



The Starpath Project

Annual Report

2008



Starpath

A University of Auckland Partnership for Excellence



THE UNIVERSITY
OF AUCKLAND
NEW ZEALAND
Te Whare Wānanga o Tāmaki Makaurau



Starpath

A University of Auckland Partnership for Excellence

Project Name:

Starpath Partnership for Excellence

Department:

Faculty of Education

Focus Area:

Project for Tertiary Participation and Success

Review Period:

1 July 2007 to 30 June 2008

Starpath Project

The University of Auckland

Epsom Campus

Faculty of Education

Private Bag 92019

Auckland 1142

starpath@auckland.ac.nz

www.starpath.auckland.ac.nz

On the cover: The Starpath Team

Becca Black, Irena Madjar, Elizabeth McKinley,
Adreanne Ormond, Elizabeth Clarke,
Seini Jensen, Marianna Deynzer,
Sue Sutherland, Rolf Turner, Johnson Yuan,
Yoshiko Kawasaki (Absent: Meisong Li)

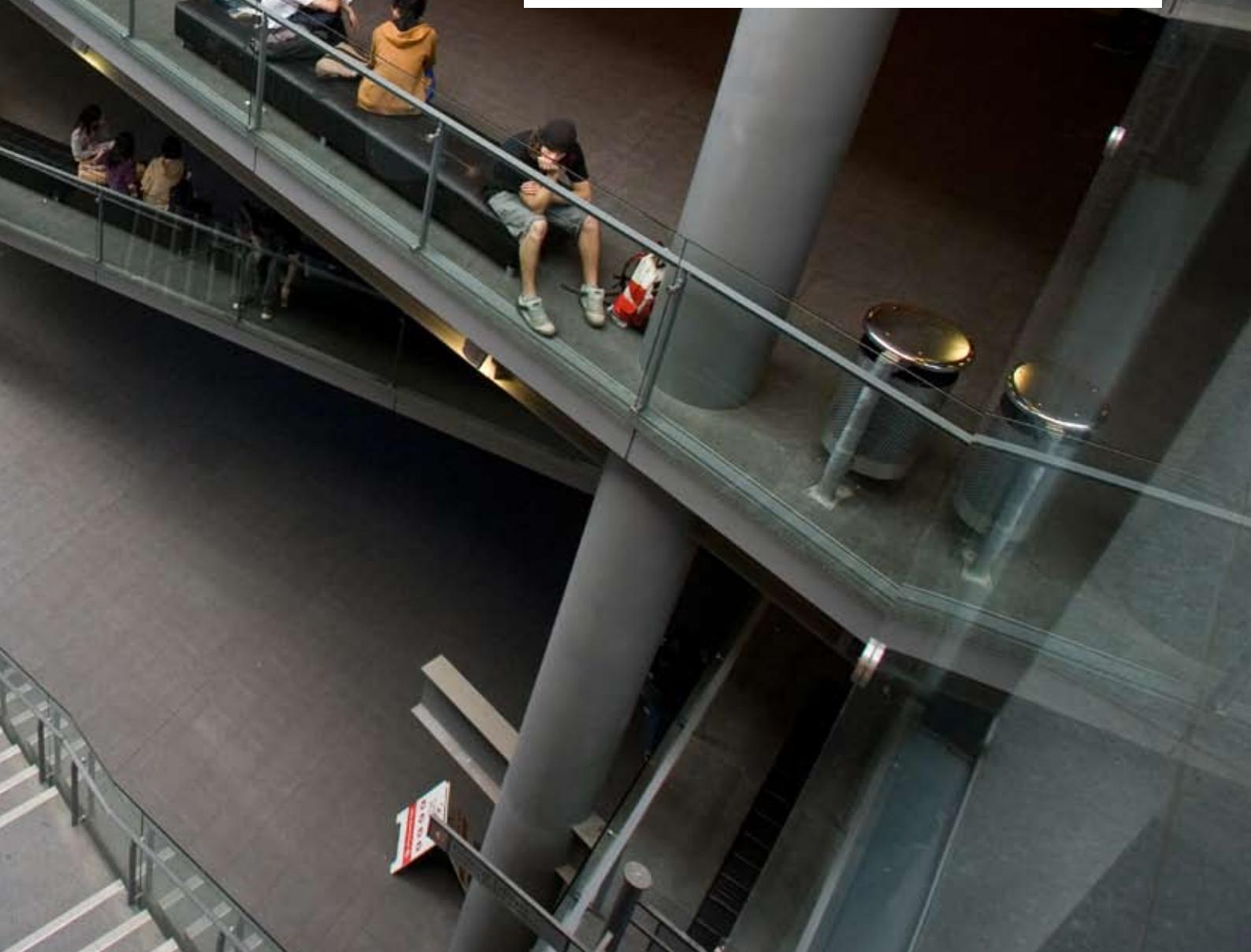




Contents

Reports

From the Chair	02
From the Director	03
Executive Summary	04
Starpath Background	05
Knowing where students are and where they are going	08
Knowing how key barriers impact on student pathways	10
Knowing what can change student outcomes	12
Project Outputs	16





Reports



From the Chair

The Starpath Project for Tertiary Participation and Success was established in 2005 as a Partnership for Excellence between The University of Auckland and the Tertiary Education Commission to carry out research and design initiatives to enhance the participation and achievement of students from groups under-represented in tertiary education. Starpath is key to The University of Auckland's leadership in the promotion and practice of evidence-based research aimed at achieving equitable educational outcomes for all students.

Over the past three and a half years the University has worked with its partners in Starpath to develop a significant body of research. The project has identified barriers to educational success which will enable it to complete the final stage of Phase 1: the development and trialling of initiatives and interventions to address these barriers.

I have recently taken over as Chair of the Starpath Board from Dr John Langley. I wish to thank Dr Langley for the contribution he made to the Board and to Starpath. This year the Board also received the resignations of Dr Brian Annan and Professor Stuart McNaughton and I would like to record our appreciation of their advice and support. I am pleased that Mr Rob McIntosh, Deputy-Secretary, Ministry of Education, has agreed to join the Board. All

members of the Board bring significant skills and knowledge to the governance role.

The financial support of the ASB Community Trust, the West Coast Development Trust, The University of Auckland, the Tertiary Education Commission and individual sponsors is important to the Project. Their support enables Starpath to contribute to our knowledge of the educational dynamics in low decile schools in New Zealand.

I would also like to recognise the work of the Starpath team who, under the leadership of Associate Professor Elizabeth McKinley, are committed to making education work for all of our young people.

Professor Raewyn Dalziel
Chair, Starpath Board



From the Director

After 18 months in the position of Director, this is my second Annual Report. I am pleased to report that our vision to help transform educational outcomes for able but currently under-achieving students from low decile schools so that they can participate and succeed in tertiary education is being realised.

A number of new projects have been developed in the past year, emerging from questions and issues identified in previous Starpath reports. One of the major issues for schools in the communities targeted by Starpath is the educational dynamic that surrounds stakeholders' understanding of the national qualifications system – the National Certificate of Educational Achievement (NCEA). In our search for a clearer understanding of the nature of the relationship between NCEA qualifications and the populations and communities of our partner schools, we have undertaken significant research on this topic. These projects are nearing completion as I write.

Another major area of study is examining the transition from secondary school to university, including admission to university. Starpath has initiated a longitudinal project that involves a significant number of students from low-mid decile schools in Auckland and Northland from groups currently under-represented in degree-level studies. The more we can find out about the issues faced by these students at this critical time in their lives, the better we can advise both schools and universities on the role they can play in identifying problems early and supporting these students more effectively.

Starpath has also extended its research activities to a partner school outside of Auckland. A generous grant from one of our sponsors has enabled us to reach into Northland and bring on board another partner school to join our three Auckland schools. In addition, we have begun a new initiative in collaboration with the Woolf Fisher Research Centre, under the direction of Professor Stuart McNaughton, working with secondary schools on the West Coast of the South Island.

This year in June, Starpath launched its first newsletter 'The Starpath News'. The newsletter was circulated widely to low-decile schools, tertiary education institutes and other interested groups. The publication is a vehicle to communicate with a larger audience, particularly low-decile schools outside of our current set of partner schools. While the first newsletter introduced the team and its work, future publications will include more information about individual projects, research findings, and implementation initiatives. The newsletter is also available electronically on the Starpath website (www.starpath.auckland.ac.nz).

The success of Starpath is dependent on the work of a small team. This year we have welcomed two new staff, Yoshiko Kawasaki and Alice Van Der Merwe. We have also employed a number of short-term staff to help with interview coding and data entry. Two researchers, Dr Adreanne Ormond and Ms Sue Sutherland, were farewelled from the team. And finally on 23rd May 2008 one of our team members, Meisong Li, gave birth to a son Lucas. I wish to take this opportunity to thank all the staff for the contribution each has made to the project over the last year.

As we reflect on our past year, and look forward to the final 18 months of Phase 1, Starpath is now well placed to build a toolkit of initiatives and interventions that will enable schools to put in place an evidence-based approach to achievement for Māori and Pacific students, and students from low decile schools.

Associate Professor Elizabeth McKinley
Director, Starpath Project

Executive Summary

The Starpath Project was established as a Partnership for Excellence between The University of Auckland and the Tertiary Education Commission in 2005. The aim of the project is to identify critical transition points at which under-represented groups of students in tertiary education fail to progress along the educational pathway. Starpath is making significant advances in understanding the barriers in a number of areas.

Key barriers identified in the educational pathway for under-represented groups of students include: the organisation and use of student data information systems; decision-making concerning course choices leading to qualifications; university admission processes; and the nature of academic support programmes and their status in institutions. In addition, Māori students have distinctive academic pathways.

A working partnership between secondary schools and tertiary institutes has proved to be a crucial factor in having a positive effect on student outcomes. Starpath is working with schools to better consider, understand and use the data they collect to help them make more evidence-based decisions in enhancing the

achievement of their students. At the same time, we are able to increase the skills of staff and schools in identifying, collecting and analysing data. Schools can make a major difference using effective interventions where individual students have an education plan that assists their integration into the school and tracks their academic achievements over time.

Starpath has found that the choice of subjects and NCEA standards does make a significant difference. Gifted students must attempt sufficient numbers of achievement standards (especially from the "approved subject" list) in order to achieve at levels that prepare them for and give them access to higher education. School-community relationships are important in this endeavour. While schools talk to parents about NCEA and give them large amounts of information to read, we have found that this is not enough. Conversations with parents based on informed academic and career planning for their children are much more likely to be effective and appreciated. The availability of standards from the "approved subject" list at a school also makes a major difference, particularly for some Māori and Pacific students; and counselling and mentoring processes encourage these students to tackle the more "academic" subjects.

Over the next 18 months Starpath will be working on a number of projects. There will be further investigation into the transition to higher education as the students currently being followed enter their second year of university. Another project will look specifically at issues around the involvement of students from low-decile schools in science-related academic pathways. Another likely project is to identify and study those schools that perform well above the average in preparing their students from under-represented groups for success in higher education.

Starpath will also be developing a toolkit of initiatives. These include the development of academic profiling tools; data management protocols for schools; an academic counselling package that will address the engagement of all parties (schools, parents/caregivers and students) in NCEA course selection for qualifications; and an implementation and evaluation package for student support programmes in schools and tertiary institutes.



Starpath Background

The story of Starpath began six years ago, when New Zealand society was going through a major rethink of its social and economic performance. The Knowledge Wave Conferences were held between 2001 and 2003 in response to a widespread realisation that the nation's economy was no longer strong enough to sustain the quality of life we had come to expect as New Zealanders. These conferences brought together leaders from all sectors of society to find new ways to lift New Zealand's sights and create future economic prosperity. Their challenge was to forge a national strategy to secure New Zealand's economic and social performance and create a knowledge-based society.

Knowledge Wave zeroes in on education

Developing an internationally competitive education system was one of the key themes to emerge from the Knowledge Wave. It was identified as a building block to attaining economic growth and healthy and stable communities.

The UNICEF Innocenti Report, released in 2002, identified a major obstacle to New Zealand's vision of a knowledge economy. It named New Zealand as having the second highest rate of educational inequality in the OECD. That is, we have a big gap between the children at the bottom and the children in the middle of school achievement. Our education system seemed to be working well for some students, but where it failed students, it was failing miserably.

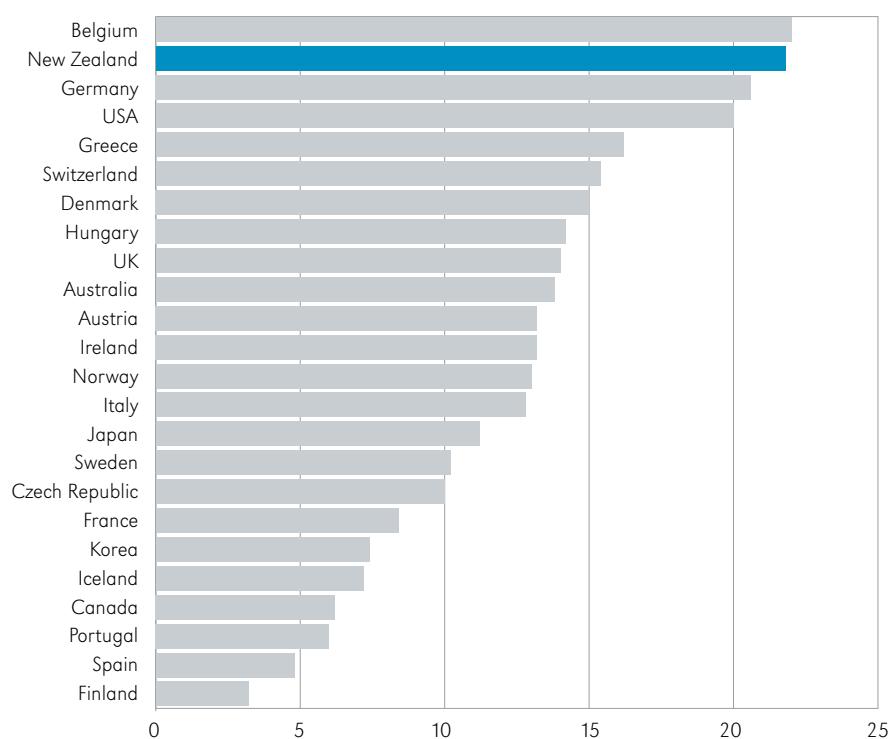


FIGURE 1

New Zealand's Educational Inequality

The table ranks countries by the extent of the difference in achievement between children at the bottom and at the middle of each country's achievement range. It shows the average rank in five measures of relative educational disadvantage: the difference in the test score between the 5th and 50th percentiles in each country in surveys of reading, maths, and science literacy of 15 year-olds (PISA), and of maths and science 8th-grade achievement (TIMSS).

Source: UNICEF Innocenti Research Centre (2002:9) A League Table of Educational Disadvantage in Rich Nations.

Distinguished Professor Dame Anne Salmond, who led the Community section of the Knowledge Wave conferences, and Dr John Hood, the then Vice-Chancellor of The University of Auckland, initiated the beginnings of The Starpath Project. By looking more closely at what was happening in our education system, they realised that an increasing proportion of our school population was not achieving its academic potential, and that this group was made up largely of Māori, Pacific and students from low socio-economic backgrounds.

Alongside this, there was a realisation that New Zealand society was changing. We have a relatively youthful population that is increasingly Māori and Polynesian. In the next 40 years, it is predicted that 57% of New Zealand's population will identify as Māori or Pacific, while more than two thirds (68%) will identify as non-European.

Serious concerns were raised about the social and economic costs to the country, if this trend of academic underachievement were to continue. It was also evident that the future wellbeing and prosperity of many of our bright young people was at risk.

It is now widely acknowledged that the current levels of underachievement compromise our chances of sustaining a highly skilled and competitive workforce, and a prosperous society.



The Starpath Project – a way forward

In response to this challenge, The University of Auckland assembled a group of business and academic leaders, to find a way forward and to ensure that all young people in New Zealand would have the opportunity to reach their full potential. This group put forward the crucial idea that the progress of individual students needed to be tracked throughout their educational journey in order to understand why some students within the schooling system were succeeding while others were failing.

This gave rise to one of the key research aims of the Starpath Project – by tracking students, we could begin to identify and understand the points at which able students are likely to drift away from, or fail to make the necessary progress along the educational pathway, and develop strategies to address these. A team of researchers was needed to gather data on educational dynamics in New Zealand, and to conduct other research studies that could act as a basis for strategies aiming to improve educational outcomes for students that current policies and practices were leaving behind.

The Starpath Project was established in 2005 at The University of Auckland, after a detailed proposal for the project was selected by the New Zealand Government for a Partnership for Excellence grant – a commitment to match dollar-for-dollar funding provided by private donors. The Auckland region was chosen as a project base because it is home to New Zealand's largest Māori and Pacific populations within a large and economically diverse metropolitan centre.

The name Starpath was inspired by a narrative which described the journey of the first navigators to cross the Pacific, following the stars from island to island until they reached their destination. The Starpath Project seeks to identify the aspirations and approaches that will lead many more students from under-represented groups into higher education.

Starpath's aim is to deliver:

- A detailed understanding of the barriers to tertiary success for different groups of students.
- Improved methods of collecting, analysing and understanding educational data across all levels of the education system.
- A set of clearly defined strategies and tools to enhance educational achievement in New Zealand.

Starpath's ultimate task will be to:

- Deliver a toolkit of research/evidence-based initiatives and approaches that will transform current patterns of underachievement.

As the first navigators crossed the Pacific they followed the stars from island to island

*At the beginning of their journey, they found the star which marked their direction, and followed it until it sank towards the horizon
Then they located the next star on the star path, and the next, and the next, until they reached their destination.*

Forging partnerships

Starpath's work and success are grounded in collaborative work with partner institutions and the wider community. Starpath works with two tertiary education institutes, three secondary schools in Auckland, and, more recently, a secondary school in Northland. The support from partner schools in allowing access to their data and facilitating a series of research projects has already helped Starpath to gain significant understanding of educational dynamics in New Zealand.

Relationships forged with private donors, including the ASB Community Trust, Development West Coast, the Todd Foundation, and other individual sponsors have allowed Starpath to function more independently than if it was relying solely on the University or Government sponsorship.

The Starpath Project's Board was established in December 2006. The membership includes distinguished academics and leaders from The University of Auckland, Manukau Institute of Technology and the Ministry of Education. The board sets policies, oversees strategic directions and financial management of the project, and provides leadership and advice.

Starpath research

Starpath seeks to change lives for the better through education. It is about new opportunities – for individuals, for schools and tertiary institutions, for the economy, and for the nation.

Working with cohorts of students in partner secondary schools and tertiary institutions, Starpath is delivering high quality research on the barriers to tertiary study for different groups of students and identifying initiatives that can be implemented by schools and tertiary institutions in order to address these barriers to tertiary study.

These findings and ongoing research are expanded on in the next section of this Annual Report. The findings have been grouped into emerging themes: knowing where students are and where they are heading; knowing how key barriers impact on student pathways; and knowing what can change student outcomes.





Knowing where students are and where they are going

Why is this important?

An important discovery early on in the Starpath Project was a lack of long-term data on student progression, both in particular schools and across the education system. By failing to effectively track individual students' educational progress over their entire school careers, important patterns in student underachievement are being overlooked, and/or tackled ineffectively.

Information systems in schools allow cross-sectional analyses (e.g. how many NCEA Level 1 passes were achieved in any given year), but do not easily allow the tracking of individual students or groups of students over time. This means that particular difficulties encountered by groups of students on their educational pathways cannot be identified accurately or addressed strategically; nor is it possible to monitor the outcomes of interventions aimed

at enhancing student achievement. As a result, groups of students may fail to achieve their potential and leave the school without formal qualifications, without such patterns being evident to school leaders. An evidence-based approach to enhancing student achievement in New Zealand is being advocated in a number of recent policy documents and should yield significant dividends, providing that it is linked with the long-term tracking of the educational progress of students.

Furthermore, studies conducted in New Zealand suggest that the transition to university study can be particularly challenging for students who might be the first in their family to attend university, who do not use the available support services and who are not identified by the system as struggling to cope or feeling uncertain or distressed. More recent

New Zealand research with Māori students enrolled in bachelors' degrees identifies a number of factors critical to success in first year of study, including establishing career goals, adequate secondary school preparation, and ability to study full time. One major finding is that success during the first year of study is only partially explained by the kinds of variables captured in enrolment data – that is, demographics, school background, and area of enrolment.

Scoping studies at The University of Auckland, conducted within the Starpath Project to date, have indicated not only a low rate of participation in university studies by students from Māori and Pacific backgrounds, but have also identified high attrition rates, particularly (although not limited to) the first year of university study.

What projects have been initiated?

Starpath has been working in three main areas to discover where the students are and where they are going - information systems for tracking the progress of individual students; academic profiling; and transitioning from high school to university.

Information systems for tracking student progress

Starpath has worked to develop information systems that can be used in schools to track the progress of individual students and groups of students over time.

While we have done this successfully with one high school (and one university), it will be difficult to come up with solutions that work effectively across the system or until there is some standardisation in the way that student achievement is reported and monitored across the education system – particularly in the information systems used by schools; in the types and quality of achievement data kept in those systems, and in the identification of individual students by unique identifiers.

If the main purpose of the education system in New Zealand is to ensure that students achieve to their potential, such tools will be essential to discover how well this is being accomplished.

Otherwise, because of the mobility of some groups of students, it is unlikely that student achievement can be tracked sufficiently well to allow common barriers to achievement to be reliably identified, and the outcomes of initiatives which are intended to enhance student achievement to be reliably tested. Many students will continue to underachieve, barriers to achievement will not be reliably identified; and scarce resources will continue to be wasted on ineffective interventions.

Academic profiling

Academic profiles that allow the academic progress of individual students to be tracked are being developed and trialled in our partner schools in two different ways. The first method involves the development of individual student profiles that project a “potential trajectory” using test data from high school entry test scores. Such a tool would help schools identify students who are underachieving in their studies; to initiate early intervention; and to monitor the outcomes. This form of profiling draws attention to the management of data in

schools, in particular indicating that data needs to be longitudinal (i.e. collected over time); valid, consistent, well-organised and readily accessible.

The second method of academic profiling is setting targets for individual students for each individual standard that they attempt. This method of profiling is being trialled through Starpath-sponsored doctoral research of a student who is also the Academic Achievement Manager in one of the partner schools. Targets are set using the results of the student's school entry tests (in this case, asTLe and MIDYIS) and the school's historical NCEA data. A statistical model has been developed to generate targets. The trial has included each student being given an individual target for each achievement standard for Year 11 Mathematics and Literacy. The statistical model used is currently being evaluated.

Transition from secondary school to university

Most studies of transition to date have tended to be retrospective, picking up research participants after their arrival at university, sometimes quite late in their first year. What we currently do not know is what the process of transition (as opposed to being a first-year undergraduate student) is like, especially for students from under-represented groups. The study includes students from rural areas, such as Northland, and Pacific students from socio-economically disadvantaged communities such as South Auckland. A mixed group of other school leavers from the Auckland area is also included.

This current Starpath study examines participants' experiences as they evolve, including their adjustment to the university environment and study, changes in their social networks, and how they deal with study loads, exams, feedback and other issues as they arise. The qualitative life-history approach taken here will allow for an in-depth exploration of individual experiences in the context of their life stories. Altogether, 45 Year 13 students were identified in eight schools – two in Auckland and six schools in Northland (including three partner schools). The project has been carried out over nine months, from October 2007 through to June 2008. Five interviews have been held with each student, either face-to-face or by telephone. Students were also invited to use photographs to express their sense of place and self, and write self-reflective journals (in either hard copy or electronically).

What are the outcomes?

We have learned that educational institutions have vast amounts of student data that are used primarily to support funding applications to the Ministry of Education. Many of our educational institutions do not systematically track individual student achievement over time, so that they cannot tell how effective they are in adding value to their students' learning. Furthermore, student data is rarely analysed to detect areas where students are under-achieving, or to systematically enhance teaching-learning experiences and academic outcomes. To make such tracking possible across the education system, some policy work is required to ensure some standardisation of the information systems used by schools, the types and quality of academic achievement data stored in those systems; and a system-wide unique identifier for individual students.

We have been working with schools to improve data management and use with the first method of profiling and the feedback is positive. The second method of academic profiling is being evaluated and automated. Currently Starpath is working with one partner school to build a Graphical User Interface (GUI) so that schools can select data and apply the model automatically.

Future directions

Starpath's work indicates that the long-term tracking of students through their educational journeys should be required of educational information systems, and these should be coordinated across all education sectors. The focus of information management in New Zealand education needs to be upon monitoring and enhancing student achievement, and not solely on the allocation of funding. To this end Starpath is currently working on the design and development of tools to support this change in focus.





Knowing how key barriers impact on student pathways

Why is this important?

Success in the National Certificate of Educational Achievement (NCEA) is a critical factor in the academic pathway of under-represented groups of students in tertiary education. By conducting extensive data analysis, Starpath researchers have been able to make crucial observations regarding NCEA options and their influence on student pathways in low decile schools. Subject choices are critical to educational success, particularly in higher education. We have learned, however, that Māori and Pacific students are engaging in fewer NCEA standards approved by the New Zealand Qualifications Authority (NZQA) for University Entrance.

We know from previous Starpath research that appropriate course choices and their successful completion are keys to progression to tertiary study or skilled employment. Students from lower decile schools and from some ethnic groups tend to take fewer “academic” subjects and unit standards rather than achievement standards, however, regardless of ability. Furthermore, our research shows that the biggest hurdle for Māori and Pacific students in gaining entrance to university is gaining enough credits from the NZQA “approved subject” list.

This pattern of course and subject choice often precludes the completion of the University Entrance (UE) qualification and, even when the UE requirements are met, excludes students from competing successfully for admission to limited-entry university programmes. While there is much that is positive about the NCEA system, concerns remain about its potential to motivate students away from achieving their best, and towards “collecting credits” and opting for easier assessments, without adequate regard for the long-term implications of their choices.

Starpath is trying to understand why this is the case and has designed a number of research projects to address these questions.

What projects have been initiated?

NCEA Course Choices project

This ongoing project is looking at the NCEA system to understand how schools are implementing it and to evaluate what impact it has on student achievement. The NCEA Course Choices project seeks to understand how, when and by whom NCEA course choices are made; and how clearly the implications of these choices are understood by students, parents/care givers and teachers.

Starpath has been investigating these questions within three partner high schools in Auckland and one in Northland. While interviews and questionnaires with students have formed much of the research, the research also delves into the role of parents, caregivers, teachers, academic counsellors and other significant persons in influencing NCEA subject choices. Questions are asked about the key factors that lead to particular choices, and what the different stakeholders see as the implications of the choices. The project is due for completion in October 2008.

The availability of standards from the approved subject list in low-decile schools

Starpath continues to conduct research to investigate the impact of the "approved subject" criterion¹ upon Māori and Pacific students. A scoping study indicated that Māori and Pacific students attempt significantly fewer standards from the NZQA-approved subject list than do students from other groups.

This has led to a further Starpath project to investigate whether the "availability" of standards in lower decile schools has an effect on the success rate of students in achieving University Entrance (UE). All New Zealand schools which had decile rankings 1-5 (inclusive) and which offered at least one Year 13 subject were invited to submit data for the study. One hundred and eight schools responded (48%). Starpath researchers looked at the number of NCEA standards at Level 3 or higher available to students in each of these schools and the relationship between the number of Level 3 achievement standards and the number of students achieving UE qualification.

¹ To attain UE a student must gain a minimum of 14 credits at Level 3 or higher in each of two subjects from the NZQA "approved subject" list.



What are the outcomes?

Work is continuing in this area but some conclusions are already apparent.

Results of the scoping project indicated that the number of Level 3 standards from the approved subject list attempted by Māori and Pacific students is substantially lower than the number attempted by Pākehā and Asian students.

Further completed research indicated that the availability of standards has an effect on the success rate of students in achieving UE. A detailed analysis of the data shows that increasing the number of standards has a positive impact, particularly on Māori and Pacific students with high intellectual potential. This suggests that improvement can be brought about through the increased provision of resources, allowing students to choose subjects in which they are interested, and/or which they need as preparation for university study, rather than having choices imposed on them through a limited number of subjects. It is clear that the number of standards attempted and the number of standards available are both required for a positive impact on these groups.

It is unclear what the mechanism is that underlies these results. Further investigation on the availability and allocation of resources is needed, although some of the information will come from the results of the NCEA Course Choices project.

Future directions

In the number of Level 3 NCEA standards from the NZQA "approved subject" list available to and attempted by Māori and Pacific students, Starpath has identified a serious choke point, and it is one for which remedial action would appear to be relatively straightforward.

Monitoring of the effectiveness of the academic counselling and target setting project currently being conducted at one partner school should give Starpath some idea of the amount of impact that advice and counselling can have on this barrier. School resources and the availability of courses relevant to the "approved subject" list standards are also a major consideration, which Starpath will investigate in the future.

The availability study has allowed Starpath to identify some schools which are doing particularly well; i.e. which have a higher than expected success rate (especially for their Māori and Pacific students) given the number of achievement standards offered. Such schools could be studied in more detail with a view to finding out how they achieve so well and to learn from their successes.



Knowing what can change student outcomes

Accumulating data, no matter how extensive or how robust such data might be, will not in itself improve student outcomes. Utilisation of research evidence in everyday practice requires that evidence be translated into manageable interventions and the value of proposed changes be demonstrated. Starpath has made the commitment to promote learning in ways that impact on student outcomes. As a result we work in collaboration with partner institutes to design, implement and evaluate interventions that address the academic impediments that have been identified, in order to establish the effectiveness of proposed strategies and to work out how the learning from one school can be transferred to another.

Academic counselling and target setting

Why is this important?

There is evidence that well-conducted academic counselling and target setting may be one of the more effective interventions that schools can implement to raise the achievement of Māori and Pacific students. One of Starpath's partner schools (NZHS) has undertaken such a programme, aimed at improving academic performance in the school, developing a consistent, school-wide approach in dealing with student achievement pathways, and involving more parents in their children's academic life.

What projects have been initiated?

Starpath has been working with the NZHS in the implementation and evaluation of a new academic counselling programme. In 2007 the school appointed an Academic Achievement Manager (who sets targets and manages and analyses data) and released all Deans from one class of their workload.

Two sets of academic targets were set. First, the percentage of students achieving NCEA Levels 1, 2 and 3, UE, as well as Level 1 Literacy and Numeracy requirements, and the proportions of male, female, Māori, and Pacific students achieving NCEA Level 1. Second, individual targets for Year 11 students for achievement in Mathematics and English were worked out using indications of each student's ability as measured by school entry tests (in this case, asTLe and MIDYIS) and the school's historical NCEA data. The Year 11 targets were designed to be challenging and set at the upper end of what students could be expected to achieve. The aim was to encourage students to achieve to the best of their potential.

All students were interviewed three times within a year, either individually in the case of students in Years 11, 12, and 13, or as part of a small group in Years 9 and 10. Individual targets for Year 11 students were reviewed in meetings with Deans and Form Teachers.

Restructured parent-teacher interviews formed another key element of the programme. Each parent was sent a letter giving a brief outline of the academic counselling programme, emphasising the reasons why the school wanted parents to be involved in their child's schooling, and allocating them and their child an appointment time to meet with their child's Form Teacher. Support was put in place to make arrangements with employers for time off from work, and to provide child-care and parking facilities. An academic profile of each student was put together by Form Teachers that included specific targets (for Year 11), subject progress statements, asTLe information (juniors), credit tracker (seniors), attendance records, and academic counselling records. Other staff were also available to meet with parents.

What are the outcomes?

The effectiveness of the target setting is the subject of a Starpath-sponsored PhD study carried out by the teacher responsible for academic target setting. Currently we can report that out of eight school-wide targets, six were attained. In particular, Pacific students outperformed their targets at Level 1 NCEA. (In 2006, 37% of Pacific students achieved Level 1 NCEA, and the 2007 target was set at 51%. The actual achievement rate was 59%). The two targets that were not met included the NCEA Level 1 achievement by Māori students, and the school-wide NCEA Level 2 achievement. The reasons why these two targets were not met are the subject of ongoing investigation and a number of improvements will be made for next year.

Stakeholder evaluation of the intervention (conducted by Starpath) indicates that teachers, parents and students are very pleased with the intervention. In place of the usual turnout of 10-15% of parents attending parent-teacher interviews under the previous system, 76% of the parents came to the parent-teacher meetings in 2007. Parents and students both thought the academic counselling increased awareness among students regarding academic pathways to reach career goals, helped students keep track of their learning, and contributed to more informed decisions about study choices. Parents reported that the intervention provided



improved information to them, and had a positive effect on parent, teacher and student relationships.

Teachers also provided positive feedback and commented on improved relationships among themselves, teachers and parents, and teachers and students. The Deans in particular appreciated having conversations with all their students that focused on academic work and achievement, instead of behavioural problems as in the past.

Teacher concerns were related mainly to sustainability, particularly the time release for the Deans.

Future directions

This programme will continue to be monitored as the school keeps improving and adjusting its approach and resources. At the same time, Starpath is exploring the possibility of trialling a similar programme in one or more of our other partner schools to determine its transferability.

Fair and robust criteria for admission to university

Why is this important?

New Zealand needs more university graduates and they need to come from all sections of New Zealand society, including currently under-represented groups such as Māori, Pacific, and those from lower socioeconomic strata or who are the “first in the family” to study at university. At the same time, universities are faced with limited resources and the need to ensure that the students they admit stand a reasonable chance of being successful in their studies. The challenge faced by universities is to ensure both excellence and equity in their admissions processes and outcomes.

Put simply, students with high intellectual potential should stand an equal chance of being admitted to all undergraduate university courses, regardless of their ethnicity, religion, socioeconomic status, or family background.

The persistent disparities between students from low and those from mid-high decile schools entering university education make it relevant for Starpath to undertake research into the factors that contribute to such disparities, and ways these could be addressed.

What projects have been initiated?

Current work being undertaken by Starpath indicates that one of the key barriers for Māori students in particular in gaining UE is the limited number of “approved subjects” taken during their secondary schooling. There are a number of explanations for this, including inappropriate advice from teachers and others steering these students away from the “approved subject” list (irrespective of ability); problems with recruitment of teachers to provide instruction in some of these subjects (e.g. Physics, Chemistry and Mathematics), and a limited number of “approved subjects” being offered in senior classes in many rural, small, and low-decile schools. This leads to students completing fewer credits, achieving at a lower level, or not completing subjects deemed essential for admission to specific undergraduate courses.

Furthermore, students from low decile schools – Māori and Pacific students in particular - are also more likely to be encouraged to take Unit



Standards or, at best, a mix of Unit and Achievement Standards.

When admission into particular degree programmes is limited, the number of achievement standards from the “approved subject” list required for admission may be significantly increased, making the impact of this barrier more severe.

All these are structural impediments unrelated to the ability of students, but with significant impact on students’ educational pathways. Admission processes and practices that rely entirely, or even largely, on a single score (calculated on the basis of a set number of credits from specified subjects completed within the NCEA framework) deserve examination in terms of their fairness, as well as their ability to predict success in university studies.

Additional work undertaken by Starpath (and other researchers) indicates that while performance in Level 3 NCEA subjects is currently most strongly associated with successful completion of first-year undergraduate studies, they are far from perfect. In particular, the Grade Point Average (GPA) derived from NCEA Level 3 cannot predict individual performance. In other words, some students with low Level 3 NCEA scores do outstandingly well during the first year of university studies, and conversely, some students with high NCEA scores do badly in their first year. There is a clear need therefore for ongoing research into the development and testing of other, more robust and fair selection criteria and predictors of university success.

What are the outcomes?

One of the possible outcomes of reliance on a Grade Point Average (GPA) calculation for selection into university programmes is unintentional but systematic discrimination against students whose schooling has not maximized their chances of obtaining the highest possible Grade Point Equivalent (GPE). Students with academic ability and potential might therefore be excluded from participation in appropriate tertiary education, to their own as well as to broader social disadvantage.

There is a need to develop additional and/or new admission criteria and they need to be flexible and applied in conjunction with other initiatives such as outreach programmes and scholarships.

Furthermore, ensuring that students who are among the first in their family to attend university (and often among few from their schools and communities to do so) needs to be given high priority. Other factors, also under study by Starpath, include the transition processes involved in moving from school to university, and the support programmes available to students at university.

Future directions

Starpath is committed to developing an understanding of university admission criteria and standards and to helping develop robust systems that are fair and equitable to all students.



Academic support programmes in secondary schools and university

Why is this important?

Academic support programmes are often established in schools in order to raise achievements and aspirations of students, particularly Māori and Pacific. While these programmes can be effective, Starpath has found that very few of those that were evaluated met the criteria for good practice in establishing and carrying out academic support programmes. If academic support programmes are to succeed in meeting their objective of supporting under-represented groups of students into and throughout their tertiary study, then the programmes need to be established in response to student achievement data and/or the identification of significant challenges or needs. Furthermore, it is important to rigorously evaluate each programme for its effectiveness.

What projects have been initiated?

A number of learning support programmes have been evaluated. These include an analysis of the effectiveness of academic support programmes in two partner schools and a university; a case study of a national programme; a first-year mentoring programme at university; and a university outreach mentoring programme for Year 13 students. These were reported more in depth in the last Annual Report (2006-07).

What are the outcomes?

We have learned from our work on academic support programmes that a number of conditions are required if student success at secondary school and in tertiary education is to be effectively enhanced. These conditions include:

A high-level, genuine commitment to the retention of Māori and Pacific students, and students both within and from low-decile schools. This must include the investment of resources, incentives and rewards that enhance student retention. High expectations are essential.

A strategic, evidence-based approach to the establishment and continuation of Academic Support Programmes. Such initiatives should be set up in response to a careful analysis of patterns of student achievement, and/or the identification of significant challenges or needs. They require clear goals and expected outcomes.

Data on student participation in these programmes should be linked with achievement data wherever possible, so that the success or otherwise of these initiatives in achieving their goals and expected outcomes can be evaluated.

At both schools and university, two types of support are required – social and academic. Parents and/or caregivers must be willing to help and need support to know how to help. Academic goal-setting, advice and support are essential, and in its “profiling” research, Starpath is experimenting with ways of building these into the heart of the school academic

programme. At university, many Māori and Pacific students are insufficiently prepared for the rigours of study and the availability of academic support is essential to help with their continuation. It is possible that an “academic profiling” approach would also work well at university. Social support is also required, however such as counselling, mentoring, Māori and Pacific student centres and activities, which provide support for individuals and a safe haven for students who find themselves in a distinct minority.

Also required is a focus on learning and achievement – the more students learn, the more value they find in their learning, the more likely they are to stay and complete. This is particularly true for students who are motivated and able. Students must accept responsibility for their own learning and strive to achieve. It is important to build educational communities that involve all students as equal members.

In order to meet these conditions, institutions need to identify the students who are most likely to be vulnerable and/or most likely to be overwhelmed by the academic work or new environment. Institutions also need to have good evaluation programmes associated with their academic activities (support programmes and their teaching and learning) and their social integration programmes.

Future directions

We know that schools provide a wide range of extra curricular initiatives intended to improve educational outcomes and experience of their students, but these programmes are not monitored for effectiveness, despite the significant amount of resource they absorb. Further research by Starpath will be able to clarify which types of extra curricular programmes are likely to assist in student retention and motivation, and which ones are more likely to contribute to students’ academic achievement and capacity.

Furthermore, the transition from school to university is a significant barrier for many students. Results from current projects will be taken into account when designing strategies by which both schools and tertiary institutions can support students better.



Project Outputs

Journal Papers

Shulruf, B., Tumen, S., & Tolley, H (in review). Extracurricular activities in school, do they matter? Participation in extracurricular activities and junior secondary school achievements. *Children and Youth Services Review*, 30(4), 418-426.

Shulruf, B., Hattie, J., & Tumen, S. (2008). Individual and School Factors Affecting Students' Participation and Success in Higher Education. *Journal of Higher Education*. <http://dx.doi.org/10.1007/s10734-008-9114-8>

Tumen, S., Shulruf, B., & Hattie, J. (2008). Student pathways at the University: patterns and predictors of completion. *Studies in Higher Education*, 33(3), 233-253.

Papers in Review

Shulruf, B., Tumen, S., & Hattie, J. (in review). Student pathways in a New Zealand polytechnic: key factors for completion. *Higher Education Research and Development*.

Shulruf, B., Hattie, J., & Tumen, S. (in review). Schools-Tertiary Interactions: Organisational Factors Affecting Students' Participation and Success in Higher Education. *Education Policy Analysis Archives*.

Timperley, H., & Smith, S (in review). Potential Chokepoints in the National Certificate of Educational Achievement for Attaining University Entrance. *New Zealand Journal of Educational Studies*.

Invited Keynotes

McKinley, Elizabeth (2008) *He piko he taniwha, he piko he taniwha: academic pathways for Māori students*. Presented at the PPTA Conference, 17 April.



Conference Presentations

Jensen, Seini (2008). *Interpreting cultural inclusion in qualitative research*. Presented at the 4th International Congress of Qualitative Inquiry (ICQI), 15-17 May, University of Illinois, Urbana-Champaign.

Madjar, Irena (2008). *Youth research ethics in the age of Bebo*. Presented at the 4th International Congress of Qualitative Inquiry (ICQI), 15-17 May, University of Illinois, Urbana-Champaign.

McKinley, Elizabeth (2008). *The politics of evidence in social justice research*. Presented at the 4th International Congress of Qualitative Inquiry (ICQI), 15-17 May, University of Illinois, Urbana-Champaign.

McKinley, Elizabeth (2007). *The Effectiveness of Academic/Learning Support Programmes in Secondary Schools and University*. Presented at the Youth Mentoring Trust National Conference, 25 May, 2007, Butterfly Creek, Manukau, New Zealand.

Shulruf, B., Tolley, H., Tumen, S. (2006). *Course taking patterns: are there cross cultural effects?* Presented at the 26th International Association of Applied Psychology, 17-21 July, Athens, Greece.

Conference Abstracts Accepted

Shulruf, B., Keuskamp, D. (2007). *Course taking and student achievements meta analysis and a critical review of the literature*. EARLI 2007 Conference, Budapest, 28 August-3 July 2007.

Shulruf, B. (2007). *Do extracurricular activities in schools improve educational outcomes?* A critical meta analysis of the literature. ANZCIES 2007, Auckland, New Zealand 30 November-2 December 2007.

Tolley, H., & Shulruf, B. (2007). *The Role of Data in the Delivery of Quality Education*. The XIII World Congress of Comparative Education Societies in Sarajevo.

Other Presentations and Seminars

McKinley, Elizabeth and Madjar, Irena (2008). Presentation to the Rangatahi Programme, Auckland District Health Board, 9 June, Auckland.

McKinley, Elizabeth & Salmond, Anne (2007). Presentation to the ASB Community Trust Māori Education Working Group, 27 April.

McKinley, Elizabeth and Shulruf, Boaz (2007). Invited presentation at the Tertiary Sector Performance Analysis and Reporting Seminar Day, 12 December, Ministry of Education, Wellington.

Timperley, Helen (2006). Presentation to the Quarterly Forum for Schooling Improvement (Ministry of Education).

Timperley, Helen, Shulruf, Boaz (2006). Starpath seminar to the Faculty of Education.

Ministerial meetings and visits with Starpath

Ms Frances Blyth, Investment Manager for Universities, TEC, Thursday 5 June 2008.

Mr Kim Ulberg, Investment Manager for Wānanga, TEC, Thursday 22 May 2008.

Ms Julie Keenan, Private Secretary, Tertiary Education, Thursday 28 Feb 2008.

Dr Pita Sharples, Co-Leader, Māori Party, Monday 12 November 2007.

Mr Rob McIntosh, Deputy Secretary, and Dr Andrea Schollmann, Tertiary Group Manager, Ministry of Education, Friday 19 October 2007.

Hon. Tau Henare, National Party MP, Friday 29 June 2007.

Ms Katherine Rich, Previous Spokesperson for Education, National Party, Friday 16 March 2007.

Mr John Key, Leader, National Party, Wednesday 7 March 2007.





Starpath

A University of Auckland Partnership for Excellence

Contact

Starpath Project

The University of Auckland

Epsom Campus, Faculty of Education

Private Bag 92019, Auckland 1142

starpath@auckland.ac.nz

www.starpath.auckland.ac.nz