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To act or not to act? Academic acceleration worked in the past, so what's the current hold-up in New Zealand?

Janna Wardman – University of Auckland, NZ

Abstract

Despite a review of the literature showing the success of accelerative practices on academic and social outcomes, full-year acceleration is rarely implemented in New Zealand schools. The literature suggests that it is perceptions based on myth, rather than an examination of the evidence of published studies, which have hampered the adoption of full-year acceleration as a strategy for gifted students. This article begins by giving an understanding of the various forms of acceleration and a brief history of implementation. An attempt is made to explain the conundrum that has blocked full-year acceleration being adopted as widespread practice, by examining both the international and the New Zealand evidence-based literature. A positive approach is suggested that identifies enablers, barriers and chokepoints and which has the potential to influence the way schools provide for bored, disenchanted gifted students.

Background

An understanding of the term

Academic acceleration refers to progress through schooling at a rate faster than usual (Kulik, 2004). Acceleration comes in many forms: full-year acceleration (called grade-skipping in the US) is when the student moves into the class a year (or more) ahead. This enables the student to work and socialise with their ability-peers rather than be retained with their age-peers - with whom they often have little in common (Gross, 2004). Other forms of acceleration include curriculum compacting/ telescoping (e.g., two years are covered in 18 months), and dual enrolment with tertiary. These strategies are rarely used in New Zealand; most schools preferring some form of enrichment classes (Riley et al. 2004). In recent years, however, single subject acceleration has become common in New Zealand high schools
(Wardman, 2010).

Hattie (2009) compiled a synthesis of over 800 meta-analyses, consisting of over 50,000 studies relating to educational achievement. He presented a league table consisting of contributions by the student, home, teacher, teaching approaches, school and curricula as defined by their effect-size, that is, the difference each contribution made to educational achievement, listing them in order of effectiveness. The meta-analyses identified acceleration, with an effect-size of .88, as the fifth highest contribution to student achievement, in a table of 138 factors. Enrichment was number 68 with an effect-size of .39, which is just below the "hinge point". The league table showed that it

is important to not only examine what leads to successful learning, but to see what works better than other strategies/interventions/ contributions.

The seminal research on the area is The Templeton National Report on Acceleration, *A Nation Deceived: How Schools Hold Back America's Brightest Students*. The full report is available as a free download: NationDeceived.org. Of interest around the world is the next report from the Templeton Foundation which is due to be released in the next few months: *A Nation Empowered: Evidence Trumps the Excuses Holding Back America's Brightest Students*. http://www.accelerationinstitute.org/Nation_Empowered/

A brief history of that understanding

If we regard acceleration as progressing with ability peers rather than with age-peers, then it is not a new phenomenon. In the history of formal education going back over two thousand years, it is only in the last 150 years that administrative restrictions have been put in place to hold back gifted students. The lock-step age and grade structure (social placement) was introduced as a method of controlling large groups of children (Terman & Oden, 1947).

The definition of 'acceleration' has changed throughout the last hundred years to suit the practice in favour at the time. Haney and Uhl's (1924) study had as their definition of an 'accelerated student', one "who at age sixteen and one half years has qualified fully to enter the University of Wisconsin" (p. 323). Haney and Uhl reported that 74 accelerated students entered the university between 1918 and 1921 and were all reported to have succeeded academically. Martin (1924) published *A Study of the Subsequent Standing of Specially Promoted Pupils*. The definition of acceleration in this study was "skipping of half a grade of the elementary school course" (p. 333). Martin (1924) reported that among children with IQs higher than 120 who had skipped two and a half grades, there were no failures. The conclusion reached was that "continued success is almost certain to follow special promotions of pupils of very superior intelligence" (p. 351).

It would appear that in the early part of the last century, the definitions followed what was regarded as successful practice. The aim was to circumnavigate the comparatively new 'lock-step' system of rigid grouping according to age. Pressey (1949) defined the process, rather than the practice of acceleration. He saw acceleration as "progress through an educational programme at rates faster or ages younger than conventional" (p. 2). Passow (1996) linked practice with Pressey's process to claim "any modification of a regular programme can be considered acceleration if it enables a student to progress more rapidly and to complete a programme in less time or at an earlier age than is normal" (p. 212).

Enrichment and acceleration

Currently in New Zealand, acceleration is defined as a vertical extension of the curriculum as opposed to horizontal extension, which is commonly called enrichment

(Townsend, 2004). It is generally acknowledged that a combination of the two approaches benefits gifted students (Ministry of Education, 2012).

The core principles of gifted and talented education in New Zealand were outlined in 2002 in the Government's *Initiatives for Gifted and Talented Learners*. The first principle reads: "Schools should aim to provide all learners with an education matched to their individual learning needs" (p. 3). Riley et al. (2004) reported that two common approaches to offering qualitatively differentiated learning opportunities for gifted and talented students are enrichment and acceleration. Acceleration, according to the Ministry of Education (2000) as cited in Riley et al., 2004, "refers to the practice of exposing students to the curriculum at an earlier age, or increasing the pace of its delivery, again, ensuring differentiated learning opportunities" (p. 4). Townsend's (1996) definitions were again referred to: "Enrichment generally refers to 'horizontal' extension of the curriculum, or learning activities providing depth and breadth to regular teaching according to the child's abilities and needs" (p. 362). On the other hand, acceleration is a 'vertical' extension of the curriculum and refers to early introduction of content and skills or a quickening of the pace of delivery and exposure (Ministry of Education, 2000; Townsend, 1996).

Tower of Babel

Part of the confusion in the New Zealand gifted community has been the terminology. Some schools started to call their top streamed classes, 'accelerated'. It is to be assumed that learning is proceeding at a faster pace in these classes, and sometimes it is. However, the available research suggests that some 'accelerate classes' in New Zealand provide mainly enrichment programmes, where the gains are debatable (Riley et al., 2004).

Acceleration in single subjects has become common in New Zealand high schools in recent years (Wardman & Hattie, 2012), with many schools offering a class in which up to three subjects are studied, a year ahead. A variety of names are given to these classes, for example 'advanced ability' or 'extension' or 'academy', as well as 'accelerate'; they tend to be the top stream in a year group. For example, one large Auckland high school offers 'accelerate' and 'super accelerate' classes in Mathematics. In the former, students study a year ahead and in the latter, two years ahead, sitting National Certificate of Educational Achievement (NCEA) level 1 in Mathematics at the end of Year 9. The results in NCEA are very favourable for students who have single subjects acceleration (Barback, 2013).

It is confusing to parents and others when it is unclear if a school's 'accelerate' classes offer real acceleration in terms of a speeding up of the curriculum, or whether simply some enrichment is available. Full-year acceleration remains rare in New Zealand high schools (Wardman, 2010).

Decision-makers: Potential enablers, barriers and chokepoints

The figure below is offered as a model for a sustainable programme.

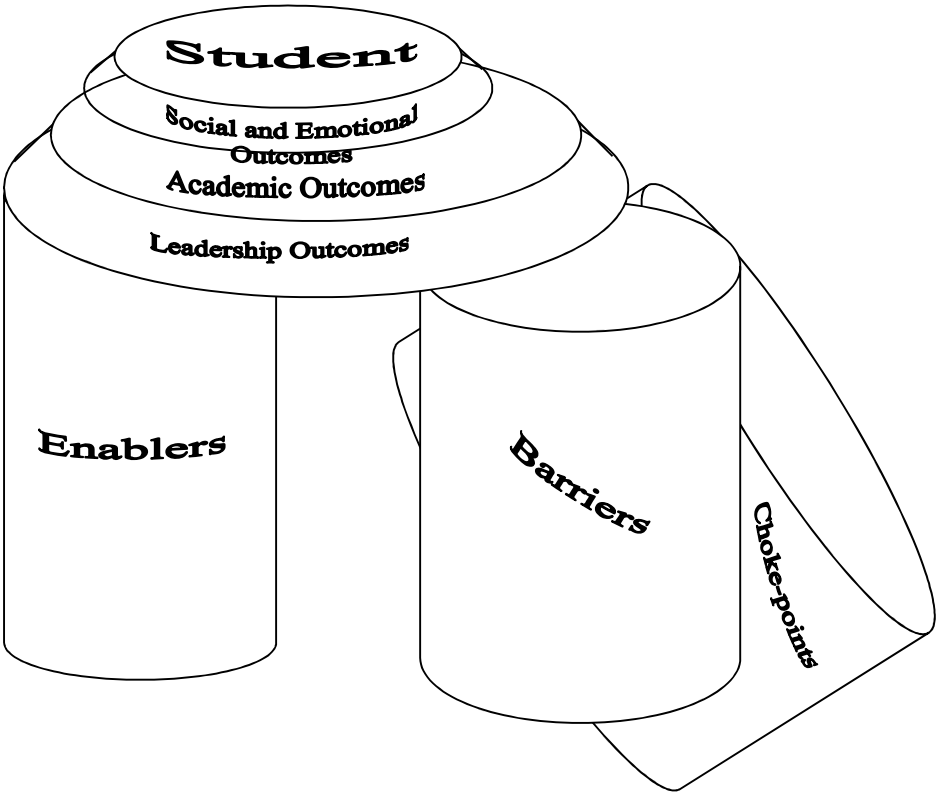

Figure 1. Model of Sustainable Acceleration Programme Showing Possible Enablers, Barriers and Choke-points

The cap represents the student and the layers of this cap are the student outcomes, with social and emotional taking prime position. The student is supported by the enablers; the barriers can be overcome and utilized as support, but the choke-points are useless to the student and may be dangerous if relied upon for support. The difficulty is recognizing them; for example barriers may masquerade as enablers. For the purpose of this article, an enabler is someone who works towards making it happen; a barrier marks some resistance; a choke-point prevents any further progress. This article will support action utilising the evidence-based literature as a platform. The format will examine the issues in relation to school administrators, teachers, students and government departments.

Administrators: Board of Trustees/Principal/senior school managers

With the amendment to the National Administration Guideline 1(iii) in Term 1, 2005 it has been mandatory for all state and state-integrated schools to demonstrate how they are meeting the needs of their gifted and talented learners. The schools in the case studies in Riley et al. (2004) believed they were fulfilling their obligations under the NAGs and reported utilising both enrichment and acceleration strategies. Closer examination revealed apparent misunderstanding as to the term, acceleration. Riley and Bicknell (2013) reported a decade later that enrichment options are still preferred by schools, over accelerative strategies. Boards of Trustees are obligated to provide for gifted and talented students, and can be a powerful enabler to acceleration (Wardman & Hattie, 2012). Boards, whose schools favour enrichment over acceleration, are not heeding the evidence-based research, as they are obligated to do.

The second enabler or choke-point of a programme must be the principal of the school. In New Zealand, the Board of Trustees set the strategic direction of the school, the principal, however, is in charge of implementing and aligning programmes to that direction. The vision is often created by the principal, sometimes in collaboration with other key members of the school. Therefore, the principal of the school can make full-year acceleration happen, or prevent any progress should it be suggested as a strategy. Referring to the model, the principal and the Board of Trustees have the power to support acceleration (enablers) or be a choke-point.

There can sometimes be a conflict regarding what may be in the best interests of the individual student and what may be in the best interests of the school (Winstanley, 2004). Gifted students may be restricted to age-grade advancement or acceleration in only a few subjects, as the purpose is to showcase their skills and abilities for as long as possible - for the glory of the school, at the detriment to their own development (Wardman, 2009).

The dual role of administrators has not been explored in the literature. The duality they are asked to face is what is best for the school as a whole, versus what is best for the individual student. If the administrators of a school agree to full-year acceleration, not only does the school lose a year of funding but also the school loses the extra grades the students earn in their 5th year at high school. New Zealand schools' results in NCEA and Scholarship exams are published in the popular media annually in the form of a league table. If gifted students are retained for an extra year, their excellent double harvest of exam results may boost their school's rating in comparison to other schools (Wardman & Hattie, 2012). This barrier to acceleration could be mitigated by schools celebrating and advertising their programmes of four year courses in preparation for tertiary, instead of relying on grades earned while students wait to progress.

If administrators were more aware of the risk of retaining students, they might look again at the gains to be made by offering acceleration to carefully selected students.

The 'lost gifted' are the numbers of gifted students who are so bored by the pace of the curriculum and being retaining with their age-peers, that they leave school early with no or minimal qualifications (Wardman, 2010). The 'lost gifted' are not counted in the league table. Gifted students who exit early with few or no qualifications, are a concern for school administrators. This area is examined more fully in the following sections.

With reference to the model, senior school managers have the potential to be enablers or barriers; individuals also have the power to act as a chokepoint. The restriction of the timetable is often the reason given in high schools as to why multi-level learning is not made available (Watts, 2006). Vertical timetabling, properly administered, allows for accelerated progression in specific subject areas (Vialle, Ashton, Carlon & Rankin, 2001). Full-year acceleration does not require special timetabling as the student is moved up a year in all subjects, including form class.

Funding

Current funding for gifted provisions comes out of the schools' Operational Grant; therefore it is an easy defense for schools to say they cannot afford special/extra programmes for gifted students, as budgets for other areas take priority. Funding can be a barrier to the implementation of gifted and acceleration programmes. Although some have suggested that full-year acceleration is a relatively cost-free strategy (Brody, Muratori & Stanley, 2004), there is a cost in terms of lost revenue to the school. As schools receive a per capita sum for each year a student is enrolled, a student completing their high schooling in four years instead of five reduces the government funding (Operational Grant) to the school by 20%, which at current rates would be approximately $1500 per year per student (depending on the decile of the school and the year level of the student). Long term costs (e.g. building maintenance and employment of support staff) may be affected by this reduction as the number of students accelerated grows.

A possible solution to the financial aspect that would enable acceleration is for the government funding to be doubled in the year that a student is accelerated. This accommodation would mitigate the financial loss to schools. Such funding, however, may need also to be tied to the success of the programme, to ensure the necessary support structures, for example mentoring, are in place and functioning well for the accelerated students.

The financial costs to the school are savings for the country. The Operational Grant of approximately $1500 per high school student to a school per year does not include teachers' salaries and major building costs. If those and associated costs are taken into consideration, a year saved at high school can be a substantial saving to tax-payers —as shown by Grubb (2009), approximately 80% of a school's expenditure is taken up by salaries and buildings.
The saving to the country for each year of acceleration could be NZ$15,000 per student. So the financial aspect should be an enabler of the strategy, but the narrow focus on

the cost to individual schools, instead of to the whole country, is a barrier. As reported by Cloud, Badowsid, Rubiner and Scully (2004): "One of the advantages of [full-year] acceleration is that it doesn't require more money - only a shift in attitude" (p. 55).

Teachers

Teacher attitudes are important; they can be enablers or barriers (Hattie, 2009).Some teachers are philosophically opposed to acceleration or indeed any gifted programmes based on perceptions of fairness (Heinbokel, 2009; Wardman, 2009). This is the equity versus perceived elitism argument (Sapon-Shevin, 1994). She was concerned that gifted programmes are seen as status symbols and the programme itself becomes the reward. A concern frequently expressed by teachers is that, if the gifted students are accelerated, their age-group peers feel 'left behind' (Wardman, 2009). Townsend and Patrick (1993) found that teachers and student teachers in the New Zealand primary sector were relatively conservative in their views about acceleration; they were more concerned about the social and emotional effects on the students than the academic effects.

Braggett and Moltzen (2000) confirmed that despite the research evidence in support of acceleration, there was still opposition to it in individual schools in Australia and New Zealand. Vialle, Ashton, Carlon and Rankin (2001) reported that much of the controversy surrounding acceleration could be linked to teacher beliefs and attitudes that were unsupported by the research. Sometimes a barrier, in terms of the model, can be where it is least expected. Surprisingly, Dolya, (2009) reported in her study that the majority of school gifted programme co-ordinators themselves were found to be philosophically against the practice of acceleration. Recent New Zealand studies, however, show teachers as enablers as shown on the model. There is a level of willingness on the part of high school teachers to utilize acceleration for gifted students, although it is confirmed that the strategy is currently rarely utilized (Wardman, 2009; Ministry of Education, 2012).

In high schools, subject teachers usually have a teaching load of five classes, with daily contact with up to 150 students. Additionally, there are form class and extra-curricula activities in which the teacher acts as coach or manager. The average individual contact time per student is about 8 minutes a week (acknowledging there are other contacts in class situations), and in the junior school a student has eight teachers a term. Therefore the influence of one teacher on a student may be minimal in junior high school, as opposed to primary or intermediate schools where a student has the same teacher all day for a year. By senior high school, students have made judgments about teachers and often select senior subjects according to the teachers who take them (Wardman, 2010). The influence of individual teachers as potential barriers to acceleration lessens in senior high school. As shown on the model, barriers can be overcome if their existence is known. On the other hand the potential of individual teachers to enable gifted students to excel in their field, remains: "that guy is a legend, probably one of the best teachers in the country" (Wardman, 2010).

Students

According to Silverman (1993): "When gifted children are asked what they most desire, the answer is often 'a friend'. The children's experience of school is completely colored by the presence or absence of relationships with peers (p. 72)." Gross (2004) identified the same need and gave acceleration as a solution: "In every case, the young people who have been radically accelerated have found both outstanding academic success and the 'sure shelter' of a warm and supportive friendship group" (p. 281). The majority of the students in Gross' study were not accelerated at school. As a result some suffered immensely from social isolation as they were locked in age-grade classes with no intellectual peers. Alice, a student in Gross' study, claimed that it was only when she reached university that she found her "intellectual home".

> There is such a sense of belonging… such a joyful interaction. It's not just being interested in the same things; it's being passionate about the same things. When one has known deep loneliness and social isolation, the affection and acceptance of friends become especially important. When one differs from one's age-peers so profoundly and in so many respects, intellectually, academically, emotionally and in one's interests and values… friendship can be difficult to achieve or sustain (p. 280).

Noble and Drummond (1992) observed similar circumstances in other gifted students who had not been accelerated. They become emotionally isolated and intellectually stagnant; as one former student said, "it's like going through every day in a slow motion movie" (p. 106). Other students become depressed and withdrawn and at-risk for substance abuse, delinquency or suicide (Robinson & Noble, 1991). In contrast Charlton, a former SMPY student, credits acceleration with being the key that opened up the substantial challenges she needed as a talented, curious and hardworking student. Accelerating allowed her to utilize her talents:

And the amazing thing is that I am where I always wanted to be, 4 years sooner than I might have been had I not accelerated. I have Dr. Stanley to thank for that. I have no regrets having to do with social aspects. I have been challenged and intellectually satisfied all through my life (Charlton, Marolf & Stanley, 1994, p. 126).

Governments

The Ministry of Education was an enabler with the issue of NAG 1(iii), which made it mandatory for all schools to provide for their gifted and talented students. The Education Review Office report (2008), however, shows that the guidelines are not being implemented. Currently the Education Review Office (ERO) and the Ministry appear not to be focusing on schools' non-compliance with NAG 1(iii). There is a barrier arising from the lack of the imperative from ERO and other Government agencies, as shown on the model.

Early Exit

The 'lost gifted' are the numbers of gifted students who are so bored by the pace of the curriculum and being retained with their age-peers, that they disengage with challenging school work or leave school early with no or minimal qualifications. The assumption made is that those who fail to achieve basic literacy and numeracy qualification or 'drop out' of New Zealand schools, are comprised of the lower end or "tail" of the ability spectrum. Hattie (2010) claimed that attempts at "fixing the tail" have been misdirected. His data identified two gaps, those above and below the median, who are not achieving their potential. Therefore the so-called "tail" is not so much of a problem, as are the gaps either side of the middle. Hattie asks: "Where are the programmes, attention, or funding to resolve this issue of the gap being as great above the middle as it is below the middle?" (p. 4).

It is speculation as to how many of those New Zealand students who 'drop out' are at the gifted end of the ability spectrum. Currently there are no data available to the public that match the ability levels of students who leave without qualifications, with data held in schools as to their ability levels (and therefore their potential) on entering high school. A research study that investigates the 'drop-out' rate of gifted students in New Zealand would be enlightening.

Concluding comments

Many gifted students would prefer the challenge of completing their secondary schooling in four years and being facilitated into entering their university courses early. The claims of significant social and emotional harm arising out of the strategy of acceleration have no foundation in the extensive evidence-based research. The reasons given for the strategy of acceleration not being offered to gifted students today are the same reasons given during most of the last century. If research underpins practice, then acceleration should be 'on the table' as an option to our gifted students.

Senior students graduating aged 16 and earning double degrees before the age of 21 can send a powerful message of success to the school community. The school also gains by having students who are less likely to be disruptive, as their boredom with the pace of the curriculum is reduced by acceleration. The students and their families can see the point of full-year acceleration, whereas, single subject acceleration is a harder 'sell' as the futility of picking up subjects they don't need in Year 13 is obvious to all. There needs, however, to be an incentive to schools to move away from the 'safe' option of streaming and enrichment, and the double grant from government for an accelerated student would start the conversation.

This article arose out of reaction to a presentation at the recent Ignited Conference in Nelson. Interest in the subject of acceleration spilled into numerous spirited discussions amongst delegates. On a personal level, one incident this year continues to influence my actions. A young girl in the mostly adult audience at an evening presentation in Auckland on gifted education was brave enough to speak out. Her question was: "Why

won't they let us accelerate?" This article gives the history and the evidence and shows how we can work together to get the strategy 'on the table' in schools. The enablers, barriers and chokepoints have been identified. It is hoped that readers will be ignited into taking action.

The Ministry of Education online learning site**,** Te Kete Ipurangi (TKI), has a section for the gifted and talented community. Information on the strategy of acceleration can be accessed at:
http://gifted.tki.org.nz/For-schools-and-teachers/Provision2/Acceleration

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