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THE INTERRELATIONSHIP BETWEEN THE WORK EXPERIENCE OF DISTANCE EDUCATION STUDENTS, JOB SATISFACTION, AND ACADEMIC ACHIEVEMENT

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OPSOMMING

Volgens die koöperatiewe onderwysstrategie van technikons word daar van studente verwag om vakrelevante werk in die bedryf/handel te doen om praktykervaring op te doen. Die graad van vakrelevante werk wat 166 afstandsonderrigstudente doen en die verband daarvan met hul akademiese prestasie is ondersoek. Daar is gevind dat in teenstelling met ouer, manlike, Afrikaans- en Engelssprekende studente, dit veral swarttaalsprekende studente is wat nie vakrelevante werkservaring opdoen nie, 'n lae graad van werkstevredenheid beleef, en nie hoë punte in die derdejaarvak (Organisasiegedrag) verdien nie. Daar word voorgestel dat die Staat die kwessies van werkverskaffing, onderwys en opleiding integreer ten einde koöperatiewe onderwys in Suid-Afrika te laat slaag.

ABSTRACT

In terms of the cooperative education strategy of technikons, students are expected to do subject-relevant work in the industry/commerce to gain practical experience. The degree of subject-relevant work performed by 166 distance education students, and how this is related to their academic performance, was investigated. It was found that in contrast to older Afrikaans- and English-speaking male students, it was mainly students who speak a black language who do not gain subject-relevant work experience, have minimal job satisfaction and do not earn high marks in the third-year subject (Organizational Behaviour). It is suggested that the State integrate the issues of work provision, education and training for the success of cooperative education in South Africa.

The aim of this study, supported by the background given by the various perspectives on cooperative education, is to explore and confirm the implications of cooperative education for third-year students studying via distance education at technikon.

If the goal of cooperative education is to equip the student to attain occupational competence and economic independence, how is this goal accomplished in distance education, where the academic institution is not in a position to offer real work experience?

Given that differences exist between cooperative and non-cooperative jobs and their relation to achieving learning objectives (Stern, Stone, Hopkins, McMillion & Cagampang, 1992) and keeping in mind that there are many elements in the cooperative experience that are vital to success (Laycock, Hermon & Laetz, 1992), the question arises as to how the participation of the academic institution in cooperative education will be affected if students are unemployed or hold non-cooperative jobs. Examined in more detail; how will the employed students extent of academic subject-related work experience (Kaupins & Warberg, 1992), and job satisfaction influence his/her academic achievement?

Perspectives on cooperative education

There appear to be different perspectives concerning cooperative education in South Africa (Du Plessis, 1994). These are as follows:

1) The student and industry are partners alongside each other on a horizontal plane, with the academic institution playing some part in preparing the student for efficient service.
2) There is a symmetrical relationship between the student (the important partner), the academic institution and the student's employer.
3) The State, as a fourth partner, acts as mediator for industry/commerce and the academic institution with the aim of ensuring that each individual has knowledge about the manufacturing process.
4) The academic institution helps to bring about contact between the student and employer.

According to Du Plessis (1994) the role of the academic institution in the first three perspectives mentioned above is limited to the period of academic training and culminates in the delivery of the career-mature student as an employee to industry/commerce. It is only in the last (fourth) perspective mentioned that the academic institution fulfils its contribution to cooperative education.

In ascertaining whether the academic institution satisfies the expectations of the market (Coldstream, 1988), graduation rates (progress, drop out and completion rates) overall placement rates (employability) and career achievement of graduates can be used as indicators. The employer's role in this process is, inter alia, to provide job descriptions, criteria, job specifications and other requirements for inputs, processes and outputs of the education system (Van Wyk, 1993).

Problem statement and research hypothesis

At Technikon SA, because of the limitation that distance education places on the abovementioned role, the onus rests on the student to make contact with (potential) employers. For that matter, it is assumed that students are employed while studying towards a specific and specialized career (Tothill, 1993a). Bearing this problem in mind, what are the implications of cooperative education within a distance education environment such as Technikon SA?

Given that the general supportive and facilitative environment of the academic institution influences what is accomplished in terms of academic, personal, and vocational gains (Davis & Murrell, 1993) and that work factors are related to the failure rate for part-time students (Snelgar, 1990), students whose jobs are not in the field in which they are studying may well not have suitable facilities in their place of work to acquire practical experience (Aslanian, 1993).

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In this regard Laycock et al. (1992) found that the student's perception of the job is not related to his/her overall perception of the quality of the cooperative education experience. This may be so because cooperative education jobs (which are often first learning experiences in a professional setting) do not contain all the dimensions of a highly motivating position.

The perception of employees of how well their jobs provide for and meet their expectations has an effect on their attitude towards the job. Employees who are satisfied with their job may, for example, feel that they are being treated well and are being rewarded with a good salary – and so have a positive attitude towards the job (that is, the work, the boss, and/or coworkers) (Luthans, 1992).

In examining the outcomes of job satisfaction, it seems that low job satisfaction leads to high employee turnover and absenteeism, while high job satisfaction results in fewer on-the-job accidents, work grievances and less time needed to learn job-related tasks (Luthans, 1992).

The following research hypothesis was examined:

> There is a significant positive relationship between the extent of subject-related work experience of distance education students (degree of academic subject-relatedness), job satisfaction, and academic achievement.

METHOD

Subjects

One hundred and sixty-eight (168) students in Personnel Management III (Organizational Behaviour) at Technikon SA participated in the study. These students had submitted the required two assignments out of three containing exercises and questionnaires used to sample the data needed for this study. Two (2) students were unemployed and their data could not be used, since it was based on previous jobs they had held.

INSTRUMENT

In the exercises, which formed part of the assignments, the students had to complete questionnaires presented in the prescribed book by Luthans (1992). One of these questionnaires were used as an instrument in this study namely the Minnesota Satisfaction Questionnaire (MSQ) on which the students rated the extent to which they are satisfied with various aspects of their present job.

The Minnesota Satisfaction Questionnaire

The Minnesota Satisfaction Questionnaire (MSQ) is a rating scale for measuring job satisfaction. The rating scale used in this study is a short form of the MSQ consisting of 20 items. That is the items with the highest factor loadings on each of the 20 subscales of the MSQ. It provides a detailed picture of the specific satisfactions and dissatisfactions of employees (Luthans, 1992).

The MSQ measures satisfaction and dissatisfaction with ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision – human relations, supervision – technical, variety, and working conditions (Gillet & Schwab, 1975).

Gillet and Schwab (1975) reported validity coefficients (by using multitrait-multimethod analysis) of four scales of the MSQ ranging from 0,49 to 0,70 (Kerlinger [1986, p. 424] describes a value of 0,53 as "fairly substantial"). Using a South African sample of 1,791 professional people, Kaplan (1990) examined the validity of the instrument and found the factors of the short-form MSQ to be conceptually meaningful and distinct. Kaplan reported a reliability coefficient of 0,90 of the sum of the 20 items.

Because the instrument was administered only once in the present study, it was decided to examine the reliability of the instrument (its accuracy or precision) by way of Cronbach's alpha coefficient. This method was used to determine the internal consistency of the instrument (the homogeneousness of the 20 items of the instrument).

Unfortunately the construct validity of the instrument could not be determined by way of factor analysis because the sample size was too small (Kerlinger, 1986).

PROCEDURE

Accademic achievement

All Personnel Management III students at Technikon SA were required to complete two of three assignments (consisting of case studies and exercises). If a student submitted all three assignments, the two highest marks were used to calculate the average which represented the student's yearmark. A student had to obtain a minimum of 40% to write the two open book examinations (comprising a case study problem to be solved with the help of the prescribed textbook) in November 1993. The final mark was calculated (as indicated in the Calendar of Technikon SA) as the sum of 40% of the yearmark and 60% of the examination mark.

Criterion groups

The students were rated into nine (9) groups according to how closely their area of work experience was related to the academic subject area (Organizational Behaviour). This was done by comparing the extent to which the aspects covered by the syllabus for Organizational Behaviour were present in the student's job title and work experience (the exercises that the students had to do as part of their assignments consisted, inter alia, of writing down their present job title and what work they were doing).

The syllabus of the subject Organizational Behaviour comprises the following units:

- Introduction to organizational behaviour; Job satisfaction; Motivation; Change in organizational behaviour; Informal organization; Conflict; Leadership; Communication; Decision-making; Organizational development.

  The rated area of work experience of group 9 was closely related to the syllabus content of the subject Organizational Behaviour and involved management and administration of organizational behaviour, while the rated area of work experience of group 1 was not related at all (it involved no participating in or experience of organizational behaviour). A typical member of group 9 would be the Personnel Manager in charge of organizational development in a big corporate organization, while a night watchman is a good example of a member of group 1. The distribution of participants according to this rating is presented in Table 1.

TABLE 1
DISTRIBUTION (FREQUENCY) OF THE STUDENTS IN TERMS OF SUBJECT-RELATED WORK EXPERIENCE

	Work experience group									
	1	2	3	4	5	6	7	8	9	Total
Number of students	19	32	39	17	31	13	11	3	1	166
Percentage of total	11	19	23	10	19	8	7	2	1	100

Statistical techniques

Descriptive statistics (frequency distributions, central tendency and variability) were used to compile a student profile. The Product Moment Correlation was used to examine the interrelationship between the variables and to establish whether the hypothesis was acceptable (Huysamen, 1990).

Cronbach's alpha coefficient was used to examine the reliability of the Minnesota Satisfaction Questionnaire (MSQ). The computer package SPSS for Windows (release 6.0) was used for the calculations.

RESULTS

To construct a student profile, the following variables with alpha codes and values were included in the study:

AGE: Age group of the student at enrollment for the subject (0=17-23 yrs., 1=24-30 yrs., 2=31-44 yrs., 3=45+ yrs.).
SEX: Sex of the student (0=female, 1=male).
LANG: Home language of student (0=Afrikaans, 1=English, 2=Other, 3=North Sotho, 4=South Sotho, 5=Swazi, 6=Tsonga, 7=Tswana, 8=Venda, 9=Xhosa, 10=Zulu).

Values for the item choices of the Minnesota Satisfaction Questionnaire (MSQ) were coded as follows: "Very dissatisfied" was assigned the valued 1, and items ranged as far as "Very satisfied", which was assigned the value 5. The minimum and maximum scores that any respondent could obtain were 20 and 100 respectively.

Means and standard deviations

Table 2 shows that students in the subject-related work experience groups (groups 5 to 9) obtained relative high marks in the subject. It seems that the older students and more male than female students had the more closely subject-related work experience (groups 6 to 9).

From Table 2 it seems that the majority of students in all language groups except Afrikaans and English had work experience not closely related to the academic subject (groups 1 to 3).

TABLE 2
GROUP MEANS AND STANDARD DEVIATIONS OF VARIABLES

Group	n		Variables				
			MARK	AGE	SEX	LANG	SATS
1	(19)	$\bar{X}$	47,42	1,00	0,58	4,42	66,26
		s	19,59	0,58	0,51	4,02	14,51
2	(32)	$\bar{X}$	53,00	1,09	0,50	1,38	73,84
		s	15,91	0,53	0,51	2,54	13,09
3	(39)	$\bar{X}$	53,13	1,49	0,64	1,90	73,18
		s	10,38	0,68	0,49	2,86	14,18
4	(17)	$\bar{X}$	56,88	1,53	0,76	1,41	72,41
		s	6,53	0,80	0,44	2,69	17,49
5	(31)	$\bar{X}$	58,32	2,03	0,71	1,41	75,77
		s	7,73	0,66	0,46	2,61	14,63
6	(13)	$\bar{X}$	58,31	2,08	0,85	0,77	74,62
		s	9,35	0,86	0,38	2,20	13,40
7	(11)	$\bar{X}$	61,18	2,09	0,91	0,27	73,00
		s	10,78	0,70	0,30	0,47	12,73
8	(3)	$\bar{X}$	55,67	2,33	0,67	0,33	90,67
		s	13,50	0,58	0,58	0,58	6,43
9	(1)	$\bar{X}$	73,00	2,00	1,00	0,00	65,00
		s	0,00	0,00	0,00	0,00	0,00
Total	166	$\bar{X}$	54,91	1,56	0,67	1,72	73,29
		s	12,68	0,77	0,47	2,89	14,37

$\bar{X}$ (read "X-bar") is the symbol representing the arithmetic mean, or average, of the sample (n).
s is the symbol representing the standard deviation expressed in the same units as those of the original measurements.
n is the symbol representing the group size.

Table 2 indicates that the students with the more academic subject-related work experience had a higher degree of job satisfaction.

In brief, the means and standard deviations of the variables presented in Table 2 shows that students with closely subject-related work experience obtained higher marks in the academic subject, are older, male and tends to be Afrikaans- and English-speaking and experience of high degree of job satisfaction.

Correlation matrix

The intercorrelation matrix presented in Table 3 confirms what was shown in Table 2 and shows that there is a positive relationship between the rated work experience (degree of academic subject-relatedness), job satisfaction, and academic achievement. It also shows that students who experience high job satisfaction obtained higher marks in the academic subject.

TABLE 3
Intercorrelations between all variables in the study

Variable	MARK	AGE	SEX	LANG	SATS
GROUP	0,29*	0,51**	0,22**	-0,28**	0,14*
MARK		0,11	0,00	-0,39**	0,18*
AGE			0,24**	-0,09	0,03
SEX				-0,03	0,03
LANG					-0,22**

* $p < 0,05$ for one-tailed significance.
** $p < 0,05$ for two-tailed significance.

Reliability of the measuring instrument

An alpha coefficient of 0,9233 for the Minnesota Satisfaction Questionnaire (MSQ) was found, Each of the 20 items contributes not less than a coefficient of 0,9169.

CONCLUSION

There is a positive relationship between the rated work experience (degree of academic subject-relatedness) of students studying via distance education, job satisfaction, and academic achievement.

The cooperative education experience differs for the rated different work experiences and thus different employers. This makes a cooperative education programme (where administrators and placement staff of the academic institution perform support functions in developing practical experiences for students) invaluable if cooperative education is to succeed as an educational strategy in South Africa or any other part of the world.

From the research results it seems clear that a student who had work experience that is closely subject-related obtains a high mark in that academic subject and experiences a high degree of job satisfaction. However, it seems that it is mostly older, male, Afrikaans- and English-speaking (home language) students who had the closely subject-related work experience.

Young black-language speaking students needs subject-related work experience opportunities.

In order for students to make a link between theory and practice, cooperative education is the answer. Academic institutions are, of course, obliged to ensure the vocational relevance

of their courses (Tothill, 1993b), but if organizations (potential employers) continue to scale down and/or restrict their recruitment to "experienced" candidates in order to be internationally competitive in the short term, cooperative education in South Africa will not succeed.

Policy decisions about the practical role of industry/commerce in employing students who have no work experience must be considered a priority by the Government of the "new South Africa". In this regard it may be necessary to stipulate the role of the academic institution (in conjunction with the State department of Manpower) in having the power to, and taking the responsibility for the administration (or coordination) of the placement of students, in legislation. Perhaps an amalgamation of the areas of employment, education, and training into a single State department of "Higher Education and Employment Services" is the answer?

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