VOCATIONAL EDUCATION: THE EFFECTS OF EMPLOYMENT PREPARATION PROGRAMS ON SELF-CONCEPT IN LOW ACADEMIC ACHIEVING STUDENTS

Jan Kane and Pamela Warton

Abstract

This study investigated the effects of vocational education curriculum in the two post-compulsory years of schooling on the development of self-concept in low academic achieving students. It focussed on three separate employment preparation programs in place in three different metropolitan schools. Results for low academic achieving students revealed that those in employment preparation programs indicated greater increases in total self-concept over time than those in tertiary preparation programs and demonstrated significantly greater increases over time in levels of self-concept on relevant sub-scales as a function of program type.

Introduction

In the middle to later years of adolescence, students are faced with a number of important decisions related to their future life, not the least of which is concerned with their schooling. In comparison with their parents' generation, current students in New South Wales (NSW) schools are staying in the education system to complete the two post-compulsory years of school in much greater numbers. It could be argued that for low academic achievers especially, this is a crucial period which has a profound influence on their future lives. Unlike those students who continue along the tertiary education pathway and have a number of years of higher education in which to defer or modify their final career decisions, the majority of low academic achievers must make critical decisions related to careers and vocations in the final two years of schooling.
The relationship between the expected outcomes of education in Years K (Kindergarten) to 12 and the required workplace competencies of the employment sector has become a key focus of educational planning and funding driven by the more sophisticated skills required for work and the 'diminishing availability of unskilled work opportunities' (Harris et al. 1995, p.10). Vocational education in post-compulsory secondary schooling has emerged as a vital interface between school and work which affects not only the practical development of employment competencies, but also the development of self-concept and self-confidence related to abilities, talents and attitudes towards work. The research reported in this paper focussed on the links between vocational education and those components of student development related to the self. It investigated the varied experiences and changes which occurred over time in levels of self-concept—i.e. ‘the set of attributes, abilities, attitudes, and values that an individual believes defines who he or she is’ (Berk 2000, p.445)—for low academic achieving students in three employment preparation programs with diverse degrees of vocational focus in New South Wales.

Vocational development and self-concept

The link between vocational development and self-concept was identified in the early work of Tyler (1951) and Super (1951, 1957) who suggested that self-concept is clarified and translated into a vocational focus during adolescence. In more recent times the development of positive self-concept related to vocational potential was explored by Harter (1989) in relation to the formation of a positive future or ideal view of the self which included vocational or occupational success as a key component. This link between vocational development in adolescent years and self-concept was further supported by the work of Damon and Hart (1988, cited by Harter 1989), who suggested that the self is formed in developmental levels and that in middle to late adolescence plans for future life and personal choices are important components of the changing self. The connection between vocational potential and development of the self was also identified by Cienki and Brooks (1989) in their study of United States male and female freshmen and senior high school students who attended either a vocationally
oriented school, college or tertiary-oriented high school. They focussed on one of the key components of self-concept—self-esteem—and found that for students in the vocational education schools, the anticipation of future vocational or occupational success and security was a key component in their more positive self-esteem outcomes.

The frame of reference

The impact of the perceptions of significant others as a frame of reference in relation to self-concept has also emerged as an important factor for both vocational and academic pathways of study. Students who perceive they are highly valued and well-regarded by others will often exhibit high self-esteem as part of their overall self-concept (Harter 1989, 1988, 1987, 1986; Rosenberg 1979). This can be strongly influenced by the ability level of the streamed classes in which they are placed and which are used as a comparison group (Kulik 1985). Indeed, studies by Marsh (1991, 1987) and Marsh and Parker (1984) argued that this influence is very powerful and that students of equal ability will have differing levels of academic self-concept dependent upon the ability levels of the comparison group which forms their frame of reference.

The nature of the frame of reference can vary in form and may relate not only to peer group influences but also to subject choices and programs of study and the value which students place on them. It therefore can have an impact on the link between motivation and self-concept. Students' levels of motivation are not only influenced by their peer group (Kinderman 1993, cited by Urdan & Maehr 1995) but also by their self-concept which Rosenberg (1979) stated can act as a motivational system itself becoming an impetus for action as well as a guide for perception. Skaalvik (1983) suggested that there is a need to maintain and protect self-concept and that individuals achieve this by disassociating themselves from qualities, traits or achievements for which they have a low value. Therefore, it could be argued that if students participate in and achieve success in curriculum which they value as relevant to their future aspirations and which is also valued by their peer group, their self-concept and motivation tends to remain strong. This connection between motivation and self-concept was
highlighted by the Schools Council (1995) as one of many successful initiatives which had been developed through vocational education to equip students for the transition to life beyond schooling.

The frame of reference and the development of self-concept can also be influenced by the impact of the transition from Year 10 into the post-compulsory years. In this period of schooling, many students are involved in different forms of transition, be it to new schools, new programs of study or new social contexts. Students who make the transition to a new school or new social context may experience a decline in self-concept (Marsh et al. 1988). However, those who remain in the same program of study at the same school do not need to confront new situations which could challenge their academic self-concept (Jerusalem 1984; Marsh & Parker 1984).

The school and the learning environment

Two other important aspects of schooling identified as relevant contributors to the development of self-concept are the influence of the school and the learning environment. Dale (1974) established the positive outcomes of the co-educational school setting and this was supported in more recent times by Schneider, Coutts and Starr (1988), who found that co-educational students had 'favourable self-concepts of academic ability' (p.490). In contrast, single-sex school students felt more negatively, not only about high school and its teachers, but also about their own academic competencies.

A key factor in the development of effective learning environments where valued and relevant programs of study are developed is the teaching/learning approach taken. Urdan and Maehr (1995) confirmed the value of co-operative learning practices as a key component in the effects of social goals on academic achievement. The importance of co-operative learning approaches was also identified by Hoffman (1996) who proposed that in many cultures 'the self is relationally constituted' (p.560) and self-concept is not related to uniqueness but rather to harmonious interactions with others. In the Australian context, this notion of harmony in interactive relationships and its link to key components of schooling related to the development of the self was
identified by the Mayer Committee (1992). Listed under the key competence area of personal and interpersonal competence are 'negotiating and team skills; adaptability to change and self-esteem' (p.9). These key interactive and co-operative factors are often found in vocational education programs where students are generally focussed on the attainment of skills, expertise and a sense of achievement rather than on the attainment of a competitive grade. Many programs include extra curricula or elements such as community service and industry-placed learning which promote a more co-operative approach to teaching and learning.

The purpose of this study was therefore to explore all of the above issues related to vocational education by investigating the effects of vocational education curriculum on the development of self-concept in low academic achieving students. It focussed on a comparison of results from students in three separate programs in three different metropolitan schools. The following research questions were considered:

- Do students of low academic abilities who participate in vocational education (employment preparation) programs in post-compulsory secondary schooling demonstrate a difference in improvement in levels of self-concept when compared to those in tertiary preparation programs?
- Do vocational programs which are effective in developing improved levels of self-concept for low academic ability students contain common elements of course design and implementation?

Program descriptions

Three different vocational education programs operating in three separate Catholic schools from the inner city region of Sydney, NSW were selected as the focus for this study. The schools were a single-sex girls' school, a co-educational school and a single-sex boys' school.

The program in the girls' school was a terminating Year 11 employment preparation program of ten months duration operating in a Year 7 to 10 school. It offered an add-on Year 11 Diploma curriculum which had an
employment orientation, with emphasis on office and hospitality skills, complemented by a living skills focus. The student group was comprised of a number of the Year 10 cohort of the host school, plus students from feeder schools across the Sydney metropolitan area.

In the boys' school, an employment preparation program was operating across Years 11 and 12. The program accepted students from the Year 10 cohort of the host school as well as students from feeder schools across the metropolitan area. Curriculum within the program offered course work which was specifically employment focussed and could be combined into specialised packages in the following key employment areas: business, retail and commerce; technology and design; leisure, tourism and hospitality and performing and creative arts. Students completing these packages were able to gain extra accreditation and certificates.

The program in the co-educational school was also a Year 11 and 12 employment preparation program. An important distinction between this program and the single sex school programs was that this school did not accept students from feeder schools into Years 11 and 12. Rather, the student group generally remained within the school from Years 7 to 12. The main orientation of the program curriculum was towards employment and life skills, but a stronger emphasis was placed upon the levels of success achieved by the students rather than the gaining of employment.

**Program design**

Units of study in each program were made up of school-developed Board of Studies Content Endorsed Courses and Board of Studies Developed Courses. Students also had the option to undertake appropriate Joint Secondary Schools TAFE (JSST) courses. Work experience (two periods of one week—different placements) and community service experience (one period of one week) were integral components of the programs in the girls' and co-educational schools but not in the boys' school.

In all programs, the majority of teaching was undertaken by a small team of staff members, the majority of whom had specialised
experience with low achieving students and students with disabilities. Some cross-teaching in the mainstream school was also required of staff.

Assessment

In all three programs, assessment was both internal and external with accreditation being gained from the NSW Board of Studies and technical and further education (TAFE). However, only students in the boys’ school worked towards achieving both a Higher School Certificate (HSC) and a tertiary entrance rank (TER). Whilst these students would not usually enter tertiary education, the status of achieving a TER was seen as important in this program. In contrast, students in the co-educational school were all working towards a Higher School Certificate, but not a tertiary entrance rank, as it was anticipated that they would achieve a very low TER score which would not assist their employment prospects. In the girls’ diploma course, students did not sit for the Higher School Certificate examination but left school at the completion of the Year 11 program to maximise opportunities in the semi-skilled employment market. In all schools, contracts were used as a form of agreement between staff and students to cover expected effort and outcomes.

In both the girls’ and boys’ schools extra credentials were gained from relevant nationally and internationally recognised organisations such as the Commercial Education Society of Australia.

Unique features

There were several unique features of the program in the girls’ school. One was that the parents and prospective students were interviewed prior to acceptance into the program to gain background information and set the course expectations. Another was that Job Search skills and assistance were a feature of the final weeks of study in the diploma course and, finally, in the girls’ school parents were included as partners in the contracts of work and assessment. In the co-educational school a unique feature was the focus on achievement of success rather than employment. The curriculum was pitched at a level which would
offer students an opportunity for success and a growth in self-esteem and self-concept. In the boys' school the packaging of curriculum into focussed modules of study relevant to employment was a unique feature, along with the opportunity for students who gained employment to leave the program prior to completion.

**Method**

**Participants**

Subjects were selected at random from the cohort of students in both the employment and tertiary preparation programs in each school who had achieved a C grade level in school certificate English. This result placed them in the range of low academic achieving students in each school. The sample group comprised 59 (29 female, 30 male) students and were selected from within each program (employment preparation and tertiary preparation) within each school (all female, co-educational and all male).

**Table 1: Sample group by school by program by sex**

<table>
<thead>
<tr>
<th>School type</th>
<th>Single sex girls'</th>
<th>Co-educational</th>
<th>Single sex boys'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>E prep</td>
<td>T prep</td>
<td>E prep</td>
</tr>
<tr>
<td>Sex</td>
<td>F</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Number</td>
<td>12</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: E prep = employment preparation  
T prep = tertiary preparation

Subjects in the academically oriented tertiary preparation programs in each of the schools formed a comparison group which provided baseline data on changes in self-concept over time.

**Instrument**

The Self-Description Questionnaire-II (SD=Q-II) was used in the pre- and post-test surveys (Marsh 1988, 1992; Marsh & Shavelson 1985; Shavelson, Hubner & Stanton 1976). The SD=Q-II is a 102 item self-report inventory measuring global and multi-dimensional facets of self-concept in senior Australian and New Zealand Journal of Vocational Education Research
high school-age adolescents. It is an established measure which has been used and validated in a number of studies (Marsh 1989, 1990a; Marsh, Parker, & Barnes 1985; Byrne 1984; Hattie 1992; Wylie 1989). It contains 11 scales in the following areas: academic (mathematics, verbal, general-school); non-academic (physical abilities, physical appearance, same-sex relations, opposite-sex relations, parent relations, emotional stability, honesty/trustworthiness); and global (total self, general self). Students are required to rate statements (e.g. mathematics is one of my best subjects) on a scale from one (false) to six (true).

Procedure

The questionnaire was administered to the two groups within each school as a pre-test in the early part of each program, then re-administered as a post-test after approximately three terms of study. The instrument was group administered and was given under standard conditions and instructions. Data collection from the three separate schools took place over a five-day period at both the pre-test and post-test stages.

Analysis

Responses gathered in this 3 (schools) x 2 employment preparation v tertiary preparation programs x 2 (pre-test v post-test) independent groups design were analysed for the scale of total self-concept along with the sub-scales of self-concept in the academic, non-academic and global areas using a Multiple Analysis of Co-Variance (MANCOVA).

Results

At pre-test total self-concept mean scores for subjects within the three employment preparation programs and the three tertiary preparation programs revealed few differences in overall levels of self-concept, despite the fact that the students were enrolled in different programs of study in three different schools. The overall mean for total self-concept was 4.18, showing that the groups rated themselves above average on total self-concept (scale max = 6).
Over time, however, results revealed a significant main effect for program ($F(1,47) = 4.96, p < .05$). The increase in total self-concept was significantly greater in the employment preparation programs which showed an adjusted mean of 4.41 (standard deviation (SD) = .5) than the tertiary preparation programs which showed an adjusted mean of 4.21 (SD = .5).

Results also revealed a highly significant main effect for school ($F(2,47) = 5.60, p < .005$). The total self-concept increased more over time in the co-educational school which showed an adjusted mean of 4.54 (SD = .5) than in the girls' school with an adjusted mean of 4.21 (SD = .4) and the boys' school with an adjusted mean of 4.18 (SD = .5).

There was no program by school interaction.

A similar picture was seen in relation to program and school differences on the sub-scales for self-concept. In relation to program differences over time, results revealed program main effects on the sub-scales of opposite sex ($F(1,52) = 5.33, p < .05$) and same sex relations ($F(1,52) = 6.05, p < .05$) with levels of self-concept increasing more for students in the employment preparation programs than for those in the tertiary preparation programs (adjusted means of 4.83 (SD = .8) and 4.47 (SD = 1.0); and 5.19 (SD = .8) and 4.84 (SD = .8) respectively). Additionally, differences related to general self ($F(1,52) = 3.62, p < .1$) and general school ($F(1,52) = 3.98, p < .1$) closely approached significance (adjusted means of 4.95 (SD = .7) and 4.89 (SD = .8); and 4.06 (SD = .9) and 4.00 (SD = .8) respectively), again in the direction of the employment preparation programs.

Results for school on the sub-scales also showed consistency with the findings on total self-concept. Results revealed school main effects for physical appearance ($F(2,52) = 4.54, p < .05$), maths abilities ($F(2,52) = 9.83, p < .001$) and verbal abilities ($F(2,52) = 5.34, p < .01$). The levels of self-concept again increased more over time in the co-educational school than in the girls' and boys' school on physical appearance (adjusted means of 4.45 (SD = .8), 3.98 (SD = 1.0) and 3.98 (SD = .8) respectively) and maths abilities which was highly significant (adjusted means of 4.00 (SD = 1.0), 3.33 (SD = 1.3) and 2.91 (SD = .9) respectively). However, on verbal abilities the adjusted mean for self-concept in the
co-educational school increased significantly when compared to the girls' school (adjusted means of 4.26 (SD = 1.0) and 3.58 (SD = 1.0) respectively, but was not significantly different to the boys' school (adjusted mean of 3.78 (SD = 1.0)).

**Discussion and conclusions**

Overall there were significant program differences which were evident across all three schools. In each case, students in the employment preparation programs showed greater increases over time in total self-concept and various sub-scales of self-concept than students in tertiary preparation programs, regardless of school type. This result strongly supports the importance of relevant and valued curriculum linked to vocational aspirations and self-concept (Cienki & Brooks 1989; Harter 1989). It is worth noting, however, that the levels of self-concept of the tertiary preparation students did not decline over time, but rather, the employment preparation students showed greater increases. It could be that negative levels of self-concept based on results for low academic achievers in the tertiary preparation programs, may have been offset by the positive feelings associated with being recognised as a member of a higher ability group as a frame of reference (Marsh 1990b).

School differences were also revealed. The finding that, overall, subjects in the co-educational school showed a greater increase in total self-concept over the length of the study than subjects in the girls' and boys' schools was consistent with research that argues that co-educational schools provide a positive and supportive environment (Marsh et al. 1988; Dale 1974; Schneider et al. 1988). This result was supported by similar findings related to the sub-scales of verbal abilities, physical appearance and mathematics abilities. However, there were some variations between schools in relation to the transition into the two post-compulsory years of schooling. It could be possible that in both the girls' and boys' schools the self-concept of those students who experienced transition from feeder schools could have been affected by a re-evaluation of competence and social confidence in their new environment (Harter 1989; Marsh et al. 1988). However, it is doubtful whether the number of students concerned (in the minority) would have significantly altered the results.
Implications for vocational education

The results of this study have shown that employment preparation programs in the post-compulsory years of schooling can be more effective than tertiary preparation programs in increasing levels of self-concept in low academic achieving students. The main implication of these results is that it is essential to provide effective and relevant vocational education in the post-compulsory years of schooling for low academic achievers to enable them to experience positive outcomes in relation to self-concept, skill development and workplace preparation. Each of the employment preparation programs involved in this study contained unique initiatives and innovations which were strengths in their programs but they also contained a common focus on effective transition to the workplace.

The co-educational school emphasised achievement of success in order to develop positive self-esteem and self-concept. Anecdotal evidence gathered by the school indicated that the majority of graduates gained employment and demonstrated a positive attitude to lifelong learning and their future employment potential. The dynamic and sensitive nature of the vocational curriculum in the girls’ school responded to the changing needs of students and the varied demands of the workforce. It developed a transitional path from the mind-set of the school to that of work through the blending of school requirements with standard work routines such as signing-on books and freedom of movement off campus during recreational time. The blending of varied curriculum into focussed employment packages in the boys’ school offered tremendous possibilities for non-academic students to open up their options beyond non-skilled, semi-skilled or stereotypic areas of employment. It allowed for depth of learning in particular employment fields such as retailing and hospitality and opened up the possibilities for effective industry links.

A second implication to emerge from this study, based on the positive results for employment preparation programs, is the importance of encouraging low academic achieving students to participate in vocational education programs. The collaborative and co-operative approaches to teaching combined with the employment-focussed curriculum has the potential to develop not only the skills and
competencies necessary for the workforce, but also a positive self-concept and motivation towards lifelong career development. However, even in the three schools involved in this study, the tracking of low academic achievers into vocational education pathways has not always been successful due to their perceived lower status. Therefore it is essential that schools focus on developing and maintaining a positive status for employment preparation programs which makes them attractive to students as a valid and appropriate alternative to the tertiary pathway.

Whilst this research study has been limited by focussing on three schools only in one education system, the outcomes have clearly established the effectiveness of vocational education programs in developing self-concept in low academic achieving students. It has also established the potential for these programs to engender a successful transition from education to work and lifelong learning.

References
Berk, L E 2000, Child development, Allyn & Bacon, Boston.


Kulik, C L 1985, 'Effects of inter-class ability grouping on achievement and self-esteem', paper presented at the annual meeting of the American Psychological Association, August, Los Angeles.


—— 1988, Self-description questionnaire-II, University of Western Sydney, Faculty of Education Publication Unit, New South Wales.


—— 1992, Self-description questionnaire: A theoretical and empirical basis for the measurement of multiple dimensions of preadolescent self-concept. A test manual and a research monograph, University of Western Sydney, Faculty of Education Publication Unit, New South Wales.


