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First-year student achievement, attendance, and demography at NorthTec's Bachelor of Applied Social Work Programme: A quantitative inquiry

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Abstract

This paper reports on a quantitative inquiry into student achievement, attendance and demography and their correlations in the first year of an undergraduate social work degree at NorthTec, Whangārei, New Zealand. Data on student achievement, attendance and demography across year one papers from 2016 to 2019 were used for trend and correlation analysis to address the research aim. The study found correlations between attendance and achievement are significant and consistent while correlations between demographic factors and achievement are not. The research supports existing literature documenting the relationship between attendance and achievement. It calls for changes in programme delivery, particularly attendance requirements and student support, at NorthTec to engage students better in the programme.

Introduction

Academic achievement is the attainment of knowledge and skills set by the educational institution to its students (Tian & Sun, 2018; Wallace, 2015) and is measured mainly by grades and scores to assessments (Tian & Sun, 2018), course completion and graduation (Wikaire et al., 2017). Academic achievement forms the main tenet for the claims of societal relevance of the tertiary sector, including quality of learning and instruction, research and

development, democracy, economic development and social mobility (Pinheiro et al., 2015). Academic achievement enhances the wellbeing of individuals, communities and society, as students and graduates acquire competence and use this capital for income generation, career development, and assurance of good health and other benefits (Schneider & Preckel, 2017). Students and graduates develop conscience, critical transformation and actions to deal with oppression, liberate themselves and their communities, and help to solve community problems (Freire, 1970; Mapolisa, 2012).

Student academic achievement depends on a variety of factors, of which attendance and demography are essential (Çiftçi & Cin, 2017; Roch & Kieszczynka, 2010; Mahoney, 2015; Schneider & Preckel, 2017; Trussel & Burke-Smalley, 2018). Attendance positively correlates with achievement because with attendance, students can benefit from engaging and effective face-to-face instruction and learning, and the support from the learning community of other students and teachers (Credé, et al., 2010; Schneider & Preckel, 2017). Attendance and achievement are linked to demographic factors such as gender, ethnicity and socioeconomic status (Çiftçi & Cin, 2017; Trussel & Burke-Smalley, 2018) given the disparities in terms of learning resources, commitment and expectations among these groups (Huettl, 2016; Gibbs et al., 2008).

This study of student records in the Bachelor of Applied Social Work programme at NorthTec from 2016 to 2019 explores the linkages among student achievement, attendance and demography for effective programme design and delivery, and associated support. It aims to find answers to the following questions:

1. How have student achievement, attendance and demography correlated?
2. What are the implications of significant correlations, if any, for NorthTec in terms of programme design and delivery, and student support?

This paper first provides an overview of the literature on student attendance, demography and achievement. It then presents the study methods and main findings from data analysis. This is followed by a discussion of the findings and their implications. The conclusion will briefly summarise key points presented and areas that need further inquiry.

Academic attendance, achievement and demographic factors

Academic achievement (also known as academic performance, or academic success) is commonly defined as the attainment of academic goals or learning outcomes, usually in terms of knowledge and skills, which are set by an educational institution to its students (Tian & Sun, 2018; Wallace, 2019). Academic achievement is judged mainly by grades and scores for tests, exams, assignments and other types of assessment events (Tian & Sun, 2018). Grades for individual papers or subjects, or grade point average (GPA),

for example, are often used. There are other measures such as yearly results, completion and graduation (Wikaire et al., 2017).

Attendance has been found "a better predictor of college grades than any other known predictor of academic performance" and strongly correlates with both GPA and class grades (Credé et al., 2010, p. 272). In addition, class attendance has the greatest effect on students' strategies and approaches to learning that contribute to achievement, and Schneider and Preckel (2017) add that attendance frequency has a unique, long-lasting learning outcome.

The effect of class attendance on academic achievement can be explained by many factors that the class environment is able to provide. Firstly, the more students attend class, the more they are exposed to extra materials and content, and the more continual accumulation of knowledge and skills they can achieve; these factors in turn ensure longer-lasting learning effects (Credé et al., 2010). Secondly, teachers' facilitation of discussion and open-ended questions, and their availability and assistance, can encourage and enable students' critical and in-depth learning. Thirdly, stimulating and meaningful learning, assessment with constructive feedback, presentation, use of technology for blended learning and extracurricular training for academic skills or self-motivation can benefit students in different aspects. For instance, these factors help to engage students better and assist them to make connections to their prior knowledge and skills, set clear goals, plans and strategies, and improve learning skills and motivation (Schneider & Preckel, 2017).

Academic attendance and achievement can be influenced by demographic factors (Oldfield et al., 2017; Trussel & Burke-Smalley, 2018). For example, high socioeconomic groups tend to attend and perform better than low socioeconomic ones (Huettl, 2016; Ministry of Education, 2018; Oldfield et al., 2017; Trussel & Burke-Smalley, 2018). Possible underlying reasons for low attendance and performance by students experiencing poverty include limited resources and supports, lower expectations of achievement, the lack of positive role models, and poorer health, among others (Huettl, 2016). Financial issues, in particular, are found to have a direct relationship with these students' absenteeism and their decisions to drop out, as they have to work while studying (Bernardo et al., 2016; Oldfield et al., 2017). Findings of employment impacts on academic performance, however, vary across studies and range from negative to neutral and positive (Baert et al., 2017; Hughes et al., 2017; Tani et al.; Yanbarisova, 2015).

Mainstream ethnic groups tend to perform better than ethnic minorities (Ministry of Education, 2018; Trussel & Burke-Smalley, 2018). Gender has significant correlations with academic success, with women studying better than men in most OEDC countries (Autor et al., 2016). Part of this can be explained by male students' classroom behaviours such as inattention and distraction, which negatively impact learning (Gibbs et al., 2008).

The influence of demographic factors on academic achievement varies across individual programmes or institutions. Hughes et al.'s study (2017), for example, found no correlation between demographic factors and academic performance, while Tani et al. (2019) found gender, age and ethnicity to have no significant correlation with the GPAs in their studied population.

In summary, the literature demonstrates a strong correlation between

attendance and achievement. It also shows gender, ethnicity, socioeconomic and other disparities in academic achievement in higher education to a varying degree. This highlights the need for a detailed analysis of how these factors operate at each of these levels for effective programme design, delivery and student support.

Research methodology

The study was quantitative and explorative. It examined student attendance, demography and achievement in Year 1 papers of the Bachelor of Applied Social Work programme at NorthTec from 2016 to 2019 to identify possible correlations between these areas, and implications for NorthTec. This involved retrieval and secondary analysis of official statistics collected by NorthTec. This process was non-obtrusive and did not involve any direct or indirect interactions with the studied population (Denzin, 1970 as cited in Bryman, 2012). It was also cost and time effective given that data collection was not required (Bryman, 2012). However, the researcher had no control over what and how data were collected (Bryman, 2012). For example, results of the last two papers in 2019 had not been finalised at the time of data retrieval and therefore had to be excluded from the analysis. The grading scale included from 0 to 100, Did Not Complete, Withdraw, Credit Transfer, Recognition of Prior Learning. The non-numeric grades had to be excluded in correlation analysis that involved grades.

Firstly, student enrolment and performance records of the Bachelor of Applied Social Work programme at NorthTec from 2016 to 2019 were retrieved from the student registry services. Student enrolment data included the year of enrolment, ethnicity (first, second and third), age at the commencement of study, previous activity, full-time or part-time study, gender, highest secondary qualification, type of funding, citizenship, disability and home postcode. Student performance data included the papers they enrolled in and their grade (including from 0 to 100, Did Not Complete, Withdraw, Credit Transfer, Recognition of Prior Learning) across provided papers. Student attendance was recorded with the number of absent sessions and attended sessions. This analysis, therefore, used the absent sessions as indications of attendance. To ensure anonymity, all personal, identifiable details such as student name and identification number were excluded. The student identification numbers (ID) were, however, recoded into different numbers to allow an analysis of individual grade per paper per student .

Secondly, all the student data were input into SPSS Statistics v.16.0, followed by a process of data cleaning where errors, missing values and outliers were identified and corrected if possible or excluded. As NorthTec did not collect socioeconomic status data, this measure had to be generated from the postcode details and data of school deciles that were taken from other studies and official statistics. In particular, home postcode was used to identify the geographical areas where the students were residing at the time of their enrolment, using the New Zealand Postal Code Directory. The areas were matched up with their deprivation levels based on the New Zealand

school decile rating. In the case that school deciles varied greatly within a postcode area, the cases were identified as outliers and were excluded in the analysis. Overseas postcode or unidentified postcode area were coded as missing. As a result, part of the population was excluded in the analysis of performance and socioeconomic status. To ease analysis, the socioeconomic status data were grouped into the following socioeconomic categories: low (1–3) (poor), low medium (4–5), high medium (6-7) and well off (8–10).

Using SPSS, explorative statistics analysis was used to discover major demographic trends in the student population. Grade means were compared across demographic groups using means comparison. Cross-tabulation, one-way ANOVA analysis and t-test were conducted to find out if attendance, years, first ethnicity, age at the start of the study, previous activity, full-time or part-time study, gender, highest secondary qualification, type of funding, citizenship, disability and socioeconomic status have significant correlations to grade score.

Findings

STUDENT DEMOGRAPHIC PATTERNS AND TRENDS

There were 119 students enrolled for first-year papers, but with declining numbers between 2016 and 2019. Female students were the absolute majority across the study years (84% to 96.7%) with an average percentage of 88.2%. Students aged 18 to 25 accounted for 36.1% while other older groups had smaller percentages.

TABLE 1. STUDENT AGE GROUP PER YEAR.

Student Age Group\Year	*2016*	*2017*	*2018*	*2019*
18–25	12	11	11	9
25.1–32	7	6	7	6
32.1–40	8	7	5	5
40.1–47	8	4	3	5
47.1–55	1	1	2	0
55.1–65	0	1	0	0

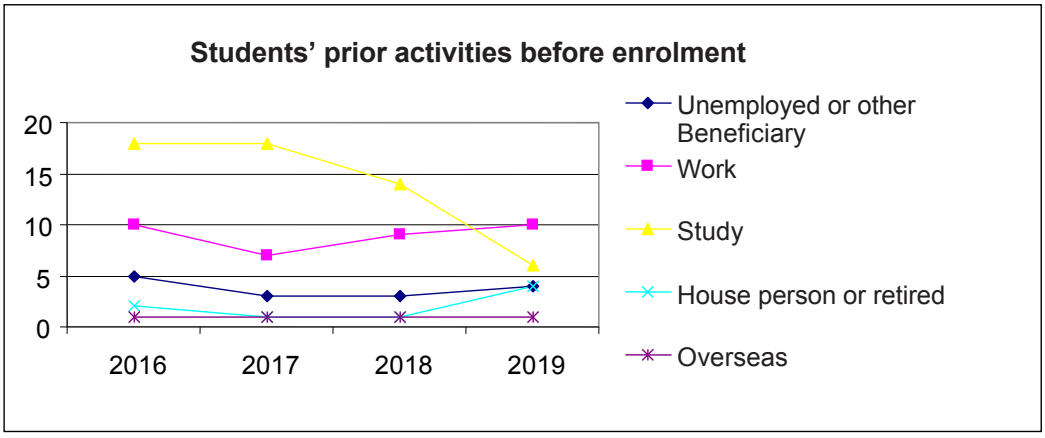
Māori and New Zealand European were majorities in first registered ethnicity, accounting for 39.5% and 46.2% respectively. Minority groups included other European, Asian, African, Pacific and others, totalling 14.3%. Most students were domestic students who received Student Achievement Component (SAC) funding and there was only one student who paid international fees in this period.

TABLE 2. STUDENT ETHNICITY PER YEAR.

Student Ethnicity\Year	*2016*	*2017*	*2018*	*2019*
European	1	0	2	3
New Zealand European	13	19	8	7
New Zealand Māori	19	11	13	12
Other	2	0	1	1
Pacific	1	0	4	2

Students with no formal secondary school qualification accounted for 31.1% of the overall population in the study, but varied between 27.8% and 39.3% across the years with no clear trends shown. The proportion of this type of student was higher among European (33.3%) and New Zealand European (31.9%), and lower among New Zealand Māori (30.9%), Pacific (28.6%) and other ethnic groups (25%). Student age groups 25.1–32 and 32.1–40 also had the highest percentages having no formal secondary qualification, 34.6% and 36% respectively. Before enrolment, most students had either studied (47.1%) or worked (30.3%). Students who were unemployed or on benefits accounted for 12.6% and students who did housework or were retired accounted for 6.7%. Of the total students, 10.9% were enrolled part time and students with identified disabilities accounted for 11.8% of the overall student population in the study.

FIGURE 1. STUDENTS' PRIOR ACTIVITIES BEFORE ENROLMENT.



Among the sample with known socioeconomic area status (69.7% of the overall student population in the study), 83.1% came from poor socioeconomic areas. The proportions of this type of student were higher among Pacific and Māori groups (83.3% and 86.9% respectively).

TABLE 3. NUMBER OF STUDENTS BY SOCIOECONOMIC AREA STATUS PER YEAR.

Socioeco Areas\Year	2016	2017	2018	2019
Low socioeconomic areas	23	17	18	11
Low medium socioeconomic areas	2	0	3	1
High medium socioeconomic areas	1	5	0	1
Well-off socioeconomic areas	0	0	0	1
Unknown	10	8	7	11

ACADEMIC PROGRAMME AND ACHIEVEMENTS

The Bachelor of Applied Social Work is a four-year, 480-credit degree programme. There are eight papers, 15 credits each, in Year 1: Indigenous Voices, Aoteoroa New Zealand Society, Social Work Theoretical Framework, Te Ao Māori, Professional Social Work Practice, Social Work Practice Skills, Academic and Digital Literacy, and Human Development and Social Work. Grading patterns varied across the papers, with the percentage of students whose overall mark was under 50% varying between 2.6% in Te Ao Māori and 22.2% in Academic and Digital Literacy, while that of students whose mark was 75% and above was between 29.6% in Academic and Digital Literacy and 92.3% in Te Ao Māori. Table 4 below presents the percentages of grade groups per paper.

TABLE 4. PERCENTAGE OF STUDENTS WITH GRADE BELOW 50% AND GRADE FROM 75% AND ABOVE.

Paper\Grade group	*Below 50%*	*75% and above*
Indigenous Voices	19.3%	33.6%
Aotearoa New Zealand Society	15.0%	24.3%
Social Work Theoretical Framework	15.1%	36.6%
Te Ao Māori	3.0%	94.0%
Professional Social Work Practice	5.3%	69.7%
Social Work Practice Skills	2.7%	51.4%
Academic and Digital Literacy	22.2%	29.6%
Human Development and Social Work	13.3%	40.0%

MEANS COMPARISON

Analysis results show that groups of students being unemployed or receiving benefits, being Māori, without formal secondary school qualification, or being from low socioeconomic areas had lower grade means than the overall student population in this study, across most of the papers. The differences are mostly minor, i.e., below five points per 100 points. The group of students who were unemployed or received state benefits before enrolment, however, had grade means between five and 18 points lower than the overall population in the study in all but Social Work Practice Skills. Other exceptions were the groups of students having no formal secondary qualification, in Indigenous Voices, Aotearoa New Zealand Society, Te Ao Māori and Social Work Practice Skills; the group of students from low socioeconomic areas, in Te Ao Māori; and Māori students in Te Ao Māori. All of these had slightly higher grade means than the overall population in the study, i.e., below three points higher.

TABLE 5. GRADE MEANS ACROSS SELECTED SUB-GROUPS OF THE STUDY POPULATION PER FIRST-YEAR PAPER.

Paper		Unempl/on benefit	Māori	No second. school qual.	Low socioec	Total
Academic and Digital Literacy	Mean	45.4286	56.8571	57.9722	58.3385	58.5926
	N (student)	14	49	36	65	108
	Std. Deviation	31.43422	25.02082	23.70713	22.78450	24.54218
Human Development and Social Work	Mean	55.7778	62.7907	65.7500	66.0000	68.6444
	N (student)	9	43	32	56	90
	Std. Deviation	18.51201	20.48874	17.13702	19.53365	18.37580
Indigenous Voices	Mean	53.2857	63.7347	66.4286	64.1515	64.3364
	N (student)	14	49	35	66	107
	Std. Deviation	28.73333	22.40050	15.83794	18.45930	20.77142
Aotearoa New Zealand Society	Mean	48.9286	62.1200	63.7778	62.5758	62.4766
	N (student)	14	50	36	66	107
	Std. Deviation	23.40107	18.99478	14.74761	16.42799	18.67768
Social Work Theoretical Framework	Mean	47.9000	61.0000	65.7576	65.7895	66.5054
	N (student)	10	44	33	57	93
	Std. Deviation	27.97002	26.73209	24.82568	23.83705	23.10074

Te Ao Māori	Mean	78.9167	92.9048	90.6471	92.8070	90.5800
	N (student)	12	42	34	57	100
	Std. Deviation	28.85531	9.34908	18.12395	14.22452	17.89768
Professional Social Work Practice	Mean	69.3333	74.4118	74.0741	75.4468	76.6184
	N (student)	6	34	27	47	76
	Std. Deviation	9.52190	18.28912	17.56072	16.56845	17.07784
Social Work Practice Skills	Mean	76.8333	76.2188	75.1481	74.0652	73.0541
	N (student)	6	32	27	46	74
	Std. Deviation	11.95687	18.06393	18.78155	17.35691	17.72228

CROSS TABULATION

Analysis results show that the number of absence sessions significantly and negatively correlates with grades across all papers except Professional Social Work Practice and Social Work Practice Skills. The correlations are weak to moderate with Pearson's correlation (r) between -.257 and -.413 in most of the papers, except for Aotearoa New Zealand Society and Te Ao Māori where r is respectively -.567 and -.764, which are moderate to strong, as shown in Table 6 below.

TABLE 6. PEARSON'S CORRELATION (r) AND SIGNIFICANCE BETWEEN ATTENDANCE AND GRADE ACROSS YEAR 1 BASW PAPERS.

Paper	*N*	*Pearson's r*	*Approx. Sig.*
Academic and Digital Literacy	108	-.299	.002[c]
Human Development and Social Work	90	-.413	.000[c]
Indigenous Voices	107	-.369	.000[c]
Aotearoa New Zealand Society	107	-.567	.000[c]
Social Work Theoretical Framework	93	-.257	.013[c]
Te Ao Māori	100	-.764	.000[c]
Professional Social Work Practice	76	-.091	.436[c]
Social Work Practice Skills	74	.057	.629[c]

[c]. Based on normal approximation.

Other demographic factors that have significant correlations with achievement are age in Te Ao Māori; full-time or part-time study in Academic and Digital Literacy; and having a disability or not in Human Development and Social Work and Professional Social Work Practice. The correlations observed are weak, with the Pearson's correlation (r) between -.230 and .204. No significant correlation was found between gender and achievement across the eight papers.

TABLE 7. PEARSON CORRELATION (r) AND SIGNIFICANCE BETWEEN GRADE AND AGE, FULL-TIME OR PART-TIME STUDY AND HAVING A DISABILITY OR NOT, ACROSS YEAR 1 BASW PAPERS.

Paper	*Independent variable*	*N*	*Pearson's r*	*Approx. Sig.*
Academic and Digital Literacy	Full-time/part-time study	108	.204	.034[c]
Human Development and Social Work	Disability or not	90	-.230	.029[c]
Te Ao Māori	Age	100	.227	.023[c]
Professional Social Work Practice	Disability or not	76	-.229	.046[c]

[c]. Based on normal approximation.

ONE-WAY ANOVA ANALYSIS/T-TEST

Results of one-way ANOVA analysis/t-test show that differences in grade means among groups of students by previous activities, prior highest qualifications, or ethnicity are not significant in most papers. Factors having significant correlations with achievement include previous activities and ethnicity in Social Work Theoretical Framework, prior qualifications in Indigenous Voices, and ethnicity in Human Development and Social Work.

There were significant differences in grade means across years of study for Indigenous Voices, Aotearoa New Zealand Society, Social Work Theoretical Framework and Social Work Practice Skills. The differences demonstrate similar trends, with grade means increasing between 2016 and 2018 and decreasing in 2019 in Indigenous Voices, Aotearoa New Zealand Society and Social Work Practice Skills. For Social Work Theoretical Framework, grade means decreased in 2017 and 2019 compared to 2016 and 2018 respectively. Tables 8 and 9 below present these results in detail.

TABLE 8. GRADE MEANS BY YEAR IN INDIGENOUS VOICES, AOTEAROA NEW ZEALAND SOCIETY, SOCIAL WORK THEORETICAL FRAMEWORK AND SOCIAL WORK PRACTICE SKILLS.

Paper	*Year*	*N*	*Mean*	*Std. Deviation*
Indigenous Voices	2016	31	56.6129	21.02170
	2017	31	64.7742	17.17500
	2018	28	74.3214	20.32159
	2019	17	61.1765	21.88103
Aotearoa New Zealand Society	2016	32	52.5938	19.02436
	2017	31	62.8710	14.43085
	2018	27	74.3704	16.15109
	2019	17	61.4706	18.97735
Social Work Theoretical Framework	2016	28	68.2143	17.72915
	2017	28	62.5714	19.69852
	2018	23	80.8696	24.30171
	2019	14	47.3571	22.77856
Social Work Practice Skills	2016	24	67.7500	12.38600
	2017	27	70.8148	24.28047
	2018	23	81.2174	8.86236

TABLE 9. ONE-WAY ANOVA ANALYSIS/T-TEST FOR SIGNIFICANT MEAN DIFFERENCES OF GRADES.

Paper	*Independent variables*	*F/t*	*p-value*
Human Development and Social Work	Ethnicity	F(4, 85)=2.719	.035
Indigenous Voices	Prior qualifications Year of study	F(7, 99)=2.217 F(3, 103)=4.042	.039 .009
Aotearoa New Zealand Society	Year of study	F(3, 103)=7.970	.000
Social Work Theoretical Framework	Previous activities Ethnicity (Māori & NZ European) Year of study	F(7, 85)=3.293 t(72.724)= -2.291 F(3, 89)=7.967	.004 .025 .000
Social Work Practice Skills	Year of study	F(2, 71)=4.041	.022

Discussion

The significant correlation between attendance and academic achievement in six out of eight Year 1 papers in the NorthTec Bachelor of Applied Social Work programme between 2016 and 2019 supports the literature on this relationship. The insignificant correlations among demographic factors and academic achievement in most of the papers confirm the identified varying disparities among demographic student groups in higher education. The yearly variation in grades could be due to different student cohorts and the complexity in the process of marking and assessment (Ylonen et al., 2018), which is beyond the scope of this discussion.

NorthTec has a mission to develop Northland and its people through tertiary education, is committed to guaranteeing achievement and success for all, and claims that NorthTec graduates possess the skills and knowledge for the economy (NorthTec, n.d.; NorthTec, 2018). Attendance issues, however, pose major challenges to these goals and necessitate actions.

Attendance and achievement depend not only on the academic environment, in which teachers play an essential role, but also on the students and their socioeconomic settings that dictate their resources, commitment, and expectations to study and achievement (Credé et al., 2010; Huettl, 2016; Gibbs et al., 2008; Schneider & Preckel, 2017). Interventions, therefore, should target not only the students themselves but also the higher-education organisation and the environment surrounding it.

Institutionally, the literature suggests a range of interventions. Attendance expectation is an effective measure (Schneider & Preckel, 2017; Subramaniam et al., 2013). Currently, attendance in the Bachelor of Applied Social Work programme at NorthTec is not compulsory, which leaves much leeway for students to be absent from lecture and tutorial sessions. Making attendance compulsory would potentially improve the attendance records of these students.

Incentives to motivate students to attend class and improve their learning outcomes have been offered at institutional level, and include recognition, prizes and rewards, and extra-curricular activities, with minimal evidence of effectiveness. To use incentives effectively, a systematic approach is proposed with four steps, including identifying the underlying causes for absenteeism; choosing suitable types of incentives for behaviour changes; implementation planning; evaluation and revision (Balu & Ehrlich, 2017). NorthTec could consider further inquiries into students' reasons for poor attendance. Based on the findings of these inquiries, suitable incentives could be devised to encourage students' attendance, along with appropriate strategies for implementation and evaluation.

Another set of effective measures involves student-centred pedagogical strategies that promote the students' agency and abilities as learners to shape their learning pathways in co-operation with the education institutions; that is, the students contribute to the creation, design and regulation of their programme and papers, and the overall organisational policies and strategies (Kelly et al., 2017; Klemenčič, 2017). The literature on community participation suggests that motivation, capacities and accountabilities are required to ensure effective participation (Marston et al., 2016), and this necessitates

actions such as recruitment of motivated student representatives, provision of training on required skills and knowledge for individual and group participation in higher education, clear designation of responsibilities for participants and responsiveness to student inputs. NorthTec regularly collects students' opinions and feedback via surveys and consultation meetings, and uses them as inputs to paper, programme, policy and strategy development. A review of current student participation practices in terms of selection, training and accountabilities, to identify areas for improvement and robust measures if necessary, would benefit NorthTec in this aspect.

Tutors engaging and facilitating instructional strategies, such as encouraging students to attend class frequently, ask questions and engage in discussion, have been found to improve students' participation in everyday class contacts (see more details in Schneider & Preckel, 2017). NorthTec could, therefore, provide regular training to teaching staff on effective instructional strategies and skills, and encourage and support their application in course delivery.

Students' study strategies are identified as the key leverage for achievement compared to their personality or demography (Schneider & Preckel, 2017). NorthTec has currently adopted a case-management model, in which students of high needs and high risks are identified and tracked, and support is offered if needed. The institution has also run academic skills workshops as needed, in terms of content and time, for student groups (H. Bruce-Iri, personal communication, July 29, 2020). NorthTec could consider enhancing this support and its access using online platforms, for example recording lectures and workshops on effective learning strategies and time and resource management, making them available on the NorthTec website, and including these contents in student orientation.

Tailored services for disadvantaged student groups, such as language support, extra tutorial and supervision, and peer support platforms, are pro-success (Zorlu, 2013). Successful Māori and Pacific students, for example, found a friendly, enabling learning environment in their ethnic-specific equity programmes (Mayeda et al., 2014). Besides in-campus services, outreach support for students and families, such as enrolment, finance and transition support, is important (Trussel & Burke-Smalley, 2018), as this helps to ensure that students are well resourced for success (Hughes et al., 2017). Promotion of academic excellence by and with families and communities of students could help raise expectations and create a pro-learning environment for students in their communities (Mayeda et al., 2014; Whaley & Noël, 2012). Positive problem and conflict resolution, and involvement of families and communities, are required to deal with potential conflicts and problems that could hinder study (McMahon et al., 2011). NorthTec has recorded success with whānau engagement in certain programmes, such as nursing. For example, pōwhiri and whānau days are organised to engage, educate and encourage support from whānau as students start their study. When students complete their study and graduate, whakawātea are organised with whānau to acknowledge their efforts and contributions (H. Bruce-Iri, personal communication, July 29, 2020). The BASW programme holds regular Local Advisory Committee meetings with key stakeholders such as local experts and agencies, to engage with and seek support and contribution from them for

programme development. NorthTec could consider enhancing and replicating such activities for other programmes.

In summary, the above discussion suggests actions that could be implemented to promote academic achievement of students at NorthTec's Bachelor of Applied Social Work programme in particular, and the overall institution in general. These are:

1. Raising attendance expectation, possibility by making attendance compulsory, or providing incentives using a systematic approach that starts with further inquiries into students' reasons for poor attendance, developing suitable incentives along with appropriate strategies for implementation and evaluation.
2. Improving student participation in and contribution to NorthTec's development via a review of current student participation practices to identify areas for improvement and robust measures for application if necessary.
3. Training teaching staff on effective instructional strategies and skills, and encouraging and supporting their application in course delivery.
4. Supporting students to improve their study strategies, particularly for better attendance, effective learning, and time and resource management for learning.
5. Enhancing and improving both in-campus and outreach support for students and families.
6. Improving work with families and communities to encourage their involvement, and promote academic excellence, study support, and positive problem and conflict solutions.

Conclusion

This study of student records in the Bachelor of Applied Social Work programme at NorthTec from 2016 to 2019 confirms the significantly positive correlation between student achievement and attendance, and the varying influence of demographic factors on student achievement. It also looks at possible effective interventions at the institutional, student, family and community levels that the literature suggests could improve attendance and promote student achievement. It is recommended that NorthTec implement, evaluate and revise these interventions, if needed, for effective programme design and delivery, and associated support.

Ongoing monitoring of success factors for further analysis is recommended, given the varying influence of demographic factors on student achievement, and possible changes in the related areas and the yearly variation of grades. This monitoring would provide evidence for timely interventions to support students and their achievement.

This study has been conducted using secondary, official data without any student participation. In the future it would be beneficial to engage students, given the opportunities for them to understand factors that influence their academic achievement and take actions to improve their learning outcomes, as part of NorthTec's intervention strategies. This could start with informing students of the study findings via consultation meetings and/or institutional surveys, and collecting their feedback in terms of the relationship between attendance, achievement and other influencing factors. Next, students could be assisted to identify and prioritise possible actions, resources and support to improve attendance and achievement. Based on this, an action plan to implement, monitor and evaluate the actions could be developed, agreed upon and followed up. Training and support would be provided throughout this process so that the students were sufficiently equipped with relevant skills and knowledge, and were well motivated and willing to effectively participate and contribute to the process.

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