

Like minds learning well together

Improving academic, social, and emotional outcomes for gifted students

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KEY POINTS

- Gifted students' needs are different to those of a regular learner, which means they require different learning opportunities.
- There are academic, social and emotional benefits to like-minded gifted students being grouped together.
- There are a number of different ways to group gifted students, some more effective than others.
- Certain elements, such as a responsive teacher, adequate time and differentiated learning, are essential to successful grouping opportunities for gifted students.
- Withdrawal programmes that group gifted students together and deliver a robust curriculum in response to gifted students' needs are an effective way to help meet their academic, social and emotional needs.

Gifted students benefit from time spent with like-minded peers. This article outlines the value of grouping gifted students together and looks at different ways this can be done. It also describes a research study conducted by Clark (2009), one of the authors of this article. The research explores the academic, social and emotional benefits for students who attend Gifted Kids, a New Zealand withdrawal programme which caters for academically and creatively gifted students. Clark's study found that attendance at Gifted Kids had cognitive, social and emotional benefits for gifted students, and that being together with like minds was a key element to their learning.

National and international research

Research shows that gifted learners benefit from spending the majority of their time grouped with other gifted learners (Rogers, 2002b). This enables them to connect with other learners who are "like minded", who think and feel in a similar way, and with whom they can feel "normal" and accepted (Henderson, 2007). Research indicates that if we want to help gifted students to achieve at levels that match their potential, keep motivated to learn, be able to cope with challenge and feel accepted and understood, grouping them together is essential (Winebrenner & Devlin, 2001). According to Rogers (2002a) almost any form of grouping option (e.g., withdrawal programmes, cluster grouping, within-class grouping) leads to academic, social and emotional gains for gifted students.

Why are these options important? Gifted students have needs that are different to those of a regular learner. To achieve their full potential they need:

- a curriculum that is more challenging than other learners can handle
- opportunities to study concepts at deeper and more complex levels
- a rapid pace of learning
- interaction with other gifted students (Winebrenner & Brulles, 2008).

Rogers (2002b) outlines the following benefits of ability-grouping gifted students:

- it is easier to differentiate for this group, because the group is smaller and its members' needs are more homogeneous.
- the learning climate in such groups supports academic endeavour.
- social interactions and friendships are more easily made with intellectual peers.

- because like minds can bounce ideas off each other and spark one another, gifted kids grouped together can develop both cognitively and socially.

A meta-analysis by Slavin (1990) somewhat negates the above views. Slavin found that ability grouping did not produce significant positive effects for students at any level (except gifted students who were accelerated). Such an extensive meta-analysis has not since been repeated. However, Mara Sapon-Shevin (2005) is also a critic of grouping gifted students. She advocates for heterogeneous classrooms and argues that grouping gifted students, particularly when it takes them outside the regular classroom:

- challenges children's sense of a secure place in the classroom
- does not support acceptance of diversity
- can create a climate of distrust and alienation
- disrupts the classroom programme
- challenges the teachers' ability to cater for students' needs.

Indeed, as we will see later, some grouping options are associated with mixed or negative outcomes for gifted students. Even with the more successful options a range of factors beyond the type of grouping itself can also make a difference.

The New Zealand context

In New Zealand, most gifted students spend the majority of their time in the mainstream classroom, in which like-minded grouping may or may not occur. Research conducted for the Ministry of Education (Riley, Bevan-Brown, Bicknell, Carroll-Lind, & Kearney, 2004) found that classroom-based ability grouping was the most common way to cater for gifted students in New Zealand schools if they are

catered for at all. However, there are many other ways to group gifted students, such as withdrawal programmes, some of which can be highly beneficial for gifted students but are underused in New Zealand. The Ministry of Education (2000) advocates for a continuum of provisions for gifted students, which includes a range of grouping options, such as ability grouping, within-class clustering and withdrawal programmes.

Gifted Kids

One such withdrawal programme is Gifted Kids, formerly the Gifted Kids Programme. Gifted Kids is a charitable trust providing a specialised one-day-a-week programme for students. The programme's vision is to inspire children to discover, develop and celebrate their intelligence and creativity. Gifted Kids also provides professional learning and development for teachers to help meet the needs of gifted learners.

In 2009 Deb Clark, the current CEO of Gifted Kids and co-author of this article, completed a Master of Education thesis through Massey University entitled *Student Voice: Perceptions of the Gifted Kids Programme Alumni, 2000–2007*. This study explores the perceptions of Gifted Kids alumni about their experiences in the programme. The most consistent message from participants in this research is the need for gifted students of like mind to be grouped together.

Much of the focus of educational research about different ways that gifted students can be grouped together focuses on the academic benefits of grouping. However, the students surveyed in this study also refer to the social and emotional benefits of like-minded gifted students being grouped together in a withdrawal programme setting. Clark's study demonstrates that there are indeed academic advantages to grouping gifted students, as well as equally important social and emotional benefits.

This article explains Clark's research in greater depth, and then looks at how her findings about grouping like-minded students align with other research in this field. The article explores the benefits of grouping gifted students together, describes the relative effectiveness of a range of different grouping strategies outside programmes such as Gifted Kids, and discusses the elements necessary for successful group learning.

Research questions and methodology

Clark's study explored the perceptions of the Gifted Kids alumni regarding their experiences at Gifted Kids. The goals of Gifted Kids, at the time of this study, provided the framework. The research questions were:

The Ministry of Education (2000) advocates for a continuum of provisions for gifted students, which includes a range of grouping options, such as ability grouping, within-class clustering and withdrawal programmes.

1. How, both when attending the programme and after completion, has attendance at Gifted Kids assisted alumni students in the following areas:
 - to identify and develop strengths and interests
 - to develop friendships with like-minded peers
 - to broaden and deepen their learning
 - to acknowledge and embrace new challenges
 - to strive for personal excellence?
2. In retrospect, what recommendations would alumni students suggest to enhance or improve the Gifted Kids experience? (Clark, 2009, p. 50)

To seek students' perceptions about their experiences at Gifted Kids, Clark used a qualitative research approach in a case-study format. Data-gathering tools included an online questionnaire and focus group interviews. Each goal was explored individually in the questionnaire and unpacked further in the focus group interviews. The questionnaire asked several questions about each of the Gifted Kids curriculum goals, including open-ended questions, Likert scales and checklists. For example:

- Did you find Gifted Kids academically challenging (frequently, sometimes, never, unsure)?
 - Which of the following helped you achieve at Gifted Kids (peer expectations, teacher feedback, opportunities offered, etc)?
- ^a Please add any comments you'd like to make about your learning at Gifted Kids.

Focus-group interviews were structured via a set of questions, which were shared with the participants in advance, although the moderator was also free to expand on or deviate from these questions. Example focus-group questions included:

- How important was it to be with like-minded people?
- What opportunities were you given to explore your talents and passions?

All students who were Gifted Kids alumni at the time the study was conducted were invited to participate in the study, and 174 participants' questionnaires were analysed.

This represents approximately 22 percent of Gifted Kids alumni at the time of data collection. Twenty-five students attended one of four focus-group interviews.

The following table provides demographic information about the research participants. Note: the survey did not ask about participants' ethnicity, so this information is not available.

TABLE 1. PARTICIPANT DEMOGRAPHICS

Gender	Female					Male													
	83										91								
Age at time of completing survey (years)	11	12	13	14	15	16	17	18	19										
	1	9	27	36	36	30	24	10	1										
Number of years at Gifted Kids	Less than 1	1	2	3	4	5 or more													
	4	33	60	62	12	3													
Location of Gifted Kids programme attended	Northland	Auckland	Rotorua	Lower Hutt	Wellington														
	28	48	28	69	1														

The following limitations of this research study are acknowledged.

- The returned survey responses might not represent a proportional cross-section of alumni students because participation was optional and up-to-date contact details were not held for all students.
- Clark is employed by Gifted Kids and therefore has some inherent bias. Clark also taught some of the participants, possibly bringing out bias in their responses.
- The wording of the first research question assumes that Gifted Kids has in fact assisted the students, which may have inclined the students to phrase their responses in a positive way.

Overview of Clark's research findings

The majority of students who participated in this research were positive about their experiences at Gifted Kids.

Themes emerging from their reflections included:

- forming friendships
- a sense of belonging
- increased self-confidence
- raising of personal expectation through the challenge of peer interaction.

Attending the programme made a positive difference in the short and long term, and the teacher was an important influence during their time at Gifted Kids. Negative themes related to lack of opportunity to transfer learning between Gifted Kids and their home school, one day not being enough for students, and wishing for more years on the programme.

Overall, Clark's study showed that attendance at Gifted Kids helped students academically, socially and emotionally. The research was not specifically looking for the effectiveness of grouping like-minded gifted students together, but it shows that, from the students' perspective, this is a critical factor in successful learning for them.

Academic impact of grouping students

Research shows that gifted students have greater academic success when grouped with other gifted students. Rogers (2002b) suggests that the more time gifted children have to learn with other gifted children, the greater the academic benefits. Gifted students can learn more quickly and can work with more complex and in-depth material and processes when grouped together (Ketler, 2010). Grouping gifted students is also an efficient means for schools to provide more challenging learning and to provide these learners with like-minded peers. When grouped together gifted students:

- take more academic risks
- challenge themselves more academically
- challenge one another in a more academically competitive environment
- are more likely to pursue in-depth study of their interests (Brulles & Winebrenner, 2011).

Clark's findings support these points. Three-quarters of the participants in Clark's study felt that being with like-minded peers at Gifted Kids frequently provided them with academic challenge (20 percent said it sometimes provided challenge, 3 percent rarely and 2 percent never.) The study also found that being with like-minded peers resulted in:

- increased academic expectation of themselves and others
- increased confidence
- greater likelihood of being challenged, accepting challenge and wanting to challenge themselves academically
- having their intellect understood by their peer group.

The following comments from participants in the research exemplify these findings:

Everybody wanted to learn. (Participant)

Having people who thought like you made you work harder. It was competitive (in your head, not really out loud). (Participant)

I feel that attending Gifted Kids with like-minded students helped me to strive for excellence in my regular classwork and to set challenges and goals for myself. (Participant)

They (my peers) made me more confident to do harder things. (Participant)

Social and emotional impact of grouping students

There are mixed findings on the social and emotional effects of grouping gifted students. Winebrenner and Devlin (2001) suggest that grouping gifted students together helps them to understand and accept their differences. Neihart (2007) reports improved social relationships and a more positive attitude towards learning. An English study of secondary students, which explored grouping in English, maths and science, found that ability grouping had a positive impact on self-concept for students in the high-ability groups (Ireson & Hallam, 2009). However, a study by Preckel, Gotz, and Frenzel (2010) found that grouping gifted students together had a negative impact on their academic self-concept but a positive impact on their social self-concept.

Social and emotional gains from grouping gifted students together was a strong message in Clark's findings, with "making friends" and "feeling accepted" emerging as common themes: 63 percent of participants said they had difficulty making friends in any situation, yet 98 percent said they made new friends at Gifted Kids. Many participants discussed making friends for the "first time" and the making of "real" friends. The following questionnaire responses support this finding:

I made my first best friend at Gifted Kids and we are still best friends now. (Participant)

It was the first time I had ever made friends. (Participant)

These friends were my first true friends and I still have them. (Participant)

Students were asked what they had in common with their Gifted Kids friends. The characteristics they described were similar interests, comparable sense of humour and thinking in the same way. Over 70 percent of all participants mentioned these three characteristics. Participants made the following comments:

I think the friends that you make at Gifted Kids are different to your normal friends. They are more like you, which is good. (Participant)

It's a lot easier to talk with them. (Participant)

They understand the same things. (Participant)

Nearly all participants (99 percent) felt accepted by their peers in their Gifted Kids class. Focus-group discussions indicated that students related peer acceptance to fitting in and not being seen as weird or different, as this student quote shows:

When you were there, you weren't afraid to show how much you knew because other people around you had the same web of knowledge. (Participant)

Participants also commented on the absence of negative peer interaction while at Gifted Kids, such as less teasing.

Effectiveness of different grouping strategies

There are many different ways to group children; however, not all grouping options are right for gifted students. Ministry of Education research into gifted education in New Zealand (Riley et al., 2004) surveyed 1,285 schools and found that ability grouping (including within-class grouping and regrouping for specific subject instruction) was the most common way to group gifted students in New Zealand schools, and that withdrawal programmes are also used. The following section outlines a number of different grouping options and research findings on their effectiveness. First we outline evidence for options with positive outcomes and then look at options with mixed or negative outcomes.

Grouping options with reported positive outcomes for gifted students

Withdrawal programmes

Withdrawal programmes, such as Gifted Kids, provide a haven for many gifted students and an opportunity to learn and be with like-minded peers in a place where their personal abilities are valued and strengthened (Clark, 2009). Such programmes group students with a similar ability together, with an adapted curriculum, resulting in an increase in learning outcomes (Rogers, 2002b).

The key elements of a successful withdrawal programme are that it is outside the regular classroom and features:

- a specialised educator
- students with similar levels of ability
- smaller class sizes
- differentiated curriculum and instruction
- elements of individualisation
- more complex thinking strategies and inquiry procedures than in the regular class
- acceleration and enrichment
- opportunities to work in areas of high interest, or ability, or both (Rogers, 2002b; Strip, 2000, as cited in Clark, 2009).

Research conducted by Moon, Feldhusen and Dillon (1994) reports that gifted students in pull-out programmes make moderate gains in areas such as achievement, critical thinking and creativity. Delcourt, Loyd, Cornell and Goldberg (1994) also report positive outcomes for gifted primary-school-aged students in withdrawal programmes. They report higher achievement in reading, science and social studies, but not in maths. A recent study by Brunel University in England focusing

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on mathematics (Dimitriadis, 2011) found that students in withdrawal programmes made significant academic achievement.

Criticism of withdrawal programmes relates to fragmented delivery, poor communication with the regular classroom teacher, a mismatch between students and their needs, disruption and missed instruction for students, and students feeling isolated (Clark, 2008). Ideally, withdrawal programmes will be an extension of work being undertaken in the regular classroom (Rogers, 2002a), but this can be difficult to achieve and rarely happens.

Regrouping for specific subject instruction

Regrouping for specific subject instruction can be school-wide (or year-level wide in a large school). This involves high-ability students (and often other students with similar ability levels) being grouped together for particular subjects across year levels. This requires the whole school to do the same subject at the same time, otherwise the students are in mixed-ability, same-year-level classes.

A meta-analysis conducted by the University of Michigan (Kulik, 1992, as cited in Kulik, 2003) found that cross-year-level grouping showed positive learning results for 80 percent of the gifted students involved. Such an extensive study has not since been repeated, but the more recent work of Lloyd (1999) also found that regrouping for specific subject instruction had positive academic, social and emotional effects for gifted students.

Cluster grouping

Cluster grouping involves identifying a small number of high-ability students at the same year level and putting them in the same mainstream class together with others. The teacher should be suited to providing differentiated learning for high-ability students, keeping them grouped together within the class whenever possible.

Research has found this type of grouping to have resulted in significant positive academic gains for all students, not just the gifted ones (Winebrenner and Brulles, 2008). A study conducted by Brulles, Cohn and Saunders (2010) showed that gifted students clustered for

mathematics achieved significantly higher than those who were not clustered.

Grouping options with reported mixed or negative outcomes for gifted students

Within-class grouping

This practice, common in New Zealand primary schools for maths and literacy, involves students being grouped by ability within their class for particular subjects. Delcourt et al's research (1994) found that within-class grouping did not result in higher achievement in reading, maths, science or social studies. Rogers suggests that this result may not be purely about the grouping, but more about a lack of differentiation in instruction or a lack of teacher time for the students. In contrast, Linchevski and Kutscher (1998, cited in Kulik, 2003, p. 274) report on a study that showed "within-class grouping can produce dramatic improvements in school performance". This is supported by a study conducted by Brunel University in England (Dimitriadis, 2011) focusing on maths, which found that within-class grouping resulted in significant progress for gifted students.

Co-operative grouping

This option, particularly popular in the 1990s, involves a small group of students working together on a shared learning task. Each child's contribution is essential to the successful completion of the task. Research into the effectiveness of this grouping approach has yielded mixed results, often dependent on the make-up of the groups: mixed-ability or just gifted students.

Neber, Finsterwald and Urban (2001, cited in Riley, et al., 2004) conducted a meta-analysis of research studies into the use of co-operative learning for gifted and talented students. They found that co-operative learning can result in small to medium positive effects on learning achievements among gifted students in the primary and middle school years. A study conducted by Kenny, Archambault and Hallmark (1995) found that mixed-ability co-operative grouping had positive social and emotional outcomes for gifted students but negative outcomes for non-gifted students. They found that gifted students were more productive when grouped together for co-operative tasks. They did not report on academic achievement. Rogers (2002a) states that other research shows no improvement in academic achievement *and* detrimental social effects for gifted children in mixed-ability co-operative grouping.

Peer-tutoring dyads

Peer-tutoring dyads involve two students working together on specific tasks. When both students are of high ability, this teaching strategy results in significantly higher achievement and more positive academic interactions for the students involved (Carter and Jones, 1993, as cited in Rogers, 2002b). Stecker, Fuchs and Fuchs (2000) report on a study of students in peer-tutoring dyads working on complex maths tasks. They found this to be a positive strategy when high-ability students were paired together. However, if the dyad was made up of one high- and one low- or average-ability student, the outcome was positive for the lower-ability student but not for the higher-ability student.

Elements of successful grouping for gifted students

The success of grouping gifted students is not just based on how the group is formed. How the group operates and what the group actually does when they are together are key success factors.

Group make-up

The students in the group should have been identified as gifted, high achieving or high ability (Gentry and Mann, 2008). Selection for inclusion in a group should be based on both performance and potential (Rogers, 2002b), using data, learning outcomes, learning characteristics and interest. One of the research participants in Clark's study made the following comment about being grouped with peers of similar ability: "It's very different to normal school because of the challenges it provided and the new people with similar intellect that I met."

Flexibility

Grouping should be flexible and open to change (Brulles & Winebrenner, 2011). This involves students being in different groups for different areas depending on their learning needs. For example, a student may need extension maths opportunities, which could involve an independent contract, taking maths with a different class or enrolling in correspondence school. The same student may be in an average reading group. Moving in and out of groups should be able to happen regularly.

Differentiation

One key to effective grouping is what group members do when they are together. If the group learning is not differentiated from what students would do in a regular

class, there is limited value in grouping (Kulik, 2003; Riley, 2004).

Differentiation occurs when teachers modify the curriculum and their instructional methods in response to the needs, strengths, learning styles and interests of individual students so that all students have an opportunity to learn at their full potential. (Winebrenner & Brulles, 2008, p. 5)

Learning for groups of gifted students should be differentiated in the following ways:

- accelerated—the learning should move at a faster pace than other groups
- deep and complex—the learning should allow for conceptual connections
- challenging—the learning should match what the students need and are able to do
- creative—the learning should involve projects that require synthesis and result in new creation (VanTassel-Baska & Stambaugh, 2006).

This comment from a student participating in Clark's research reiterates these requirements from a student's point of view:

Learning [at Gifted Kids] was exciting, fast-paced, with lots going on, and always about things that were interesting and current and fun. It was hard but you wanted to get through and see what was next.

Teacher time and training

For any kind of grouping to work for gifted students, the teachers involved need to have adequate time to plan and prepare for quality differentiated learning experiences (Rogers, 2002b). They also need to know how best to meet the needs of these students. This is likely to be gained through experience and professional development (Gentry & Mann, 2008).

Students participating in Clark's study expressed the importance and value of a specialist teacher in gifted education. Both the strategies employed by the teacher and the interaction between the students and teacher were recognised as having a positive impact on their learning. As one Gifted Kids student explained:

'Aim for the moon. If you miss, you're with the stars.' So even though you aim so high you still get a good mark (often great) ... I felt that the Gifted Kids teachers pushed me so far and enthused me also, with whatever I was doing. I believe you need encouragement to go further.

It is also important that the teacher has adequate contact time with the group. High-ability groups are sometimes given less time with their teacher, based on the assumption that they don't *need* as much instruction (Rogers, 2002b), but if these students are expected to work to their full potential and progress in their learning, they need as much teacher time as the next group.

Cultural considerations

When considering grouping options it is important to bear in mind the needs of Māori, and Pasifika and other minority ethnic groups. For Māori students this should include considering whether grouping is providing them with the opportunity to “realise their own unique potential and succeed in their lives as Māori” (Ministry of Education, 2012, p. 18). When a Māori concept of giftedness, such as that of Bevan-Brown (1996), is taken into consideration, grouping methods will be cognisant of the following:

- Does the grouping arrangement run the risk of isolating one or more students from their cultural peers and familiar methods of learning?
- Are methods of selection for groups and content and processes inclusive of students from all social classes, economic statuses, lineages or genders?
- Are group achievements, as well as individual achievements, taken into consideration? Is group ownership of success recognised?
- Are both “qualities” and “abilities” taken into consideration in group selection and group learning?
- Is the learning offered holistic in nature and inclusive of Māori culture and other Māori concepts?
- Do learning opportunities provide service to others?

Bevan-Brown (2011, cited in Ministry of Education, 2012) developed a list of questions entitled, “How well is your school providing for gifted students from minority cultures?” Such a list, which includes questions about demographics, the concept of giftedness, identification and provision, should be used to ensure that all minority cultures are considered when grouping gifted students.

Conclusion

Research findings clearly show that gifted students benefit from time spent with like-minded peers. Gifted students’ academic needs are better met when they are grouped together and their social and emotional needs can be recognised and catered for. Some effort is made in this area in New Zealand schools, but many options for grouping gifted students are underused or not used at all.

There is very little New Zealand-based research in this field (Riley et al., 2004). Clark’s research provides some local findings about the benefits of grouping gifted students in a withdrawal programme setting, but there is scope for further local research into other forms of grouping.

Having gained insight from the students’ voices accessed through this study, it is difficult to understand why we are not more motivated to bring like-minded gifted students together more often. As one research participant commented:

[At Gifted Kids] everybody wanted to learn and you were accepted for who you were. It was also nice being surrounded by people who understood my intellect and didn’t think I was like some weird Brainiac. I felt I could truly be myself.

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