies to determine the benefits. Prior to this, the strategy was widely recommended but backed up by scant research on the effects of its implementation for gifted students. No previous research had considered outcomes for students of other achievement levels. The investigation yielded a rich example of the effects that a gifted program can have on an entire school when the program is integrated with the general education program and considers the needs of all students and teachers. It reinforces the notion that grouping, when done flexibly and with appropriately adapted curriculum and instruction, can help students of all achievement levels grow academically while assisting teachers in their efforts to better meet the individual needs of their students (Gentry & Owen, 2004, p.116). Teachers discussed positive and safe classroom environments with high, yet realistic, expectations for all, where children felt safe 'to be themselves'.

## Implementation

The introduction of cluster grouping requires "an effective strategy for implementing and supporting change within the school community" (Blanksby, 1999, p.87). This will involve establishing the need for change, identifying and articulating a vision, using a collaborative approach to define and adapt the model, fostering high performance expectations, along with provision of resource and support mechanisms (Manges & Wilcox, 1997, as cited in Blanksby, 1999). The school must demonstrate strong, supportive leadership, with teachers and administrators sharing a confidence in each other's abilities and a belief in a programme they have worked together to develop. Most importantly, all teachers must approach the project with a positive attitude towards gifted education and an understanding of giftedness itself (Blanksby, 1999). Professional development, in all its forms, will be critical throughout the phases of implementation.

An important first step will be the evolution of a shared vision amongst staff, identifying and clarifying beliefs, hopes and goals. This will build a strong foundation for the programme and for future staff development, allowing it to be responsive to teachers' requests, and personalised to meet their needs and those of the wider community (Gentry & MacDougall, 2007; Gentry & Keilty, 2004). Both staff development and evaluation may be used to inform practice as the programme develops, ensuring a very real connection to the overall philosophy of the school (Gentry & Keilty, 2004).

To offset an increased workload initially, the cluster teachers will require specialist support wherever possible and adequate release time for collaboration (Coleman, 1995 as cited in Teno, 2000). An essential component of implementation, however, will be on-going provision for all

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staff to learn and apply gifted education strategies. Formal in-service self-advancement has its place, but the informal aspect of professional development must also be acknowledged as a powerful means of learning and sharing. This will manifest in a variety of forms - collaborating with colleagues regularly, scheduled and focused meetings, or casual conversations in the staffroom concerning strategies for individual students (Gentry & Owen, 1999/2004).

In considering the issue of staff allocation to the clustered classrooms, Gentry and MacDougall (2007) recommend the setting of parameters around teacher designation, involving knowledge and background, experience and skills, and willingness to engage in professional development. Cluster teachers must possess both a desire to work with gifted students and a commitment to providing a challenging and differentiated curriculum. The positive outcomes from the model may be shared on a rotational basis over several years, giving all students an opportunity to participate in a cluster class, and all teachers with suitable training the option of a cluster class assignment (Winebrenner & Devlin, 2001). Rotating both children and teachers should alleviate parental pressure for children to be in cluster classrooms, and also send the message that all teachers are capable of providing differentiation opportunities (Winebrenner & Devlin, 2001).

Flexible grouping, both within and between classes, is considered a key component of the model (Gentry & Owen, 1999/ 2004). Between-class grouping for subjects such as reading and maths can afford teachers other than those in the designated cluster classes the opportunity to plan for, and interact with, the gifted students. Working with a higher year group for these subjects may also be appropriate for some students. Within-class grouping may include interest or co-operative options, along with independent grouping where students can choose their study partners (Gentry & Owen, 1999/2004). Cluster grouping is not intended to replace out-of-class enrichment programmes, as gifted students will benefit from a variety of opportunities to be together as a group. From an administration point of view, scheduling of pull-out programmes with a resource teacher is simplified when working around fewer class timetables in the cluster model (Winebrenner & Devlin, 2001).

Implementation requires in-depth knowledge of all students, both individually and as a reflection of the school community as a whole. The model may require adaptation to complement the philosophies and cultural needs of the individual school, and possible revision over time accordingly (Gentry & MacDougall, 2007). Cluster identification and class composition should be reviewed annually, "with the expectation that student achievement will increase as students grow, develop and respond to appropriately differentiated curriculum" (Gentry & MacDougall, 2007, p.6).

## **A New Zealand Perspective**

Cluster grouping has proven to be an effective organisational strategy in the United States, and could be expected to translate easily to the New Zealand context for all but our smaller schools. It is a comfortable fit with our inclusive education policies, and appears flexible enough to incorporate our broadened and multicultural conceptualisations of giftedness.

Judy Stableford, Deputy Principal and Gifted and Talented Education Co-ordinator, came across the concept when actively searching the literature for a strategy to best provide for her gifted students (telephone interview, May 22, 2008). She was involved in implementing the schoolwide model at Palmerston North Intermediate Normal School eight years ago, and describes positive outcomes for all concerned.

A relatively large school with twenty-one classes, Palmerston North Intermediate Normal School operates on a team configuration with all composite classes. The students remain with the same group of children and the same teacher for the two years they spend at the school. The teams are comprised of three or four classes of around thirty-one students, and the manner of clustering is dependent on the number of classes per team; for teams of four, two of the classes will contain a

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cluster group of gifted students, one group of year 7 students and one of year 8, while the smaller teams will have just one clustered class with a mix of year 7 and 8 gifted students. There is also a tendency to cluster the low ability or learning disabled students, for both programming considerations and issues of self-esteem. Apart from these accommodations, however, there is no further ability grouping or cross-grouping between classes.

Some clusters are determined by subject strengths – maths and literacy – while others comprise more globally talented students. An attempt is made to ensure clusters contain an even gender distribution wherever possible. The clusters usually contain four or five students, representing approximately 6% of the total school population. Although the clustering is geared towards academic giftedness, the school also offers leadership and creative thinking programmes to extend students with talents in these areas.

A pull-out programme for the clustered students features once within the six-day timetable. For the year 7 students, the main objective is self-awareness, discussing any problems and learning coping strategies. Stableford witnesses many friendships being forged, and sees the children 'opening up' when they spend this time together. The programme also allows her a good overview of the group, and an opportunity to relate to the students as individuals. Although some extension activities are made available in year 7, there is an increased focus for the year 8 students on practical projects, competitions and encouragement to expand their specific talents in various ways.

The intention, initially, had been to rotate all teachers through the clustered classes, but staff members have happily found their niche in either purely heterogeneous, low ability or high ability clustered classes. From time to time, teachers express interest in becoming a cluster teacher and are given the opportunity to do so.

Cluster grouping is not overtly presented or discussed with the students. Parents are advised that the system operates in the school, but there is a deliberate attempt to avoid labelling students as much as possible. The model has been favourably received by the community at large, with only a small percentage of 'prospective' parents over the years having chosen to place their children at other schools in the area still operating a 'streamed' approach to ability grouping.

Class composition and appropriate placement for all incoming year 7 students is a critical component of the strategy. The process involves a review of year 5 and 6 achievement levels, forms completed by parents and year 6 teachers, and also interviews with year 6 teachers from contributing schools wherever possible. Careful consideration is given to matching student and teacher strengths, and to ensuring optimum provision for children with exceptional needs. Parent nomination is valued in the identification process, along with knowledge of the contributing schools and their respective definitions of giftedness. Flexibility exists within year 7 and at the beginning of year 8 to review placements, and changes are infrequent but permissible for both clustered and non-clustered students.

With achievement levels in the school higher than the national average, there is a large pool of high ability students to become role models in the non-clustered classes, or to benefit from opportunities to work with the gifted students when placed in the cluster classrooms. Stableford sees this latter group 'sparking off' and being stimulated by the gifted cluster, gravitating towards them rather than suffering from self-esteem issues. With self-esteem in mind, Stableford is particularly mindful of not placing low-ability students in a gifted cluster class.

Eight years after initial implementation, the cluster grouping model is considered highly successful by the school as a whole. It has proven to be a complementary strategy in the inherently mixed-ability composite environment, and has been successfully transferred to the New Zealand 'context and culture' in accordance with the core principles for gifted and talented education (Ministry of Education, 2002).

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## Conclusion

Cluster grouping harnesses the strengths and interests of a proportion of teachers to effectively address the academic, psychological, and socialisation needs of the gifted and talented. With New Zealand schools seeking to maximise educational opportunities for these students, it is a low-cost / low-administration strategy worthy of consideration. The New Zealand case study presented gives credence to the international research and advocacy to date, highlighting the ability of the model to encompass all the advantages of full-time homogeneous grouping for the gifted with none of the disadvantages. Successful implementation, however, will be dependent on the level of differentiation offered, and the impact of the individual teachers involved - the extent to which they create positive classroom environments with high expectations for all students, use a wide variety of strategies to cater for individual needs, and work collaboratively within the school and wider community (Gentry, 1999).

Equality in education does not require that all students have exactly the same experiences (Fiedler et al., 1993/2002, p.3). Rather, equity dictates equal and optimal opportunities for all students to meet their potential. The cluster grouping model emphasises progressive staff development, along with flexible and integrated grouping within the school structure, with the aim of demonstrating improved curriculum, teaching practices and overall student achievement at all achievement levels (Gentry & MacDougall, 2007).

## Implications for Practice and Future Research

As New Zealand schools contemplate the ever-increasing awareness of gifted and talented education and their obligations in respect of this, attempts must be made to provide them with knowledge of the full range of programming options at their disposal. Professional development has aimed to equip all classroom teachers with skills and strategies to 'cope' with gifted learners but, in reality, over-stretched teachers cannot deliver a fulltime differentiated programme to one of thirty children in their care. Cluster grouping represents an inclusive and schoolwide organisational model with all the advantages, but none of the disadvantages, of fulltime homogeneous provision for these students. Indeed, it can be viewed within the larger concept of school reform, extending gifted services to more students and benefiting the school community at large (Gentry & MacDougall, 2007).

Researched evidence on the effectiveness of cluster grouping in New Zealand schools would serve to stimulate both interest and confidence in the viability of its use for our educational context. Researchers and practitioners working together may help to close the gap between 'mission statements' and the realities of provision for our gifted and talented students.

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