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COMBINING QUANTITATIVE AND QUALITATIVE DATA
IN A STUDY OF PROGRESS THROUGH HIGH SCHOOL

John Ainley (ACER) and Michael Sheret (Macquarie University)

The present paper makes use of both qualitative and quantitative data in a study of the progress of students through the senior years of high school. In using complementary sources of data the approach was essentially pragmatic and issue focused. A relatively small sample of schools was studied over an extended period of time, four years, with the intention of exploring the school factors which contributed to student progress. Analyses based on the two types of data were intertwined throughout the study. A simple distinction might be that quantitative data would provide the basis for identifying the extent of the influence of school factors and qualitative data would help to understand the ways in which those factors influenced student progress. In practice the interactions were more complex.

Much debate about quantitative and qualitative approaches to social research has a partisan tenor. Adherents strongly proclaim the virtues of their chosen methodology. Yet, amid this climate of dispute, there are calls to end the "paradigm wars" so that a richer discourse about educational issues can be informed by the interplay of studies based on different approaches (Gage 1989). Other writers go even further in arguing that there are often benefits in combining both quantitative and qualitative approaches in the one study (Seiber, 1973). One writer, (Bryman, 1988: 127-156) identified and elaborated a number of different ways in which these approaches can be, and have been combined and suggests that "when qualitative and quantitative research are jointly pursued much more complete accounts of social reality can ensue."

Arguments in support of combining qualitative and quantitative research need not necessarily diminish the importance of differences. It is evident that conflict among advocates of these approaches has existed for a considerable time (Rizo, 1991). Bryman (1988: 93-126) argues that the differences between the approaches can be categorized as based on "technical" or "epistemological" grounds. Among those for whom the differences are "technical", and based on methods of investigation, there should be "few impediments to the possibility of a research strategy which integrates them." If the differences are seen as "epistemological", and represent "views about the way in which social reality ought to be studied", then combining approaches might not be so feasible. Bryman argues that a study of the methods used in a range of

research studies suggests that any supposed link between epistemology and method is not necessarily clear in practice. Such a conclusion supports the view of Reichardt and Cook (1979) that it is an exaggeration to see qualitative and quantitative "method-types" as paradigms.

BACKGROUND

The past decade has seen a dramatic increase in the percentage of young people remaining to the final year of secondary school in Australia. At the beginning of the 1980s the percentage of each cohort who completed a full secondary education was low relative to many comparable countries and in 1981 only 35 per cent of each cohort reached Year 12. That is no longer the situation with secondary school completion rates for Australia now approaching those of North America (Rumberger, 1987). In

1991 the Year 12 retention rate for Australia was 71 per cent (Australian Bureau of Statistics, 1992). In this context high schools in Australia are increasingly expected to be effective both in retaining students to Year 12 and in promoting achievement during the senior secondary years.

Within a general pattern of increased retention, there remain differences in retention rates among schools and among education systems. These variations provoke considerable interest as to why some schools hold more of their students to the senior secondary years than others. It is widely acknowledged that completion of secondary school is associated with various aspects of social background (Rumberger, 1983; Coombs & Cooley, 1986; Ainley & McKenzie, 1991). In addition there is evidence from several countries that differences in school completion rates may also be a result of differences in school policy and practice (King, Warren & Coles, 1980; Ainley, Batten & Miller, 1984a; Wehlage & Rutter, 1986; Lawton & Leithwood, 1988; Bryk & Thum, 1989; Ainley, Foreman & Sheret, 1992; Fitzpatrick & Yoels, 1992).

In studies of school holding power there are conflicting views regarding which school factors best encourage students to remain at school. Some studies suggest that stronger holding power is fostered by factors similar to those which are linked to student achievement; strong academic emphasis, coherent program, limited choice of studies (Lawton & Leithwood, 1988; Bryk & Thum, 1989). Other studies suggest that the presence of innovative programs, which address the needs of potential dropouts, is associated with greater holding power (Ainley Batten & Miller, 1984b; Wehlage & Rutter, 1986; Batten, 1989). It seems likely that different conclusions arise because of contextual differences between education systems, namely whether staying on or dropping out is the most common pattern whether or not scope exists for offering alternative programs with academic status.

Deliberations about whether the factors which contribute to holding power are similar to or different from those which contribute to student learning are also present in the debate about whether schools can be simultaneously effective in promoting both achievement and holding power; a debate on the motion "more means worse". On the basis of the proposition advanced by Finn (1989) building positive attitudes to school through participation and identification ought to have benefits for both holding power and student learning.

COMPLEMENTARY DATA SOURCES

The data for the present paper were gathered from a representative sample of 22 non-selective government high schools in New South Wales. The study was longitudinal with a cohort of Year 9 students first surveyed in 1987 being followed each year through to Year 12 in 1990. Post-school destination information were gathered in 1991 from those young people who completed high school and in other years from those who did not complete Year 12.

Data were of two kinds: quantitative and qualitative. Quantitative data were gathered by means of surveys of students and from project administered tests. In addition the project had confidential and defined access to student test data from official sources. Qualitative data were gathered from interviews and observation in the 22 schools over a period of four years. This was done within the framework of multisite qualitative suggested by Herriott and Firestone (1983). Semi-structured interviews were conducted with student groups and with key members of staff. Direct observation of the schools in action was another useful technique through the project gathered qualitative data. School level qualitative data of this kind are particularly useful in explaining some of the differences among schools which were revealed through the analyses of quantitative data. A full description of the

study, its methodology and results, is reported elsewhere (Ainley & Sheret, 1992).

SCHOOL HOLDING POWER

The term "holding power" is used to refer to the underlying propensity of students at a school to remain to the postcompulsory years. It is distinguished from specific measures commonly used as indicators of holding power. Apparent retention rates are the most commonly used index for examining the holding power of schools. Those rates refer to the ratio of enrolment levels in one Year level to those in a corresponding Year level from an earlier time (eg. Year 12 in 1990 to Year 10 in 1988). However, being based on gross enrolment levels, those

rates may be confounded by the transfers and influenced by the social environment of the school. A richer understanding of holding power can be obtained from internal progression rates and progression rates which have been adjusted by statistically controlling for the influence of various student background characteristics and the outcomes of earlier schooling. These indicators of holding power can reveal interesting patterns among schools; patterns which remain hidden if only apparent retention rates are used.

Internal Progression Rates

Internal progression rates refer to the percentage of students from within a school who continue to Year 12, or Year 11, in the same school. Even though these do not include students who transfer from that school to another school, they provide a better estimate of school holding power than the apparent retention rates. In the New South Wales study there was a good correspondence between the internal progression rates calculated from our data and the apparent progression rates calculated from official data; the correlation coefficients being 0.84 and 0.90 from Year 10 to Years 11 and 12 respectively.

Despite a general correspondence between apparent and internal progression rates there was evidence in our study of the influence of transfers in particular schools. One school had an apparent progression rate some 30 percentage points above average but an internal rate which was only 15 points above average. This discrepancy was consistent with other information indicating a large number of transfers into Year 11, by students from overseas, to this long-established suburban school with a strong science and technology orientation. Another school which had an apparent progression rate to Year 11 substantially higher than its internal progression rate offered specialist programs and attracted transfers to those programs.

Adjusted Progression Rates

Adjusted progression rates indicate what those internal progression rates would be if the schools were alike in various characteristics of their student populations. Adjustments are made for social background and for mediating factors such as earlier school achievement. Such data allow an examination of whether school membership (ie. which school is attended) contributes to staying at school to Year 11, or Year 12, beyond what would be predicted on the basis of the characteristics of its students. These data can be derived from the results of regression analyses in which progression rate is the dependent variable and school membership (represented as a set of dummy variables) is included as a predictor along with variables capturing student background and the outcomes of earlier schooling (Ainley, Foreman & Sheret, 1992). In this paper the regression coefficients for each dummy variable are converted

to deviations from the grand mean using a method described in Andrews, Morgan, Sonquist and Klem (1973, 45-47). In this way the extent to

which the progression rate for an individual school deviates from the mean progression rate for the sample can be derived, after adjusting for the effect of other independent variables in the regression equation. It should be noted that school regression coefficients are subject to large standard errors; consequently this paper concentrates on schools where substantial school effects occur.

Our analyses focus on two transitions; the progression from Year 10 to Year 11, and the progression from Year 10 to Year 12. The transition from Year 10 to Year 11 is the key transition point between the compulsory and postcompulsory years of schooling in New South Wales. However, Year 12 is the final year of secondary school and it is important to give attention to factors associated with attaining that level.

STAYING TO YEAR 11

Data relevant to a consideration of the holding power of some selected schools to Year 11 are shown in Table 1. Those data are expressed as deviations of progression rates from the overall mean, where progression rates are expressed as percentages. A positive value indicates a higher, and a negative value indicates a lower, than average progression rate. An examination of the pattern of these data indicates the ways in which schools differ in their holding power.

Student Background

Information regarding the propensity of students to remain to Year 11 illustrates the need to allow for student background. The role of background factors is evident in the contrasting patterns of two sample schools. At first glance one of these schools (School E) had a below average internal progression rate to Year 11 but when allowance is made for the characteristics of its students that rate is what would be expected for the school. It is a country school where the students are of relatively low socioeconomic background and very few students are of non-English speaking background, factors which generally mitigate against a high progression rate. Another school (School T) appeared to have a higher than average progression rate to Year 11 but when allowance is made for the characteristics of its student population it emerges that its holding power is only what would be expected. It is an inner urban school with a high percentage of students from non-English-speaking backgrounds. In other words, the holding power of each of these schools was about what would be expected from its student population.

Substantial variations exist from school to school in progression rates from Year 10 to Year 11 even after allowing for transfers external to the school and for the background characteristics of students. Between extreme schools the adjusted difference represents a progression rate of 25 percentage points.

High Retention Schools: Year 11

School P and School M stood out as retaining more students than would be expected on the basis of the background characteristics their student populations. In each of these two schools the adjusted progression rate was more than 10 percentage points above the grand mean.

School P. School P had a progression rate substantially higher than expected on the basis of its social context. Its progression rate remained at this higher than expected level after allowance for the earlier school achievement. It can be inferred that this school did something which encouraged retention, other than having high achievement

in Years 9 and 10. Two interesting features of School P were regarded by staff as keys to understanding its unusually high progression rate. One was the provision of innovative programs to address the different needs of students in Years 11 and 12. This included an alternative (or "non-academic") senior school program which was time-tabled separately, involved a coherent curriculum, included large amounts of work experience, and was geared towards providing employment skills. It was not regarded by the school as a fringe program but one which was important to its mission. The other was its "staying on" program that targeted students in Years 9 and 10 to make them aware of their post-Year 10 options in technical and vocational training institutions, in work and at school. It can be noted that another school (School F) which also had a higher than expected progression rate to Year 11, had some similarities to School P in that it provided alternatives to the traditional senior school program (especially in the area of commercial and computer studies) within an orderly supportive environment. As a single sex metropolitan school, School F operated in a different social context to School P, which was a coeducational school in a large country town, but the impact of these types of program was similar.

School M. Even though School M retained more students to Year 11 than would have been expected from its social composition, when allowance was made for earlier school achievement in conjunction with student background its adjusted progression rate was only slightly higher than average. School M was notable for the high achievement levels, and the comparatively unfavourable views of school of its students, in Years 9 and 10. It appeared that School M enjoyed high holding power because of its high levels of earlier student achievement. School staff indicated

that, while innovative courses were accepted, the school concentrated on a stable, traditional, academic curriculum. Curriculum decisions were seen to be driven by student and community demands, which put emphasis on university entrance. Many years ago the school had been a selective school and the Principal considered that the community still thought of the school in those terms.

The two schools with better than expected holding power had achieved this in different ways. In one case the influence could be attributed to the high achievement levels of its students in the middle secondary years. In the other case the key to holding power seemed to be an alternative to the regular academic program; an alternative which was coherent and integrated in itself and strongly supported by the school.

Low Retention Schools: Year 11

School D and School U were the two schools for which progression rates from Year 10 to Year 11 were furthest below the value that would have been expected on the basis of the background of their students. In considering those two schools in detail an interesting patchwork of influences emerges.

School D. The internal progression rate for School D was well below the overall mean. It had a very low progression rate in relation to the background of its students and when allowance was made for all background and earlier school achievement it stood out as having the lowest holding power in the sample. It was a single-sex high school in a suburban location but its low holding power is not necessarily attributable to its single-sex status. Another suburban single-sex high school (the same sex composition as School D) showed a higher than average, and higher than expected, progression rate. The distinctive features of School D were the students' attitudes to school and their aspirations for continued education. When they were in Year 9, during 1987, these students recorded very low scores on the school life questionnaire. A similar result was found among the Year 10 students of 1987 which suggests that the result was not confined to one cohort. School D students were especially low on the attitude scale designated

as "achievement" which referred to feeling successful in their school work. A lower than average percentage of Year 9 students planned to continue with school. In interviews conducted during Year 10, students from School D commented on what they saw as a restricted curriculum and the rigidity of school rules.

School U. School U had the lowest internal progression rate of the sample. Statistical adjustment for student background characteristics reduced the margin considerably. Additional adjustment for earlier school achievement showed that the progression rate in school U was

about what would be expected for its social composition and levels of school achievement in Years 9 and 10. It had the lowest levels of achievement in Years 9 and 10 of all the schools in the study. Attitudes to school were about average. School U was an outer suburban co-educational high school in a poor socioeconomic area but with fewer than average students of non-English-speaking background. A high percentage (60 per cent) of the students came from single parent families; many were on welfare. Students reported lower than average levels of parental expectations that they would continue their education after leaving school. The physical resources at School U were not good and there was a high turnover of staff with many being in their first year of teaching. Even head teachers tended to be new in that position.

The two schools which had lower holding power than expected each had problems identified in the lower secondary years. In one case the problem seemed to be low levels of achievement which appeared to be partly linked to various aspects of school organisation in its recent past. Any solution to its low holding power would need to involve attempts to raise the earlier achievement levels of students. In the other school low holding power appeared to be linked to unfavourable attitudes to school and low aspirations.

STAYING TO YEAR 12

In New South Wales approximately 25 per cent of students who reach Year 11 do not proceed to Year 12, the final year of secondary school. For that reason the pattern observed for Year 11 would not necessarily be expected to be replicated at Year 12. Indeed, for some schools there were differences observed in terms of progression to Year 12 compared to the picture for Year 11. Data relevant to the progression from Year 10 to Year 12 for selected schools are shown in Table 2.

Some schools successfully retain students to Year 11 but not necessarily to Year 12. Schools which stood out at Year 11 had often made an attempt to provide more broadly for their students through a wider range of courses. These do not seem to flow on to Year 12 because there are not such opportunities for more broadly based courses with recognition at that level. Other schools which were well below expectation in the Year 11 data did not have such a large deficit in the Year 12 data. This indicates that students who reached Year 11 in those schools continued to Year 12; these students were fully committed to senior secondary education in spite of the fact that many of their peers had withdrawn before Year 11.

Schools With Higher Than Expected Progression Rates

Several schools in the sample had progression rates to Year 12 which were higher than would have been expected from the social composition of

their student populations. Those schools had often promoted high achievement in the earlier years and encouraged students to believe that completing secondary school was a desirable attainment. This applied as much to a small country school as to traditional high schools in the metropolitan area.

Schools M and R. School M has been discussed in the previous section in terms of its Year 11 pattern. As in that instance the pattern suggests its strong holding power is associated with high levels of achievement in the middle secondary years. A similar picture applies to School R which, like School M, had high levels of achievement in those years. Unlike School M it did not have notably unfavourable student attitudes to school in those earlier years. School R differed from School M in drawing its students from an area of relatively high socioeconomic status. However, it was similar to school M in that staff expected students to achieve high standards and to attain high levels of education.

School K. School K was the school with highest adjusted retention rate and is possibly the most interesting. It was also a school with high levels of achievement and one where students expressed favourable attitudes to school. School K is a small country school but its holding power far exceeds that of other small country schools. Key features contributing to its performance appeared to be its climate and its approach to curriculum and teaching. Staff and students commented on positive features of the school climate including the "students first" philosophy emanating from the principal, the good communication among staff and between staff and the principal, teacher-student rapport, and the high level of support from a homogeneous rural community. The Principal's own view of his role is to "make school work for students" by setting the philosophy and tone of the school, overseeing the curriculum and providing staff support and development. Discipline within the school appeared to be much tighter than in other schools in the sample. The immediate responsibility for discipline had been successfully delegated by the Principal. According to the careers adviser students enjoy the school and many regard it as a centre of social life. That view was corroborated in interviews with a group of students from Year 11 in 1990. All were happy with their decision to return to school and identified the most positive features of the school as its smallness and the interpersonal relationships that developed from knowing people over time. The curriculum was described by staff as traditional with some innovation. The subjects available in the timetable certainly indicated a traditional Curriculum; however, at the beginning of the research project School K had experimented with a highly innovative timetable and subject offerings. Within the traditional course content and organisation there was a stated emphasis on teachers being expected to get students to think about learning processes. These expectations, as expressed in interviews, were consistent with what was observed during

visits to classes in action.

Schools with Lower Than Expected Progression Rates

The common characteristic of the schools with lower than expected progression rates to Year 12, as noted from qualitative observations, was that they were not doing much that was special. They followed what was required of them without providing much interest for students or much sense of being in control of what they did. It could be said that they administered what was required rather than interpreting or even challenging those requirements. Student aspirations tended to be low.

School U was interesting in that it had an apparent, and an internal, progression rate to Year 12 which was well below the overall mean. Adjusting for social background reduced that deficit somewhat. The further adjustment for earlier school achievement showed that, given the low level of achievement its students School U actually held more than would be expected into Year 12. In a preceding section School U was described in some detail. If school U is to hold more students to Year 12, as was the case for holding them to Year 11, the key appears to lie firmly in raising earlier school achievement.

ACHIEVEMENT GROWTH

Schools are fundamentally concerned with learning, however broadly conceived. A consideration of effectiveness among schools has to incorporate some evaluation of the extent to which learning is promoted. Typically learning is assessed through tests of student achievement but it needs to be remembered that data from those tests represent imperfect indications of the extent to which learning has occurred. Moreover any attempt to assess the student learning which takes place as a result of schooling requires measures taken over at least two points in time. Because of the longitudinal nature of the research the present paper is able to incorporate the notion of achievement growth as an indication of student learning.

In senior secondary school, where students study different subjects, it is hard to find an achievement measure which allows a valid comparison of achievement among students. However, almost all Year 12 students in New South Wales sit for public examinations in their Higher School Certificate subjects. Results of these examinations are combined with school assessment data to form an assessment in the subject. Those assessments are closely related to the curriculum followed by students in each of their subjects. Subject assessments are then aggregated, in a way which brings each subject score to a common scale. The resultant aggregated score is expressed as a percentile rank, known as the

Tertiary Entrance Rank.

Measures of achievement growth are more valid reflections of student learning than static measures of achievement, which are strongly governed by prior ability. Achievement growth refers to the extent to which student achievement changes over time; in this study between the middle secondary years and the end of Year 12. The Tertiary Entrance Rank does not, by itself, indicate achievement growth. However it is possible to use it in combination with earlier school achievement to study the extent to which students do better or worse than would be predicted from their earlier school achievement measures. In the present study earlier school achievement had been measured using four achievement tests, covering aspects of mathematics and English, in Years 9 and 10. These test scores were summarized in a composite formed by combining the standardized scores on each test (Ainley & Sheret, 1992).

To obtain a measure of growth in achievement, the Tertiary Entrance Rank was regressed against earlier school achievement. The residuals from this process provide a measure of relative change. A positive residual indicates that the student did better than would have been predicted from earlier test results and a negative residual indicates that the student did worse than would have been predicted. Those residuals can therefore be used as a measure of relative growth in achievement between the middle secondary years and the end of Year 12. Even though earlier school achievement is a strong predictor of final achievement ($r=0.7$), one quarter of the students had aggregate scores 12 or more percentile points higher than predicted and one quarter had scores 14 or more percentile points less than expected. These differences among students in achievement growth are not related to earlier school achievement but to other factors.

Differences Among Schools

There were clearly differences among schools in the end of secondary school overall achievement of their students. Mean tertiary entrance ranks ranged from 27 to 62 with an overall mean of 46. The percentage of variance in unadjusted scores attributable to the between school differences was 11 per cent. This represents an indication of substantial differences among schools, even though there are greater differences within schools than between them.

Inspection of the pattern among the 22 schools shows that many of the differences in average achievement reflect those which existed in earlier school achievement. This is to be expected, given the strong correlation between earlier school achievement and end of school achievement. However, significant differences among schools remain in achievement growth even though those differences are much less marked.

The percentage of variance in achievement growth attributable to the between school differences was just six per cent compared with 11 per cent for the unadjusted tertiary entrance ranks. The inference which can be drawn from these data is that even though most of the differences among schools in achievement derive from earlier achievement levels there remains evidence of school effects on students' learning through the senior secondary years.

At individual student level there is no significant association between achievement growth and gender ($r=.02$) or socioeconomic background ($r=.07$). Positive associations are found with both non-English-speaking background ($r=0.16$) and parental expectations for continued education ($r=0.17$).

It is worth noting that achievement growth, as defined in this paper, has associations with other variables which reflect what happens in school; associations which are absent or different if static achievement alone is used as a criterion. Among students, achievement growth is positively associated with favourable attitudes to certain aspects of school: sense of achievement (feeling successful) subscale ($r=0.29$), teacher-student relations ($r=0.21$), general satisfaction ($r=0.19$), and opportunity (sense of relevance) ($r=0.15$). In other words, promoting a positive view of school life, in those areas more closely related to the learning process, is associated with growth in achievement. In addition, the extent to which students used a deep approach to learning, as measured by an adaptation of the Learning Process Questionnaire (Biggs, 1987), correlated with achievement growth ($r=0.19$).

Students whose choice of subjects revealed some specialisation, either in the sciences or the humanities, had greater achievement growth than those whose choice of subjects was more mixed. An interpretation of this result points to the advantages of a cohesive course of study, where the content of one subject reinforces the content of another and methods of assessment in one subject are similar to those used in a related subject.

Holding Power and Achievement

There is no evidence in these data to support the proposition that retaining a high proportion of students to Year 12 militates against the development of high levels of achievement. In fact for both unadjusted achievement, and for achievement growth, there is a tendency for higher achievement and high progression rates to be associated. The correlation coefficient between the internal progression rate from Year 10 to Year 12 and mean achievement was 0.54. In other words schools with high progression rates to Year 12 tended to have higher mean levels of achievement. The association is illustrated in Figure 1. Of course these measures of effectiveness take no account of the social background or the outcomes of earlier schooling. To examine what schools have

contributed over the senior secondary years it is necessary to consider various adjusted measures.

Figure 2 shows the pattern of association between progression rates adjusted for student background (ie. level 1) and achievement growth. The correlation coefficient of 0.32 between these two measures is a little lower than that between achievement and the unadjusted progression rate. However this measure of association is inflated by the data for School K which has both a high adjusted progression rate and a high mean achievement growth. If School K were removed from the

data the correlation coefficient would be rather lower but still positive.

It can be inferred from these data that achievement growth is not lower in schools which retain more of the students to the end of secondary school (that would be indicated by a negative correlation coefficient). The pattern of association is scattered but, if anything, there is a general tendency for higher achievement growth in those schools which hold more students through to the final year of secondary school. School K displays a picture of high achievement growth and strong holding power and School V shows low achievement growth and low holding power. It was noted in a previous section of the paper that School K had reviewed its curriculum and organisation and emphasised the engagement of students in the learning process. In contrast School V was one of a group of schools which did nothing very special and was content to fulfill requirements rather than seek better ways of doing things. School D recorded relatively high levels of achievement growth at the expense of retaining few students through to the final year of school. It was described in a previous section of the paper as a school where students in the middle secondary years had unfavourable attitudes to school and low aspirations. It appears to be a school which does well for the minority of students who continue to the final year but does little to provide for a wider range of potential students. School E retains a high percentage of its students to the final year but with low levels of achievement growth. In general the degree of association between holding power and achievement growth is such as to warrant caution in accepting the conventional wisdom that a high degree of selection into Years 11 and 12 will promote achievement growth for the students selected into those years.

IN CONCLUSION

The environment of the 1980s has seen an emphasis on the value to young people of completing secondary education. However, progressing from the middle to the senior secondary years is still associated with student background, the outcomes of earlier schooling and school environments. Some schools retain a higher percentage of students to the senior years

than others, even after allowing for differences in the social background of their students. School holding power gives some indication of school effectiveness provided that the sort of statistical adjustments described in this paper are made.

Patterns of school holding power to Year 11 (the first postcompulsory year) in New South Wales suggest that high levels of progression to that stage are associated with one of two paths; a wider curriculum based on alternative programs and high earlier school achievement. Low levels of progression are associated with problems in earlier school years leading to either low achievement levels or unfavourable attitudes to school and low aspirations. These effects appeared to have roots in school policy and practice. Not all schools which successfully retain students to Year 11, hold them to Year 12. The effects of alternative Year 11 programs do not appear to flow on to Year 12 whereas the effects of high levels of achievement, and high levels of aspirations, in the middle secondary years do carry through. Schools with low completion rates appear to be those which aim simply to meet system requirements rather than pursue their own broader and more demanding goals.

There is no evidence in these data that retaining more students to the end of secondary school has deleterious consequences for the extent of achievement growth over the senior secondary years. Indeed, there is a modest positive association between progression to Year 12 and growth in achievement. One of the schools in this sample provides an outstanding example of how both staying at school and learning (as reflected in achievement growth) can be promoted by school practices which nurture engagement in learning and positive attitudes to school. At student

level several of the factors which have an important bearing on achievement growth are similar to those which are associated, in earlier years of schooling, with remaining at school.

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to Year 11 in Selected New South Wales High Schools

School	Progression Rates(a)		Adjusted Progression Rates(a)	
	Apparent(b)	Internal(c)	Level 1(d)	Level 2(e)
A	+30	+15	+9	+8
S	+8	+2	+5	+2
E	-8	-8	-1	+1
T	+8	+6	-3	+1
P	+5	+9	+13	+10
F	+10	+13	+7	+9
M	+13	+13	+11	+3
D	-8	-8	-12	-13
U	-20	-15	-10	+1

Notes

- (a) Expressed as deviations from the grand mean in percentage points.
 (b) The ratio of official Year 11 enrolments for 1989 to Year 10 enrolments for 1988. Year 11 enrolments include transfers to the school.
 (c) The percentage of Year 10 students from the schools in 1988 who were in Year 11 in 1989.
 (d) Level 1 adjustments make statistical allowance for difference in background characteristics of students.
 (e) Level 2 adjustments make statistical allowance for differences in background and achievement as measured in Years 9 and 10.

Table 2 Progression Rates for the Transition from Year 10 to Year 12 in Selected New South Wales High Schools

School	Progression Rates(a)		Adjusted Progression Rates(a)	
	Apparent(b)	Internal(c)	Level 1(d)	Level 2(e)
K	+7	+9	+14	+11
A	+33	+20	+13	+11
M	+15	+16	+13	+3
R	+10	+14	+10	-1
H	-14	-13	-8	-10

J	-13	-7	-9	-10
V	-12	-8	-7	-5
U	-21	-11	-5	+8

Notes

- (a) Expressed as deviations from the grand mean in percentage points.
- (b) The ratio of official Year 11 enrolments for 1989 to Year 10 enrolments for 1988. Year 11 enrolments include transfers to the school.
- (c) The percentage of Year 10 students from the schools in 1988 who were in Year 11 in 1989.
- (d) Level 1 adjustments make statistical allowance for difference in background characteristics of students.

- (e) Level 2 adjustments make statistical allowance for differences in background and achievement as measured in Years 9 and 10.