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"THE DEVELOPMENT OF INSTRUMENTS TO MEASURE THE ATTITUDES

AND PERCEPTIONS OF STUDENTS TOWARDS COURSES IN THE

HOTEL AND CATERING INDUSTRY."

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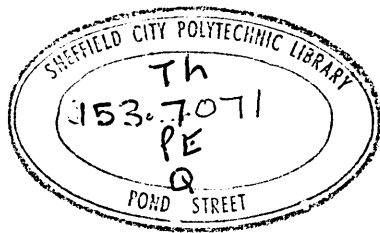Collaborating Establishment:

Hotel & Catering Industry Training Board

THE DEVELOPMENT OF INSTRUMENTS TO MEASURE THE ATTITUDES AND PERCEPTIONS OF STUDENTS TOWARDS COURSES IN THE HOTEL AND CATERING INDUSTRY."

A. PERKS.

This project examines the attitudes of students towards two courses run in the Department of Hotel and Catering at Sheffeld City Polytechnic. The relevant courses are the HND in Hotel, Catering and Institutional management and the B.Sc. (Hons) in Catering Systems.

The focus of the research was from entry in October until the end of the first industrial placement, a period of eighteen months. The major concern of the research was the development of scales to measure attitudes and expectancies. These scales were then examined to see if there was any relationship between students responses and exam performance. It was not the aim of the project to produce a definitive predictive measure but rather to identify areas which may be related to student failure and or withdrawal. Four main aspects of students attitudes were considered, they were relevance of and interest in a subject, attitudes towards staff and department and attitudes towards teaching methods. Students expectancies concerning the course were also examined. It was hypothesised that students who had inaccurate expectancies and "poor" attitudes would be more at risk than their counterparts.

The project also briefly looked at the students first industrial placement, taking the work of Smithers (1976) as a basis from which student attitudes were measured but also examining skills and benefits needed and gained and the relationship between college and industry. It was hoped that this section would provide information of how well students were being prepared by the courses for industry, what students were gaining from their training and whether catering courses and industry were complimenting each other or providing the students with conflicting experiences.

Although the instruments developed were to some degree successful they served to illustrate the difficulties in identifying major factors affecting performance. From interviews conducted it had been noted that some aspects of the course acted as a source of satisfaction/dissatisfaction which led to the suggestion that rather than concentrating on students personal qualities alone it may be more productive to manipulate these factors within the course structure itself. Finally the results of the research into industrial training were most encouraging indicating that the course and industry were seen to be equally relevant and complimentary by students and that the students felt they gained valuable skills from their training period.

ACKNOWLEDGEMENTS

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INTRODUCTION

Students who survive on higher level catering courses and within the catering industry have personal qualities which are not specifically known. It was considered that this lack of knowledge led to inappropriate selection procedure at admission, high wastage rates on catering courses and difficulty in placing and determining the performance of students in industry. Previous research had already identified numerous factors relating to performance, for example intellectual ability, personality, study methods, motivation and career orientation. The initial starting point of the project was to try and identify variables affecting student performance with particular reference to catering courses.

The two courses to be considered were the Higher National Diploma in Hotel and Catering and the Batchelor of Science in Catering Systems. The courses share some common ground, they both involve time spent in industry (i.e. they are sandwich courses) and include economics, business studies, applied science and food studies within the curriculum. There are however some fundamental differences, notably that the HND course is more practically based and usually leads directly to a career within the hotel and catering industry while the BSc. course has no practical catering content and the systems approach it emphasizes can be applied in other areas where students may choose to make their career e.g. food manufacturing. The HND course is also shorter, lasting for three years while the degree takes a year longer to complete.

A problem both courses shared was a fairly high wastage rate, particularly in the first year. This was seen to be partly a failure of the selection procedure. The procedure at this time consisted of an admissions tutor reviewing all applicants and rejecting those who were either not qualified or expected to fail at "A" level by their head teacher. Of those remaining the vast majority were asked to attend interview unless their head teachers report and/or candidates statement were very poor. The interviews lasted on average for 15 minutes during which students would be asked questions about their interests, ambitions, reasons for applying and other related topics. On the basis of this an offer would then be made.

The first objective of the project was then to try and identify the personal qualities which distinguish a "good" student or conversely a student "at risk" and to see if this information might be incorporated into the selection procedure/and or course structure in some way. There are many variables which may effect student performance but due to limited resources it would only be feasible to study a few in any detail. The variables to be studied were identified from interviews with students from the first and final years where they were encouraged to discuss satisfactions, dissatisfactions, motivating factors and attitudes toward the courses. From these interviews four areas were picked out as being of special interest because of the importance students placed on them. The areas were relevance of and interest in a subject, attitude towards teaching methods and attitude towards staff and department.

Another area which was identified at this time was the match of student expectancies to the reality of the course. The main method chosen for utilizing this data was that of attitude scales. This was partly because if the instrument indicated any strong relationship with performance then it would be relatively simple to give the scales to future students on entry or at interview in order to identify those who might need help or be better suited to a different course.

The attitude scales were the major component of the research but as the study was concerned with technical courses it was thought important not to concentrate solely on the students academic performance but also to consider the industrial training period. There has in the past been some debate over the purpose and value of industrial training which is seen as an integral part of HND and degree courses in catering. It was hoped that the project could help illuminate this debate by examining students attitudes and expectancies towards the period and also that it would then be research with a more balanced outlook than had it just considered academic performance.

To briefly summarize the main objectives of the research were firstly to identify qualities which related to student performance and from this develop a quantitative measure to be used with the students for the ultimate aim of reducing the wastage rate and secondly to look at industrial training with particular reference to skills and benefits gained as well as student attitudes.

It was not however the intention of the research to try and produce a definitive predictive measure but rather to identify areas which may be related to student performance and then attempt to use this information in a constructive manner, for example student counselling or changes in course structure.

LITERATURE REVIEW

1.   INTRODUCTION

The question of successful prediction of academic performance has occupied researchers for many years. Early work focuses primarily on intellectual and ability factors as predictors. (Garatt 1950). Later came a shift in emphasis towards other aspects such as motivation leading to recognition of the fact that ability and personality measures alone explained little variance. As Fearn-Wannan (1979) has stated, "This led to a conceptualisation of academic performance in terms of interactions that occur between aspects of a students personality and his academic environment." The result of this has been that research has become increasingly more complex taking into account many different variables explaining students individual differences. It becomes clear from reading the literature that it is impossible to find a single variable that will explain more than a small amount of variance as Entwhistle (1977) points out, "Academic performance shows a low correlation with almost every predictive measure". Indeed it might be helpful to think of performance as a jigsaw puzzle, each variable representing a piece which goes towards completing the whole picture. With reference to the present study, five areas that have been associated with performance will be surveyed; these are ability, personality, study methods, motiv ation and institutional factors.

2.   ABILITY AND ACADEMIC PERFORMANCE

This is probably the most widely researched area, especially when the problem of "wastage" first started to be explored and it was believed that the "problem" was caused by poor selection, i.e. raise the entry grades and "failure" would we reduced. Three different measures of ability have been used in these studies, firstly those using I.Q., secondly those using 'A' and 'O' level results abd thirdly those using the specially devised Test of Academic Aptitude.

I. Q. and PERFORMANCE

Gibson (1970) found university scientists sometimes had surprisingly low I.Q's. Eysenck (1974) reviewed 34 well designed studies and found an average correlation of 0.58 between ability test results and various academic criteria. This is a high correlation compared to other results, for example Vernon (1963) placed it as low as 0.2, but it still only accounts for 35% of variance. Savage (1972) reported that "poor" students on a medical course were as intelligent as "good" students. They tended to perform less well due to poorer study methods and also had a tendency to be more extrovert. Roe (1953) and Mackinnon (1962) agree that men and women of the highest intellectual ability cannot be differentiated from their less successful counterparts by mental test scores. It would seem that once a certain intellectual level is reached other factors, possibly motivyation and attitudes, are more important than ability or success.

Neither do students themselves seem to blame lack of intelligence for failure, when Hughes-Jones (1979) asked students to give reasons which contributed to the success or failure of four pieces of work she found that "ability was seldom mentioned".

'O' and 'A' Level Results and Peformance

Numerous studies have looked at the relationship between 'O' and 'A' level results and degree performance. This is an important area as in the present system it is a student's grades at 'A' level in particular that determine whether she/he will enter higher education. Milson (1978) looking at the performance of students on a Home Economics course concluded, "'O' and 'A' level performances are of little value in predicting student performance on the course." Horsey (1979) in a stuudy of a self learn scheme in the Hotel and Catering Department at Sheffield City Polytechnic found "entry qualifications were not highly correlated with performance on the B.S.C., H.N.D. or D.H.E. first year courses." Cosford (1972) in another study of a hotel and catering department found a significant relation between number of 'A' levels and diploma result. Nisbet and Welsh (1966) noted the general validity of the number of S.C.E. higher passes as a predictor of final degree result but pointed out that if entrance standards were raised the failure rate would only be marginally lower and many pass students would be omitted from the system. Kapur (1972) in a study at Edinburgh concluded that academic achievement at school was related to university performance but it was a better discriminator between an outstanding student and an average student than between the latter and a poor student.

Other studies have been reported by Pilkington and Harrison (1967), U.C.C.A. (1967/69) Bagg (1968, 1970) Elton (1969) Wankowski (1973) Choppin et al (1973). Correlations between number of passes, grades of passes, aggregate scores and performance in first year and final degree exams ranged from 0.14 to 0.73 depending on subject and faculty. Results were generally better for students taking science subjects e.g. physics and chemistry.

It seems from reviewing the literature that there is general agreement that 'A' level results are the best single predictors available prior to student entry. However despite this, it explains only a very small amount of variance.

Tests of Academic Aptitude and Performance

The Robbin's Report recommended "Experiment and Investigation", into tests of academic aptitude in an effort to improve the amount and quality of information available for selection. The results of this research were reported by Choppin et al (1973). They found that University students had higher aptitude scores on average than students entering other sectors. Polytechnics were more successful than colleges of education in recruiting able students however. Correlations between aptitude tests and degree result ranged from −0.12 to +0.29 with a median of 0.08. The tests fared better within a narrower subject grouping for example maths aptitude correlated at 0.32 with mechanical engineering. The main concern of the study was to see how the value of multiple correlations increased when aptitude scores were added to other information, for example G.C.E. results. The aptitude scores were found to boost correlations by 0.02 only; a disappointing result.

Conclusion

It can be seen that none of the measures of ability: that is I.Q. scores, 'O' and 'A" level results, or the test of Academic Aptitude are accurate predictors of academic performance. By far the best predictor of academic success that has so far been found is first year exam results (Milson 1978, Choppin et al 1973, Entwhistle 1977) however this is of little help unless the system is changed to an open entry first year where selection occurs at the first year exams.

3. PERSONALITY AND ACADEMIC PERFORMANCE

Studies in this area have often been simplistic with conflicting or inconclusive results. Despite this as Eysenck (1972) has stated, "there seems to exist a good deal of agreement that personality is important, in addition to mental ability, in determining the academic success or failure of school children and students alike." The two most common measures of personality used in the research are the Eysenck P.I. and Cattell P.F. Cattell's P.F. seeks to measure first order factors on primary source traits which are claimed to represent the universal basic variables in the total personality structure. There are 16 primary source factors and 8 second order factors. The problem with having so many factors is that some personality variables are difficult to distinguish as reliable, separate entities. Saville and Binkhom (1976) state for example, "by the commonly accepted standards of reliability the first order scales of the 16 PF do not fare well, at least on this undergraduate population."

Eysenck uses the concepts of trait and type in his work. Traits are made up from habitual responses of the individual and represent a consistency of behaviour. A group of traits which are clustered together are referred to as a personality type. Using factor analysis on a large number of cases Eysenck has proposed the two major personality dimensions of extroversion and neuroticism with the other independant variables of psychoticism and intelligence. Eysencks two variables have been found to underlie Cattells more complex model, as Saville and Blinkhorn (1976) point out, "comparison of Eysenck and Cattell correlations lend strong support to suggest that 16 "PF ExVia and anxiety are the counterparts of the E.P.I. Extroversion and Neuroticism factors." Regardless then of which scale is used research has tended to centre on the association of extroversion and neuroticism and performance.

Neuroticism and Academic Performance

Saville and Blinkhorn (1976) found no significant correlations between performance and neuroticism with their undergraduate population. Wankowski (1973) however found a negative correlation of −0.37 between female degree results and neuroticism. Furneaux (1962) and Kelvin (1965) found neurotic introverts to be the most successful students and neurotic extroverts the least. Entwhistle and Wilson (1970) and Entwhistle and Entwhistle (1970) also noted the latter finding but neurotic introverts in their research did not do particularly well. Horsey (1978) using the Cattell 16PF on first year students in a Hotel and Catering department at Sheffield concluded that neither neuroticism nor extroversion were related to performance.

Sinhar (1966) however found that low achievers were more neurotic than high achievers.

It is impossible to say in a general way whether neuroticism is beneficial or harmful as everything depends on the existing habits and personality of the student concerned. A neurotic introvert may relieve stress by reworking his/her notes before an exam, a neurotic extrovert may relieve the same stress by going out drinking with friends. Obviously one course of action will be more likely to help exam performance than the other. Entwhistle (1977) found for example that good study methods and high motiviation were "firmly linked with low levels of neuroticism" and here is obviously a combination of all three factors that leads to academic success.

Extroversion and Academic Performance

The extrovert is sociable, outgoing, talkative, lively. From just a common sense consideration of these adjectives it seems likely that she/he might be easily distracted from their studies unless very determined. Lavin (1965) in a summary of American studies found high levels of performance to be associated with low levels of extroversion and impulsivity. Furneux (1962) and Kelvin, Lucas, Ojhas (1965) identified a majority of extroverts among the least successful students. Saville and Blinkhorn (1976) found significant negative correlations between extroversion and degree class in female arts students and male combined discipline students. They noted "A general tendency for introverts to do better." The above studies are all in general agreement concerning the superiority of introverts however as in the case of neuroticism this is probably too simplistic a view.

Entwhistle and Wilson (1970) found "There is a recognizable interaction between study methods, motivation and personality type in relation to degree performance. Introverts show consistently higher scores on both motivation and study methods than extroverts "however extroversion was only linked to poor performance when it led to poor study methods" (Entwhistle 1977).

Wankowski (1973) also found that students with similar study methods were comparable in performance irrespective of personality types. Entwhistle's high attainment cluster's included "Stable extroverts with adequate motivation" (Entwhistle 1977) and so it would seem that to see extroversion in isolation as linked with poor academic performance is taking too simple a view; it depends on how the extroversion is exhibited.

Personality Types and Academic Discipline

Recent research has produced some interesting findings concerned with how different subject areas seem to attract different types of student. Wankowski (1973) found that practical subject areas such as applied science seemed to attract stable students with varying degrees of extroversion while people on orientated subjects e.g. social sciences, contained a large proportion of neurotic extroverts. Saville and Blinkhorn (1976) also noted differences in personality between the academic disciplines, arts students in the survey being higher on neuroticism and extroversion than science students. Entwhistle et al (1971) found different personality types tended to perform better in different disciplines, for example stable introverts did well in pure science. These reuslts are as yet unconfirmed however it is an interesting area where research can be pursued.

Eysenck (1972) suggested that introverts might best be suited to "hard" sciences and extroverts to social sciences and arts, he went on to state "there is no doubt that different subjects require different levels of ability and different degrees of hard work; this must be expected to interact with the effects of anxiety on the whole progress of the student. This in turn may interact with the students "personality fitness" for the particular course he has chosen."

Conclusion

Personality is obviously a very complex concept. Many studies in the past have been too simplistic and general, assuming that one factor could be associated with performance for a wide range of students. Recent research however has noted too, complex interactions between facets of personality and other variables. Often it does not seem to be neuroticism or extroversion that effects performance but rather ways in which it is exhibited. It also seems possible that certain personality types may be more suited to different academic disciplines, this is an area that is rich with possibilites. Should these research findings be confirmed then although it seems morally unjustified to use personality as a criterion of selection it might be possible to counsel students about areas where they might be more suited.

4. STUDY METHODS AND PERFORMANCE

Studies at first looked at the simple association between time spent in study and exam performance. Thoday (1957) reported "A fairly clear relationship between exam results and work done," This finding was confirmed by Flecker (1959). Malleson (1967) and Copper and Foy (1969) did not repeat these results however. Harris (1940) reported mixed findings from a review of studies. In one study there was a correlation of +0.32 between time spent and grades but no relationship was reported in three other studies. It seems that time spent in study may be a fairly useful index of motivation but there are probably students who spend long hours in ineffective study, that is performance may depend more on the quality rather than the quantity of studying done.

Sinhar (1966) found high achievers started serious study earlier and were more regular and systematic. Himmelweit (1950) cites a number of studies supporting this. Horsey (1977) also found that organized disciplined use of time was of greater importance than the amount of time spent. Small (1966) discovered that although a successful group of students could be differentiated by the systematic study methods infact all the systems of study differed. Entwhistle (1972) in his study of academic performance of students in different types of institution found the best correlation for success of Polytechnic students was with study methods, hours spent in study (women only) and rating on "self hardworking." Discussing study methods he states "The value of organised study methods comes through very clearly in many investigations but apparently very different systems can be used effectively." (Entwhistle 1977).

across academic disciplines. Entwhistle and Nisbet (1971) reported that Arts and Science students have a completely different experience of higher education, with correspondingly different study patterns, scientists for example have far more contact hours and spend most of their time outside these, writing laboratory reports whilst arts students spend far more time reading for essays. It is impossible then to outline a single set of study habits which would help all students beyond advising that the student studies in a regular and organised manner.

A final word of caution might be that some of the findings appear to be rather tautological, that is, good study habits are associated with good performance, "good study habits" being implicitly defined as study habits which are associated with good performance.

5. MOTIVATION AND PERFORMANCE

Beard and Senior (1977) found "Discussion with students suggests that there are many ways in which the enthusiasm of beginners in higher education can be diminished....The course may prove too boring, too difficult, diffuse and ill organized, or irrelevant to their needs and interests." Conversely "Motivation of students in universities and colleges is largely a matter of suitability of courses to their named needs, initial experiences which enable them to adjust to independence and study methods appropriate to higher education, to stimulating teaching and informative assessment of their performance." Both students and lecturers would no doubt intuitively agree with these statements however the problem of assessing the relationship between motivation and performance remains a difficult one.

"Motivation" has often meant all things to all people being used to account for any variance that could not be explained by measured intellectual or social variables, this led to Jones, MacIntosh and McPherson (1973) referring to it as a "conceptual charlady". The main reason for this confusion seems to be firstly because a conceptual model of motivation is lacking and secondly that because of this any "tests of motivation" lack validity except in a restricted sense.

Peters (1958) attempted to clear some confusion surrounding the term. He perceived much human activity as being goal directed which could not be adequately explained by the mechanical model of motivation defined in terms of underlying drives. Further he saw a need to distinguish between intrinsic and extrinsic motivation. Essentially he saw intrinsic motivation as being derived from the task itself for example interest in a subject while extrinsic motivation was aroused by factors external to the learning situation for example a well paid career at the end of a course. Wilson (1972) further distinguished two kinds of intrinsic motivation, firstly that which is clearly related to the task itself e.g. learning for learnings sake and secondly that which is aroused by some need of the individual e.g. by doing well improving the self image. There is still some conceptual confusion, studies often rely on intuition and for experience as a guide to factors which are motiv ators however the clarification of terminology is providing a framework to build on.

Extrinsic Motivation

Few studies have looked in any depth at the relationship between extrinsic motivation and performance. Hopkins, Malleson and Sarnoff (1955) and Wankowski (1968, 1973) did find that unsuccessful students tended to enter higher education for extrinsic reasons, such as parental pressure, rather than out of intrinsic interest. Jones et al (1973) found sociology students who had a job in mind or who intended to structure their course around a future job did worse than students who entered university in order to postpone a career decision. In contrast Hornsby Smith (1972) and Musgrove (1968) both found that some sort of career orientation at entry was associated with subsequent good performance. Both these studies were in technological universities and so it is possible that the course and/or type of institution may interact with motivation e.g. students on a vocational course may be more extrinsically motivated than those on other courses because they can see the usefulness of the qualification. Wankowski (1968) has also shown that students who were progressing well had clearer long term and short term goals than students who failed their first year examinations. However he does not say whether the goals were career or academically orientated.

Intrinsic Motivation

Hughes-Jones (1979) asked students to give reasons which contributed to the success or failure of four pieces of work she noted in particular, "the frequent mention of interest as a performance factor."

Mathews (1957) suspected that the greatest single cause of failure was lack of interest. Iffert (1956) in work with drop outs in America found that lack of interest was given by 48% as a reason for withdrawal. Himmelweit (1950) cites studies showing positive correlations between interest in chosen courses and exam results. Wankowski (1968) states, "Academic difficulties and lack of interest were the most frequent broad classification of reasons contributing to lack of success in studies." Interest or learning for learnings sake is then one type of motivation that seems to be linked with performance. Academic motivation on the other hand might be seen as the type of intrinsic motivation which links attainment with self esteem. Entwhistle, Nisbet, Entwhistle and Cowell (1971) have developed specific scales of academic motivation which in tests show consistent relationships with degree results across different subject areas.

Motivational Factors

Entwhistle, Thompson and Wilson (1974) used a semi-structured interview schedule to assemble data concerning motivational factors. Although data assembled in this way permits only a simple analysis their findings were interesting. Overachievers included groups who were stable had high motivation and good study methods, unstable introverts with low motivation and poor study methods and also stable extroverts with high motivation and good study methods. Within this group of over achievers it seemed that neurotic students were motivated by fear of failure rather than hope for success. They concluded, "clearly there are quite distinct motivational patterns which lead to academic success for different types of student."

Entwhistle et al (1974) and Wankowski (1968) have both placed motivational factors into broadly similar categories. Entwhistle et al (1974) saw motivational factors being related to:-

a. Pre university experience - incidence of pressure or encouragement from home and school concerning entry; preparation and help received, experience of academic success.

b. Experience at university - transition problems; satisfaction with courses, relevance and interest of courses to the student, effort spent on study, amount of contact with staff, extra-curricular activities, reactions to exams.

c. Anticipated post - university experience, relevance of course to future goals; plans for work or further study.

These divisions are very similar to those of Wankowski (1968) in which he perceived four areas of influence contributing to success of failure.

a. Decision to enter university - own wish, or persuaded

b. Interest in studies

c. Ease or difficulty in studies

d. Short and long term goals - vague or definite.

The complexity of these motivational factors is easily seen, they include both intrinsic and extrinsic reasons for further study and as was stated previously there are many different motivational patterns as different personality types are motivated in different ways.

It must also be remembered that changes in attainment might effect the level of motivation rather than vice versa i.e. motivation and performance is a two way interaction that is too often seen as only one way!

6. INSTITUTIONAL FACTORS AND PERFORMANCE

This is an area which includes many variables, teaching methods encountered, staff student relations, the ethos and organization of the department and/or institution and type of student residence to name but a few that have been researched. The literature review will concentrate on the first two variables mentioned as these are the most relevant to the study.

Teaching Methods

There seem to have been few studies which have considered the influence of different teaching methods on student interest, or performance in a subject, although Wankowski (1968) concluded his analysis of student withdrawals at Birmingham by stating "The problem of student wastage is largely a problem of teaching." What is fairly well known however is that students in different faculties have very different experiences, for example there is more formal lecture contact in science and technology and more tutorial, discussion work in the arts and social sciences. Entwhistle and Nesbit (1971), The Hale Report (1964). These differences are seen by Hornsby-Smith (1972) as being linked to the wastage rates where science and technology have much poorer records than arts and social science faculties Robins Report (1963).

The hypothesis that students "involvement in and motivation for their studies are closely related to the degree to which their experiences not only of different teaching methods, but - more crucially - of different teaching styles, meet their expectations, not only got established facts but also for the opportunities offered for discussion, debate and challenge to those facts."

Gaynor and Millhan (1975) claimed they could account for up to 82% variance in performance by taking three variables, previous exam grades, degree of correspondence between specific teaching methods and course conditions, and student preferences for such and amount of anxiety facilitated by exams.

Another area which does not seem to have been looked at in great depth is the interaction between student personality type and teaching methods. There are two basic ways of teaching, one is teacher centred e.g. lectures, the other student centred e.g. tutorials. It can be hypothesised that neurotic students might do better in the former situation while stable students would perform better in the latter. Peterson (1977) found that neurotic students did best in a low participation, low structure situation if they were of poor ability, but worst in this situation if they were of high ability. Stable students of high ability did best in low structure/low participation while stable poor ability students did best in high structure/low participation situations. Although these results do not completely support the original hypothesis they do indicate that different personality types may benefit more from different types of teaching. Beach (1960) also examined personality and performance in different learning situations and concluded that more extrovert students performed better in situations allowing student participation.

The importance of staff-student relations and attitudes of students towards staff and vice versa would seem intuitively another potentially important variable when considering performance. It is an area where research is increasingly being carried out. Fearn-Wannan (1979) looked at student performance on a chemistry degree taking five variables into account, student satisfaction with teaching, non-involvement, achievement motivation, conscientiousness and the lecturers student orientation as perceived by students. His research led him to conjecture that "the non-involved student does not perform as well as others partly because he fails to derive satisfaction from the teaching and partly....because he fails to perceive his teachers as student orientated." He concludes that his "findings give modest support to the teaching - learning model which includes the students perception of the lecturers behaviour and satisfaction with teaching as mediating variables in the determination of student performance." Pascarella and Terenzini (1978) cite evidence from a number of studies suggesting frequency of informal staff-student contact outside class is positively associated with persistence, as against withdrawal, on a course. Abercrombie (1969) also cites studies which refer to the accessibility of the teacher as an important ingredient in the learning situation as well as the necessity for feedback. In discussing the work of Malleson (1963), Miller (1970) concludes, "There can be little doubt that attitudes and practices of Oxford and Cambridge tutors in the extensive interaction with students are powerful influences promoting a high graduation rate."

This is a relatively new area where more research could be done however it might be suggested that a students perception of how sympathetic or otherwise his lecturer is and the amount of staff-student interaction outside the formal lecture situation may well be an important variable in student motivation and performance.

7. CONCLUSION OF LITERATURE REVIEW

This review has from necessity looked at only four areas from a vast and expanding wealth of research. It seems possible however to draw certain general conclusions from this survey.

a. No single variable will ever explain more than a small proportion of variance when considering academic performance.

b. One response to this has been to try and identify a number of 'symptoms of failure' or indicators of success which students show, these include several variables, for example study methods, personality, motivation and academic aptitude (Wilson 1973). Entwhistle at Lancaster (1977) identified high and low attainment clusters of students again looking at the interaction between such variables as motivation, study methods and personality.

Whilst this approach is obviously more realistic accepting as it does the complexity of interactions between the different variables it is not without problems.

Wilson (1973) in a study at Aberdeen found that students passing first year exams could be distinguished as a group from failing students but that few differences were statistically significant. He went on to conclude, "even the attempt to combine variables significantly related to fail performance on an individual basis has not successfully distinguished pass students from fail."

c.   The literature amply illustrates that the prediction of academic performance, especially in the first year of high education is extremely difficult and complex. Even when variables have been shown to be consistently associated with performance, how the variable actually is associated, depends on the interaction with other facets of the individual student. A more productive use of the research then might be in counselling rather than prediction. Nisbet and Welsh (1976) in a study of the early warning scheme at Aberdeen came to a similar conclusion, they state, "The value of the system may not lie in prediction but in the demonstration of awareness and concern." In the Aberdeen study no remedial coaching was offered although the problem areas mentioned by "at risk" students, such as disorganized study habits, lack of motivation, subject difficulty and transition problems, may have been helped if it has been available.

d.   The predominant feeling then from the body of research previously conducted was that in order to identify students "at risk", several variables at least must be taken into account. Students would need to be monitored as closely as possible in order to determine when they became potential "failures." and several different methodologies may be better than just one.

For example, only using interviews might provide too much in depth information which would be hard to quantify, whereas the use of questionnaires would probably result in missing more subtle hidden information. Finally some areas had been so well researched notably IQ and 'A' level results and performance that it was felt nothing new could be offered in these areas.

e. Taking this as a starting point several general guidelines were taken. Firstly a minimum of four variables would be considered rather than concentrating on one alone in depth, and the variables chosen would be drawn from discussions with students. Whilst obviously wishing to research something of value, the most obvious and researched variables would be avoided in preference for those which had the potential for being important but had not yet been fully explored.

Students would be approached several times over their first year rather than just at one point, in order to obtain progressive information. Further different methods of gathering information would be used so that both qualitative and quantitative information was available providing a balanced picture of the two complimenting each other. Finally the aim of the project was not to produce an instrument which would pinpoint students likely to fail as this had been shown to be futile. Rather the research would try to identify areas where problems occurred so they might be rectified for future students if possible.

METHODOLOGY

1. Introduction

As previously noted this project was to concentrate on the students first eighteen months at Sheffield City Polytechnic. During this period a wealth of information would be available so it was most important to decide which aspects would be studied in advance.

2. What to Measure

The literature review clearly suggests that student performance cannot be explained by one variable alone but rather that many variables play a part fitting together rather like a jigsaw puzzle. While keeping this in mind it was felt that with limited time and resources it would be better for this study to examine a few variables in depth rather than look briefly at many possible factors. As the research would have to be limited in this way the variables that seemed initially to be the most important were chosen for study. Horsey (1977) had already done some work on the B.S.C. Catering Systems course, two of her most important conclusions being:

    a. In over half the cases where students left the department the reason was classified as either dissatisfaction or prior misconceptions about the course and/or industry.

    b. There was no significant correlation between 'O' and 'A' level results and success on the course.

Taking these findings as a starting point the most productive line of enquiry seemed to be a further examination of student attitudes and expectancies.

Of the many other variables which could have been chosen to study but were omitted perhaps ability is the most important, almost certainly it is the most researched as seen in the literature review. It is agreed that 'A" levels are the best single predictor prior to student entry (UCCA 1967, 1969), Elton (1969) Choppin et al (1973) but that they only explain a tiny percentage of total variance. Having considered these findings plus those of Horsey from actually within the department, it was felt that for the purposes of the study it would be assumed that having obtained the necessary qualifications to enter higher education the students all possessed "the ability" to pass the course if they so wished.

Having taken attitudes and expectancies as the two main variables, possible methodologies were the next problem to be considered. As this was a longitudinal study it was necessary to obtain information at regular intervals. Six months was felt to be a suitable period for two main reasons.

a. Testing students at shorter intervals might lead to boredom, which in turn might affect the responses given. Any longer gap might detract from the continuity of the project, or fail to document attitude change.

b. A six month period fitted very logically into the framework of the courses. It meant tests were administered, on entry, just prior to 1st year exams and immediately after industrial training, times when students were most likely to be thinking about and assessing the course.

Put in a simple diagrammatic form the data collected was
as below:

```
Student            Attitudes on arrival
Entry in ───────>  Transition Problems  ─────────>End of
October            Expectancies about              term
                   course                          DEC.
                                                     │
                                                     │
                                                     │
                                                  Holidays
                                                     │
                                                     │
  April <─────────  Students attitudes after         ▼
    │               6 months.  Expectancies <───── JAN.
    ▼               relating to industrial
Holidays            training. Interviews with
    │               Students.
    │
    │
    │
    │
    │
    └──────────────────>    E X A M S ─────────────────┐
                                                       │
                                                       ▼
                                                   Holidays
                                                       │
        ┌──────────────Industrial Training <───────────┘
        │
        ▼
Second year
  begins────> Oct HND
                │
                │
                │───────────> Attitudes towards
                │
            Jan (BSC)    Industrial Training
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The next logical stage after a decision about which variables to concentrate on was which methods to employ. Three things however affected all methods and therefore needed to be considered before making the final decision, these were method's reliability, validity and analysis of attitude and behaviour.

3. RELIABILITY

Reliability is basically a measure of stability in the persons reponses. If, for example, a person scored ten on an attitude scale and then a hundred two days later the scale could not be seen as reliable. This method of testing for reliability by giving the scale on two occasions is called the Retest Method but problems occur when considering what time gap to leave. Too short a gap and the person may remember previous answers, too long and there may be a genuine change in opinion. Other methods of testing for reliability are the equivalent forms method where two forms considered equivalent are administered to a group of subjects and the scores correlated and the split half method where two or more parts are used as a separate scale and the scores correlated. Both these tests are unsatisfactory to some degree as the criteria for the equivalent form is very difficult to meet and with the split half method there are many splits available and each could yield different estimates.

Internal consistency (Künder and Richardson 1937) might be seen as a better approach. This examines agreement among all the items simultaneously that is items are chosen which correlate most highly with the other items in the scale.

4   VALIDITY

Put simply validity is the degree to which the instrument measures what it is supposed to.   The American Psychological Association (1966) has however identified three separate types of validity.

   a.   Content validity - this refers to the degree that the scale being used represents the concepts about which generalizations are to be made.

   b.   Criterion Validity - this is concerned with a correlation between the measure used and a direct indication of the characteristic under investigation e.g. students attitude towards study and actual time spent studying.

   c.   Construct Validity - this looks at the relationship between the attitude measured and other aspects of the personality.

5   ATTITUDE

Having rather boldly stated the project would study student attitudes a definition of attitude then became necessary, The Concise Oxford Dictionary defines attitude as "settled behaviour as indicating opinion".   Allport (1935) looking at a selection of definitions of attitudes prior to 1935 found almost all implied attitudes as having some directive influence on behaviour.   By 1967 however Fishbein felt able to state, "After more than 15 years of attitude research there is still very little, if any, consistant evidence supporting the hypothesis that knowledge of an individuals attitude toward some object will allow one to predict the way he will behave with respect to that object."

Intuitively it seems obvious that two people can hold the same attitude yet behave differently concerning it depending upon a multitude of other variables. These might be:-

a. Other attitudes relevant to the given behaviour besides the "measured attitude."

b. Competing motives i.e. there may be drives underlying behaviour which are stronger than the attitudes,

c. Verbal, intellectual and social inabilities which may prevent a person from translating attitude into action.

d. Situational factors can often precipitate or prevent behaviour regardless of attitude.

It becomes clear then that the relationship between attitude and behaviour is extremely complex and that attitude measurement alone (in whatever form) is not adequate as a predictor of behaviour. Further the idea of attitude as an opinion as given in the original definition has also been seen as too simplistic. Triandis (1971) considers that attitudes have three components not one.

a. The cognitive component - that is the idea, which is generally some category used by humans in thinking.

b. The affective component - which is the emotion that charges the idea.

c. The behavioural component - which is the predisposition to action.

While keeping this theoretical complexity in mind it was decided for the purpose of the study to look at the concept of attitude as an entity.

This decision was taken for several reasons, firstly the theory of dividing attitudes into separate components does not translate easily into practical situations. Often it is impossible to distinguish different components due to their close relationship. When developing scales attitudes were inferred from what the student said, the way they felt, and the way they said they would behave towards an attitude object but often all these components were contained in one statement. Secondly the main aim of the project was the development of attitude scales although this obviously involved some study of the above issues it was important not to get side tracked too far in such complex issues and lose sight of the aim.

Finally a working definition of attitude for the purposes of the study was reached, attitude was seen as an evaluative feeling, favourable or unfavourable, towards particular objects/subjects which may indicate a disposition towards certain types of behaviour.

6. <u>METHODOLOGY AVAILABLE</u>

    a. Questionnaire.

Questionnaires are one of the most popular methods of collecting data being relatively cheap and efficient. As with all methods there are advantages and drawbacks. The open ended type of questionnaire allows the students freedom of response but can be hard to code and quantify results. Conversely the closed ended type is easily classified but by virtue of its strict form, information may have been missed. Concerning reliability a well designed questionnaire with precise unambiguous questions should be quite reliable although there is no guarantee that what a person replies is an accurate reflection of their beliefs.

A guarantee of anonymity is most desirable in order to encourage respondants to be truthful rather than responding with what they think the interviewer wants to hear.

Little research has been done into the effectiveness of questionnaires however Hagvurg (quoted by Forcese and Richer 1970) asked 277 local union leaders how many classes they had attended, 36% made a completely accurate response while inaccuracies clustered around the true answer tending towards the favourable i.e. they said they had attended more classes than they actually had. This highlights an important point when using questionnaires notably people are likely to want to present themselves in a favourable light especially in value loaded situation (i.e. situations where people feel they should have done something because it was "right and correct"). It is very difficult to avoid this effect completely but it can be lessened by phrasing any questions in a neutral manner.

For this study a limited use of the questionnaires was seen as desirable for several reasons. It was cheap and easy to administer, in the limited time available it was probably the quickest method to prepare and validate and finally when used in conjunction with other methods it was thought to be fairly reliable.

b. Attitude Scales

There are several different types of scale, each with their individual advantages and drawbacks. The following were considered.

Thurstone

Thurstone was a pioneer in attitude scaling techniques. He suggested that the concept opinion was a verbal expression of attitude and therefore opinions should be used to measure attitudes. The Thurstone method of attitude scale construction involves people "judging" a large item pool and grading the statements eg. a positive statement might be given the value +5 a neutral statement 0 and a slightly negative statement -3, other statements of varying intensity would be given values as appropriate. This process has the problem of being rather complex and cumbersome with the further difficulty of how many and who to have as judges as if different groups are used different scales might result.

Likert.

This method of scaling is less laborious and simpler. A pool of items is taken and subjects then place themselves on an attitude continuum for each statement. Likert's principle concern is undimensionality and internal consistency is found by working out the correlation coefficient for each item, with the total score and retaining those with the highest correlations. The most serious criticism of the Likert scale is that the same total score can be obtained in so many different ways. It must also be remembered that equal score intervals do not permit assertions about the equality of underlying attitude differences. The scale does have some important advantages however; it is relatively easy to construct, it tends to include self reference items making the scale more specific to the subject and it is also possible to include items whose manifest content is not obviously related to the attitude in question so that subtler ramifications of an attitude might be explored.

Guttman

The Guttman scalogram analysis is designed to see how far items and people's reponses deviate from the ideal scale pattern. It is useful when examining small changes in attitude, however the procedures are laborious particularly when numbers are large and the questionnaires only have yes/no alternatives which is somewhat inflexible.

Semantic Differential

Developed by Osgood (1957) this consists of bipolar rating scales which have three main factors, evaluation, potency and activity. Much care needs to be taken when using evaluative words eg. kind - cruel also if subjects observe that "desirable" things appear on one side of the scale and "undesirable" things on the other they might respond in a set manner with little evaluating overall between individual set pairs.

Once devised and validated attitude scales are relatively cheap and easy to administer, they also provide an important source of quantitative information hence they seemed a good method of collecting data for the project.

c.   Interviews

Interviews can offer a wealth of information, however subjects reponses can be affected in a number of different ways for example whether they are interviewed alone or in groups.

The respondent may also feel pressure to answer in the direction she/he believes will confirm the opinions/expectations of the interviewer. It is important therefore that the interviewer takes a neutral stance in order to prevent biasing the interviewee. This can provide problems as unless a rapport is established information is hard to elicit but the rapport must be obtained without influencing the directon of the responses by the subject. Interviews can also be difficult to code but their greatest advantage is in adding richness and depth to information from more quantitative methods as well as a means of checking responses and a neutral method for getting "a feel" for the research.

Conclusion

All the above methods are well esatablished as ways of collecting information and all have certain problems and advantages. Rather than using one method it therefore seemed best to use several which complimented each other Entwhistle (1977) clearly states this when he suggests "A combination of questionnaire to obtain quantitative information and to investigate the relationship between variables in a representative sample and interview or participant observation to counteract the simplifications or distortions created by mass testing together produce a more convinving basis for theory building than either approach used separately".

7. The Development of E1 and E2

When considering student expectancies two methods of collecting information seemed possible, questionnaires and interviews.

The research concerned with student expectancies about the course on entry in October; interviews during this period would have been very difficult to administer as the first week of term is very busy and interviews are a time consuming method for both interviewer and subject. Secondly most of the research carried out previously on student expectancies has come from semi-structured interviews and has therefore been qualitative rather than quantitative. (eg Little 1970, Marris 1964, Powell 1976). It seemed a questionnaire might be the best method both for ease of administration and also to provide information in more precise terms ready for analysis.

Previous research by Horsey (1977) in the department had indicated that students often had false expectancies concerning the weighting of subjects. In order to obtain a more precise idea of this it was decided to ask students to place subjects in their order of importance, importance being defined as the amount of contact hours spent on a subject. Wankowski (1973) has suggested "the change from the tuition milieu of the school to that of the university" is so traumatic "that only the most confident and adaptable young scholars can withstand this challenge with equanimity". In order to try and obtain some data on how students perceive the structure of the teaching they were asked to state how many hours they expected to spend weekly in different teaching situations (seminars, practicals, lectures) and private study.

The second half of the questionnaire was concerned with possible transition problems. The transition period, usually seen as the first and second terms, had been suggested by Wankowski (1973) Wiereke (1976) Entwhistle and Wilson (1976) as being a variable in explaining student performance. The main questions being considered were:-

a. What problems did students expect?

b. What problems actually occurred?

c. Was there any relationship between the above questions and student performance?

The best format for obtaining the information seemed to be a checklist of problems where students could tick off whether they expected great/some/no difficulty or not applicable. Space was also left for students to write any expected problems not already mentioned. The original basis for the checklist of problems was taken from the work of Wieneke (1976) and other items were added after talking informally to four groups of first year student's (two B.S.C. and two H.N.D.) of six students each about what problems they had encountered.

The questionnaire E1 was administered during the student's first week of term and also E2, containing a shortened version of the Eysenck personality inventory, a questionnaire in the same format investigating what actually happened to the students. The latter was administered towards the end of the second term. This version was considered most appropriate for several reasons:-

a. It is the shortest inventory available and it was desirable not to lose student co-operation by overfacing them with questionnaires.

b. The shortened version has been shown to be as reliable as the longer format in experiments (Saville & Blinkhorn 1976). A short talk was prepared which explained the purpose of the research, assured complete confidentiality and requested the students co-operation. The same talk was used on every occasion that questionnaires or attitude scales were administered. The research student was present while students completed the scales and they were encouraged to ask questions if any problems arose.

The following questionnaire is concerned with your expectancies about the course. There are no right or wrong answers as such - the correct response is the one that is genuinely true for you. This questionnaire is for research purposes only and as such is strictly confidential. Please could you indicate your answer by placing a tick in the relevant box, thank you.

1. Please place a 1 next to the subject you expect to spend most time on in your first year and then rate the other subjects in order below 2, 3, 4 etc. You may bracket subjects together if you think equal time will be spent on them.

   Applied Science (Physics and Chemistry)

   Economics

   Food production and service

   Psychology

   Food studies

   Quantitative methods

   Catering systems

2. Approximately how many hours a week do you think will be spent attending:

   Lectures   .... hours

   Seminars   .... hours

   Practicals   .... hours

3. Approximately how many hours a week do you expect to spend in private study?

                               .... hours

4. What do you think the course workload will be like?

   Heavy (e.g. full timetable and several evenings
       private study)

   Moderate (fairly full timetable and some private
       study)

   Light (few timetabled hours and little private
       study)

in the following situations or not?

	No Difficulty	Some Difficulty	Great Difficulty	Not Applicable
a) Having to participate in small group discussions.				
b) Having to seek out staff for consultation.				
c) Not having any friends at the Polytechnic.				
d) Being uncertain about the level of performance required.				
e) Taking responsibility for my own learning.				
f) Having to spend time travelling to and from the Polytechnic.				
g) Coping with a heavy workload.				
h) Studying subjects which I have no background in.				
i) Having to plan my work ahead without help.				
j) Using the library efficiently.				
k) Preparing for exams.				
l) Concentrating on my studies when there are so many student activities.				
m) Taking good lecture notes.				
n) Expressing ideas clearly on paper.				
o) Producing my own original ideas.				
p) Having so much freedom (eg no compulsion to attend classes).				
q) Living away from home.				
r) Getting on with others on the course.				
s) Producing work of the required standard.				

Name ....

This questionnaire is a follow-up to the one you completed in
October. Once again it is strictly confidential and there are no
right or wrong answers, only what is true for you. Please indicate
your answer by either placing a tick in the relevant box or filling
in the space. Thank you.

1.   Approximately how many hours a week do you spend in private
      study?

                                            .... hours

2.   What do you think the course workload is like?

      Heavy (eg full timetable and several evenings
      private study).

      Moderate (eg fairly full timetable and some
      private study).

      Light (eg few timetables, hours and little
      private study).

During the past term have you experienced difficulty in any of the following situations or not?

		No Diffi- culty	Some Diffi- culty	Great Diffi- culty	Not Appli- cable
a)	Having to participate in small group discussions.				
b)	Having to seek out staff for consultation.				
c)	Not having any friends at the Polytechnic.				
d)	Being uncertain about the level of performance required.				
e)	Taking responsibility for my own learning.				
f)	Having to spend time travelling to and from the Polytechnic.				
g)	Coping with a heavy workload.				
h)	Studying subjects which I have no background in.				
i)	Having to plan my work ahead without help.				
j)	Using the library efficiently.				
k)	Preparing for exams.				
l)	Concentrating on my studies when there are so many student activities.				
m)	Taking good lecture notes.				
n)	Expressing my ideas clearly on paper.				
o)	Producing my own original ideas.				
p)	Having so much freedom (eg no compulsion to attend classes).				
q)	Living away from home.				
r)	Getting on with others on the course.				
s)	Producing work of the required standard.				
t)	Poor course administration				
u)	Arriving on time				
v)	Others - please state				

PERSONALITY INVENTORY

(Please tick the relevant box. Work quickly but try to be accurate).

YES   NO

A.   Do you sometimes feel happy, sometimes depressed, without any apparent reason?

B.   Do you prefer action to planning for action?

C.   Do you have frequent ups and downs in mood either with or without apparent cause?

D.   Are you happiest when you get involved in some project that calls for rapid action?

E.   Are you inclined to be moody?

F.   Does your mind often wander while you are trying to concentrate?

G.   Do you usually take the initiative in making new friends?

H.   Are you inclined to be quick and sure in your actions?

I.   Are you frequently 'lost in thought' even when supposed to be taking part in conversation?

J.   Would you rate yourself as a lively individual?

K.   Are you sometimes bubbling over with energy and sometimes very sluggish?

L.   Would you be very unhappy if you were prevented from making numerous social contacts?

NAME: ....

The following questionnaire is concerned with your expectancies about the course. There are no right or wrong answers as such – the correct response is the one that is genuinely true for you. This questionnaire is for research purposes only and as such is strictly confidential! Please could you indicate your answer by placing a tick in the relevant box, thank you.

1.   Please place a 1 next to the subject you expect to spend most time on in your first year and then rate the other subjects in order below 2, 3, 4 etc. You may bracket subjects together if you think equal time will be spent on them.

        Food and beverage studies

        Accommodation studies

        Business studies

        Applied science

        Management studies

2.   Approximately how many hours a week do you think will be spent attending:

        Lectures   .... hours

        Seminars   .... hours

        Practicals   .... hours

3.   Approximately how many hours a week do you expect to spend in private study?

                                    .... hours

4.   What do you think the course workload will be like?

        Heavy (e.g. full timetable and several evenings
            private study)

        Moderate (fairly full timetable and some private
                study)

        Light (few timetabled hours and little private
                study)

		No Difficulty	Some Difficulty	Great Difficulty	Not Applicable
a)	Having to participate in small group discussions.				
b)	Having to seek out staff for consultation.				
c)	Not having any friends at the Polytechnic.				
d)	Being uncertain about the level of performance required.				
e)	Taking responsibility for my own learning.				
f)	Having to spend time travelling to and from the Polytechnic.				
g)	Coping with a heavy workload.				
h)	Studying subjects which I have no background in.				
i)	Having to plan my work ahead without help.				
j)	Using the library efficiently.				
k)	Preparing for exams.				
l)	Concentrating on my studies when there are so many student activities.				
m)	Taking good lecture notes.				
n)	Expressing ideas clearly on paper.				
o)	Producing my own original ideas.				
p)	Having so much freedom (eg no compulsion to attend classes).				
q)	Living away from home.				
r)	Getting on with others on the course.				
s)	Producing work of the required standard.				
t)	Others (please state)				

Name ....

This questionnaire is a follow-up to the one you completed in October. Once again it is strictly confidential and there are no right or wrong answers, only what is true for you. Please indicate your answer by either placing a tick in the relevant box or filling in the space. Thank you.

1.   Approximately how many hours a week do you spend in private study?

                                               .... hours

2.   What do you think the course workload is like?

      Heavy (eg full timetable and several evenings private study).

      Moderate (eg fairly full timetable and some private study).

      Light (eg   few timetables, hours and little private study).

		No Difficulty	Some Difficulty	Great Difficulty	Not Applicable
a)	Having to participate in small group discussions.				
b)	Having to seek out staff for consultation.				
c)	Not having any friends at the Polytechnic.				
d)	Being uncertain about the level of performance required.				
e)	Taking responsibility for my own learning.				
f)	Having to spend time travelling to and from the Polytechnic.				
g)	Coping with a heavy workload.				
h)	Studying subjects which I have no background in.				
i)	Having to plan my work ahead without help.				
j)	Using the library efficiently.				
k)	Preparing for exams.				
l)	Concentrating on my studies when there are so many student activities.				
m)	Taking good lecture notes.				
n)	Expressing my ideas clearly on paper.				
o)	Producing my own original ideas.				
p)	Having so much freedom (eg no compulsion to attend classes).				
q)	Living away from home.				
r)	Getting on with others on the course.				
s)	Producing work of the required standard.				
t)	Poor course administration				
u)	Arriving on time				
v)	Others - please state				

Please read the following statements carefully and then tick the relevant box.

                                                    YES   NO

A.   Do you sometimes feel happy, sometimes
      depressed, without any apparent reason?

B.   Do you prefer action to planning for action?

C.   Do you have frequent ups and downs in mood
      either with or without apparent cause?

D.   Are you happiest when you get involved in some
      project that calls for rapid action?

E.   Are you inclined to be moody?

F.   Does your mind often wander while you are trying
      to concentrate?

G.   Do you usually take the initiative in making
      new friends?

H.   Are you inclined to be quick and sure in your
      actions?

I.   Are you frequently 'lost in thought' even when
      supposed to be taking part in conversation?

J.   Would you rate yourself as a lively individual?

K.   Are you sometimes bubbling over with energy and
      sometimes very sluggish?

L.   Would you be very unhappy if you were prevented
      from making numerous social contacts?

8. The Development of Attitude Scales

The work of Cosford (1976) at the Hotel and Catering Department, Surrey had suggested that failing students had "poor attitudes" towards the course. The problem here is that there is no way to decide whether the poor attitudes preceeded the poor performance or vice-versa. It was thought that two attitude scales, one administered prior to the course and one prior to the exams might help solve this problem by monitoring attitude change rather than just considering students attitudes at one particular time. Certain scales already in existence were considered for use notably the Entwhistle (1970) Student Attitude Questionnaire which measures personality, social attitude, motivation, study methods, syllabus boundness or freedom. This would have had the advantage of already having been validated and tested on numerous occasions however it was decided not to use it for the following reasons:-

a) In a pilot run where the questionnaire was administered to first year B.Sc. students, none of the measured concepts were found to be associated with performance.

b) The questionnaire was thought to be too general for the purposes of the study. It was felt that a more specific instrument measuring student attitudes towards different aspects of the course would be more useful as a guide to counselling as it would be easier to pick out areas where problems might occur.

Having considered the possibility of using attitude scales already in existence and concluding that they did not seem to be exactly what was needed the next question was what type of attitude scale to devise given the constraints on time and the limited resources.

Tittle and Hill (1967) in an experiment to determine the degree of correspondence between measured attitude and observed behaviour looked at four different methods of attitude measurement, Likert, Semantic Differential, Guttman and Thurstone. Results indicated only a moderate degree of correspondence between measured attitude and observed behaviour however out of the four methods "The Likert scale was found to be the best predictor and to exhibit "the greater reliability". Further for the purposes of this study the Likert method had the advantage of being the least technical of the attitude scales from the point of devising and validating and therefore was the most suited to a project which had a limited time span.

Stage 1

Unstructured interviews were held with students, (two groups of six first years from each course and one group of ten final years from each course) in order to try and identify areas where student attitudes may be important. Following this four areas were identified.

a. Interest in subject.

Following Peters (1958) this might be called intrinsic motivation. It concerned such items as enjoyment of classwork and private study, absorption in new topics and genuine pleasure derived from the feeling that they were learning..

b.   Relevance of subjects.

To again follow Peters (1958) this might be seen as extrinsic motivation. It concerned a feeling that what was being learned needed to be directly useful for a students future career before they would whole-heartedly apply themselves to it.

c.   Student/Staff relations.

Students attitude towards staff and vice versa seemed to be important. If students identified a staff member as being uninterested in either them or the subject they tended to have a negative attitude towards that person which sometimes spread to the subject. Students who felt at home in the department and saw the staff as supportive had more positive views towards the course and department as a whole.

d.   Attitude towards teaching methods.

There was a wide discrepancy of opinion between students e.g. some felt there should be more time allowed for discussion, others thought seminars a waste of time.   For most students teaching methods were mentioned in terms of satisfaction or dissatisfaction.

Stage 2

Having decided to concentrate on the above four areas as they appeared to be the most important in terms of student satisfaction/dissatisfaction an item pool was devised for each topic. Each pool consisted of between 40- 60 items the majority taken from statements made by students during interview.

The Likert method of attitude scales was used for reasons previously mentioned however one further advantage was clear at this stage. When pooling the items it was possible to include items which did not seem directly linked at first glance but that might infact be important. An example of this was the inclusion of the item "In the sixth form I was treated as a student rather than a pupil" on the student/staff relations scale, as it was thought that there might be a link between students past experience and their attitude towards staff in higher education.

There were an equal number of positive and negative statements which were set out in a random order and students were asked to tick one of the five responses to these statements. The responses were strongly agree, agree, neutral, disagree, strongly disagree. The scales were administered to the first year intake of the H.N.D. and B.Sc. courses at the end of their second term. A short talk stressing confidentiality was given prior to the completion of the scales. (The same talk was used on every occasion where students were requested to complete questionnaires/ attitude scales.)

See appendix for full list of attitude scales used.

Stage 3

The scales were then tested for internal validity. The overall score for each of the statements was noted, then the total scores for a series of items covering a similar set of attitudes was calculated (e.g. total score for all the items of interest in applied science).

The score from an individual item was then taken away from this total and the item score and new total correlated.

The reason for this was that otherwise an item score would have been correlated with itself if it had been left included in the total score. The above process was repeated for every item on the scales.

Stage 4

Correlations ranged from -0.26 for "Business Studies is taken to an academic level we don't need". to 0.95 for "I would like to come back and visit the department after I have graduated." Items that correlated highly, that is were statistically significant at the 0.01 level were used to form a single scale including all four areas. This single scale consisted of six items on each subject (Three each on relevance and interest) ten items on staff/student relations and fifteen on teaching methods. (five each on lectures, seminars and practicals). The items were carefully randomized and students were asked to rate them on a five part Likert scale as before. The scale was administered to all first year H.N.D. and B.Sc. students in introductory week and again in the second term providing three sets of information.

    a. Attitude on entry

    b. Attitude prior to the exams, having experienced the course

    c. Any change in attitude

NAME: ....

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box.

Food and Beverage Studies includes: analytic food preparation; food and beverage service.
Accommodation Studies includes: cleaning and textile science; accommodation.
Applied Science includes: chemistry, physics, food science and nutrition.
Business Studies includes: costing and control, business statistics and business economics.
Management Studies includes: applied psychology and work study.

The rating scale is as follows:

SA = Strongly agree
A   = Agree
N   = Neutral
D   = Disagree
SD = Strongly disagree.

                                              SA A N D SD

1.   I expect to enjoy applied science.

2.   I think lectures will be too formal.

3.   It is becoming important for caterers to have
      a firm grasp of business studies.

4.   I think staff will be interested in academic
      results not students.

5.   I don't expect to like accommodation studies
      much.

6.   I think lectures will be interesting in
      general.

7.   I don't think it would matter if less time was
      spent on management studies.

8.   I will always stop and chat to any lecturer I
      meet outside the Polytechnic.

9.   I think that there will always be something
      interesting happening in food and beverage
      studies.

10.   I expect to enjoy the informal atmosphere of
      seminars.

11.   It is vital to understand the importance of
      business studies for the future.

12. I think work in accommodation studies will be very satisfying.

13. I expect some practicals will be tedious.

14. I think management studies will be a real help when dealing with staff.

15. Somehow, I think I will feel uncomfortable when I'm with staff.

16. I am looking forward to doing applied science.

17. I expect seminars to be friendly and relaxed.

18. Any knowledge of applied science will be relevant to my future career.

19. I would like to come back and visit the department after I graduate.

20. I expect business studies to be the least interesting subject.

21. I think the course would lose much of its validity without practicals.

22. I consider the course to be overly concerned with the food and beverage aspect.

23. I expect to get a lot out of the management studies part of the course.

24. I think lectures will be simply 'spoon feeding' knowledge.

25. Accommodation studies seems to be studied in too much detail.

26. If staff don't take any notice of me I shall not be at all bothered.

27. I think I shall be relieved when food and beverage periods are over.

28. I don't expect to really enjoy seminars.

29. I don't think the work in business studies will relate to practical catering.

30. I don't expect management studies to hold my attention.

31. I think practical work will be mundane.

32. No time spent on accommodation studies will be wasted.

33. I think staff will be very sympathetic towards students.

34. Applied science will be an interesting
    subject to study.

35. I don't think lectures will be very inspiring.

36. A sound knowledge of food and beverage studies
    will be essential for my career.

37. I expect to see the staff as friends really.

38. Accommodation studies will bore me.

39. I would prefer less seminars.

40. I don't think applied science will be as
    relevant to catering as the course insists.

41. I will not look for much personal contact
    with staff.

42. I expect I shall daydream in food and
    beverage periods.

43. I think I will learn quicker in a practical
    situation.

44. Accommodation studies seems to take up too
    much valuable time.

45. I don't think I'll ever revisit the
    department after leaving.

46. I expect business studies to be very
    interesting.

47. I think practicals will be very enjoyable.

48. I think work covered in food and beverage
    studies will be one of the least essential
    parts of the course.

49. I expect to have good relations with my
    lecturers.

50. I shall spend quite a bit of time on
    management assignments.

51. I think that talking in seminars will
    be stressful.

52. I don't think my knowledge of applied
    science will be useful once I've left.

53. I expect business studies will be depressing.

54. Lectures will be a good way of making sure
    everyone has the same knowledge.

55. Management studies will be an indispensable
    part of the course.

Could you please indicate how far you agree with the following
statements by placing a tick in the relevant box. The scale is
as follows:

SA = Strongly agree
A   = Agree
N   = Neutral
D   = Disagree
SD = Strongly disagree.

                                        SA A N D SD

1.   I am looking forward to doing
      applied science (physics and chemistry).

2.   I expect to find lectures interesting in
      general.

3.   I don't think work covered in quantitative
      methods will be of any real practical use.

4.   There will always be something interesting
      happening in food production and service.

5.   I expect practicals to be stimulating.

6.   Work covered in psychology will be a real
      help when dealing with staff and customers.

7.   I expect to feel at home in the department
      here.

8.   I think studying catering systems (CCOA) will
      be very satisfying.

9.   One of the most important subjects to be
      studied is economics.

10.   I will enjoy discussing my ideas in
      seminars.

11.   I will never get fed up of doing food studies.

12.   I expect applied science to be useful when I
      enter the industry.

13.   If possible I shall not approach staff with
      problems.

14.   I think I would enjoy any extra time spent on
      quantitative methods.

15.   I expect catering systems will be a good
      preparation for entering the industry.

16.   I think lectures are unnecessary really.

17.   Doing psychology doesn't really appeal to me.

18. Practical work will be a refreshing
     experience.

19. I expect that work covered in food production
     and service will be one of the least essential
     parts of the course.

20. I think economics will be boring.

21. I expect seminars to be a good way of learning
     for me.

22. I think food studies will take up too much
     time.

23. I would like to feel accepted by staff.

24. I expect applied science will be boring.

25. It is important to realise that quantitative
     methods will be useful in catering.

26. I expect to like the set outline of lectures.

27. I think we will spend too much time on
     catering systems.

28. I think that work we will cover in psychology
     will put me at an advantage once I start a job.

29. I will try and avoid getting in discussions
     with lecturers.

30. I expect food studies will always hold my
     attention.

31. Work we do in economics will be an important
     part of my career later on.

32. I think people should place a higher value on
     practicals.

33. I will look forward to the end of food
     production and service periods.

34. I don't expect work in catering systems to
     help me in a real situation.

35. Lecturers will be interested in students
     as individuals.

36. I expect to get a lot out of doing psychology.

37. I don't think seminars will stimulate
     ideas for me.

38. I expect what we learn in food studies will be
     advantageous once I'm working.

39. I will always stop and chat to any lecturer I
     meet outside the Polytechnic.

40. I expect economics to be one of my favourite subjects.

41. The time we will spend on food production and service is absolutely essential.

42. For me lectures will be a good way of learning.

43. I expect quantitative methods to be the least interesting subject.

44. I think there will be too much applied science in the course.

45. Somehow I think I will feel uncomfortable when I'm with staff.

46. I feel very enthusiastic about doing catering systems.

47. I don't see how the psychology we will do can be of use in my work.

48. I think practicals will be very enjoyable.

49. I don't really expect to enjoy economics.

50. A good knowledge of food production and service will be essential for my career.

51. I would like to come back and visit the department after I graduate.

52. I think applied science will be tedious.

53. I don't expect to really enjoy seminars.

54. It will be essential that I have a good understanding of work covered in economics.

55. Quantitative methods will never fire my enthusiasm.

56. I don't expect lectures to inspire me.

57. I think catering systems will help me to see the industry in real terms.

58. I always expect to enjoy food production and service periods.

59. Students who will try to get on well with staff are 'creeps'.

60. I shall be sorry to finish the psychology part of the course.

61. I don't think applied science will be as relevant as the course makes out.

SA   A   N   D   SD

62.   Intellectually, I expect practicals to be
      unstimulating.

63.   I shall be pleased if a food studies period
      is cancelled for some reason.

64.   I would prefer less seminars.

65.   I don't think work we cover in food studies
      will be needed in my career.

66.   If staff don't take any notice of me I will
      not be at all bothered.

67.   I cannot imagine actually doing anything with
      the work we will learn in quantitative methods.

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9.   Interviews.

Semi structured interviews were held with first year H.N.D. and B.Sc. students. Students were first approached during a lecture, the purpose and nature of the interviews explained and then they were individully given a sheet with names and interview times printed on. The same sheet was also pinned to the notice board to provide a further reminder.

A list of general questions was prepared to provide the basis for a semi-structured interview. This was only a guideline however and students were allowed to digress or expand as they wished. Interviews were scheduled to last for 20 minutes however there was some variation depending on the person involved. (The shortest was fifteen minutes the longest forty five).

All the interviews were taped unless the subjects objected, two student's did so. The tape was placed by the subject but this seemed to have little noticeable effect on responses i.e. subjects were perceived to talk freely and openly after being given assurances of confidentiality. Taping was considered to be the most efficient method for several reasons.

   a.   In previous interviews the difficulty of phrasing questions, listening and recording responses at the same time had been noted.

   b.   In these more "in depth" interviews it was important not to miss out or bias any information and taping seemed to provide the most accurate method of recording the data.

c. At the time of the interviews both myself and the nature
    of the research were well known to students and staff. A
    rapport seemed to exist and so it was hoped that the
    presence of a tape would not seem threatening.

For the H.N.D. group, 30/35 came for interview and for the B.Sc.
21/30. Students who did not attend voluntarily were not pursued
as:-

a. The response rate was felt to be fairly representative and
    adequate.

b. Due to the close proximity of exams it was very doubtful
    that any further requests would have been heeded.

After taping the tapes were played back and transcribed in
details before being erased.

Guideline Questions for Interview

1.   When did you first become interested in catering?

2.   What helped you to decide on doing this course?

3.   In what ways have you found Polytechnic different from
     school, if any?

4.   Is the course the same as you expected?

5.   Did you encounter any problems/difficulties in the first
     term or not? If so, what?.

6.   What sorts of things do you particularly enjoy here?

7.   What do you find unsatisfying?/What do you find satisfying?

8.   What qualities do you think you need to do well here?

9.   Have you a career in mind or not?

10. Have you any comments to make about the course/department
     that haven't been covered so far?

10. Industrial Training.

Two questionnaires were given to H.N.D. and B.Sc. students prior to industrial training concerning their expectations, the same questionnaire was then given on their return concerning their actual experiences. As with the attitude scales we were faced with a choice of using questionnaires already in existance or devising new ones. In this instance the work of Smithers (1976) on Sandwich courses was used as the basis for the first questionnaire. This was for several reasons.

a. The Smithers scale has been developed and used originally for engineering students however the items were equally applicable for Catering Students, as the wording is not too specialized. The items could be adapted for use with catering students with little change as their meaning was already applicable.

b. Ten final year students were interviewed concerning their two periods of industrial training and many of the statements they made were mirrored by the Smithers scales, infact there were no major omissions between statements made by the students and the scale.

c. At this point of the study it was felt that we did not have the necessary time to devote to devising a new scale and rather than hurriedly construct one it would be more sensible to adapt. e.g. item 21 "I added a good deal to my scientific knowledge .became. "I added a good deal to my knowledge of the catering industry".

On the Smithers scale students can rate their industrial training in terms of the extent which they felt it contributed to their understanding and knowledge of catering and its organization , the human aspects of work, social self confidence, sense of purpose and amount of integration with college studies. It is a 30 item scale using a Likert format which was another advantage as the students were used to this method by now.

In order to gather further information a simple questionnaire was devised looking at four main areas.

a. The physical conditions expected by student's e.g. hours/pay/jobs.

b. The expectancies concerning the company e.g. the attitude of industrial supervisor towards them and the course, their reception and the structure of their training.

c. Students expectancies concerning the skills they would need and benefits to be gained.

d. Student expectancies concerning the value of the placement e.g. how well integrated with college work was it? How enjoyable?

It was felt that this questionnaire would provide valuable additional information to compliment that of the attitude scale. The two questionnaires were administered jointly prior to students going on Industrial Training and again on their return. Students expectancies and attitudes prior to training were then compared with actual events and the attitude of students on return.

Name ....

Could you please answer the following questions about
what you expect your industrial training to be like.
Either circle the relevant box or write in the answer
to each question.

Thank you.

1. How would you describe the briefing about industrial
    training you have had from the Polytechnic?
    Adequate

    Neither adequate nor inadequate

    Inadequate

2. What jobs are you expecting to be given on industrial
    training (e.g. bar work/waiting on)

3. On arrival at the establishment do you expect to be shown
    around or not?

    Yes, shown round all departments

    Yes, shown round department where first working

    No, not shown round at all

4. On arrival at the establishment do you expect to be
    introduced to the staff or not?

    Yes, introduced to most staff

    Yes, introduced to some staff

    No, not really introduced to any staff

5. How structured do you expect your training to be?

    (a) Very structured (close supervision and
        detailed plan of work)

    (b) Semi structured (some supervisions and very
        general plan of work)

6. What skills do you think you need to be successful
    during industrial training?

    (a) Social skills (e.g. willing/friendly)

    (b) Technical skills (e.g. knowledge of basic recipes).

7. How well do you think you have been prepared
    at the Polytechnic in the above mentioned skills?

                        Very well Quite Well Average Poor Very Poor

    (a) Social skills

    (b) Technical skills

8. How valuable do you expect your industrial
    training will be?

                    Very   Quite   Average Little No
                    Valuable Valuable   Value   Value

    (a) To you

    (b) To the esta-
        blishment where
        you work

9. Please give any benefits you expect to gain from industrial
    training

    (a) Social benefits (e.g. self confidence)

    (b) Technical benefits (e.g. ability to deal with large
        numbers)

10. How far do you expect your industrial training to tie up with
    the polytechnic based part of your course?

    A great deal   A little   Not sure   Not much   Very little

11. How relevant to your career do you expect you industrial
    training will be?

    Very   Quite   Not   Poor   Irrelevant
    Relevant   Relevant   Sure   Relevance

INDUSTRIAL TRAINING QUESTIONNAIRE

The following statements are all concerning your coming
industrial training period. Please indicate how far you
agree or disagree by placing the appropriate number in
the box on the right-hand side. The scale is as follows:

1 - Strongly agree, 2 - Agree, 3 - Uncertain, 4 - Disagree,
5 - Strongly disagree.

Thank you.

1.   Industrial experience will give me an excellent
      opportunity to discover what I'm most suited for.

2.   During my industrial experience I will be little
      more than a dogsbody working alongside experienced
      and highly qualified people.

3.   Industrial experience will give me a good chance to
      see how my theoretical knowledge works in practice.

4.   I expect my industrial training to be particularly
      useful once I'm qualified and working in the
      industry.

5.   During my industrial training I expect I shall be
      lonely.

6.   The time I spend in industry will simply be time
      spent moping around.

7.   The time I spend in industry will be especially
      valuable for learning how a firm works.

8.   During my time in industry I will simply be a
      form of cheap labour.

9.   Because I will have had industrial training I
      will be of more immediate use to my future
      employer than if I had had no such experience.

10.   During my industrial training I expect to work
      to a considerable extent on my own without
      constantly being told what to do.

11.   The time I will spend in industry is an unwelcome
      distraction from my studies.

12.   I expect to find out a great deal about the
      attitudes and practices of ordinary workpeople in
      industry, which will be of great value to me in
      my future career.

giving me an idea of the attitudes and outlook of
management.

14. In industry I expect to be given a lot of
    low level work which will be little or no help
    to my college studies.

15. Industrial training will be little more than a
    holiday.

16. Much of what I am learning in theory will have
    more meaning when I see it in practice in
    industry.

17. During my industrial training I expect to develop
    more self confidence in dealing with all kinds of
    people.

18. I expect to become more self confident in tackling
    technical problems.

19. During industrial training I expect I shall forget
    a good deal of what I learnt at the Polytechnic.

20. I expect to make a lot of new friends during my
    industrial training period.

21. I will add a good deal to my knowledge and under-
    standing of catering when I am in the industry.

22. During industrial training I expect to learn
    about the latest practical developments and
    advances in catering.

23. Workpeople in the industry will resent me.

24. In industry I expect to be treated as an individual.

25. I expect managers and supervisors to be friendly and
    easily approachable.

26. During industrial training I expect to be given
    efficient, helpful instruction and guidance for
    the work I do.

27. I expect to have a strong sense of purpose because
    profits will depend to some extent on how efficient
    I am.

28. During industrial training I expect I shall be little
    more than a 'dogsbody' working alongside people who
    are not highly qualified.

29. I expect to be given the opportunity to use my knowledge
    from the course while on industrial training.

30. I expect to have a strong sense of purpose because the
    results of my work will be of value to both the
    establishment and myself.

<u>RESULTS</u>

1.   <u>INTRODUCTION</u>

As the main thrust of the research was the development of attitude scales so the results are centred on how these scales performed.

Five main scales were used in the project. These were A1 + A2, E1 + E2 and the industrial training attitude scale. To briefly recap A1 dealt with attitude towards the students course and was split into four areas, interest in subject, relevance of subject, attitude towards staff, and attitudes towards teaching methods (defined as lectures, practicals and seminars.) This attitude scale was given to the new students in the first week of term.

A2 was an attitude scale in exactly the same format given to the students at the end of their second term.

Scale E1 concerned student expectancies about the course, for example how long they expected to spend in private study, which subjects would be the most important (defined as those subjects on which most contact hours would be spent.) It also contained a section on transition problems in which students were asked to rate expected difficulty in certain problems. This scale was given in the first week of term at the same time as A1.

E2 was a scale in the same format which asked the students to rate what has actually been their experience. It was given with A2. This second scale E2 also contained the shortened version of the Eysenck personality inventory.

The industrial training questionnaire was also given at the same time as A2 + E2. This was in two main sections, the first was a questionnaire dealing with such issues as what job students expected to be given, what social and technical skills they thought they would need and what benefits they expected to gain. The second half of the questionnaire was an attitude scale taken from the work of Smithers (1976).

2.   ATTITUDES AND EXAM AVERAGE

The first question to be considered was whether there was any relationship between attitude (as measured by A1 + A2) and exam average (calculated by adding all individual subject marks together and dividing by the total number). Within this general question lay three main issues:-

1. Could students "at risk" (i.e. liable to withdraw or fail their exams) be detected at entry by looking at the results of A1?

2. Could students "at risk" be detected prior to exams by examining the results of A2?

3. Would attitude change (defined as difference between A1 + A2) be related to exam average?

In order to examine these issues the calculations determined were a linear regression of exam average against A1 + A2, a T-test on A1 and A2 and finally the difference in scores of A1 and A2 in relation to exam average.

TABLE 1.

Linear Regressions of Exam Average at Part 1 on Relevance, Interest, Staff and Teaching Methods for B.Sc. 1979 students at entry to Part 1 (Al).

SCALE	SIGNIFICANCE OF COEFFICIENT	
Relevance	NS	
Interest	NS	N = 32
Staff	NS	
* Teaching Methods	$p < 0.05$	

* Regression Equation EA = 85.70 - 0.9993 Alt.

TABLE 2.

Linear Regressions of Exam Average on Relevance, Interest, Staff and Teaching Methods for HND 1979 Students in October (Al).

SCALE	SIGNIFICANCE OF COEFFICIENT	
Relevance	NS	
Interest	NS	
Staff	NS	N = 38
Teaching Methods	NS	

It can be seen from the above two tables that student attitudes as measured by scale Al showed no significant relationship with exam average, except for the teaching methods scale for the B.Sc. students. In order to examine this further a T-test was then performed to see if there was any significant difference between the pass and fail groups on their scores on Al.

TABLE 3.

T Tests on Relevance, Interest, Staff and Teaching Methods for B.Sc.
1979 students in October (A1).

SCALE	SIGNIFICANCE LEVEL	
Relevance	NS	
Interest	NS	N = 32
Staff	NS	
Teaching Methods	$p < 0.05$	

TABLE 4.

T Tests on Relevance, Interest, Staff and Teaching Methods for HND
1979 Students in October (A1).

SCALE	SIGNIFICANCE LEVEL	
Relevance	NS	
Interest	NS	
Staff	NS	N = 38
Teaching Methods	NS	

The results from the above t-tests can be seen to mirror the
results from tables 1 + 2. Once again only the teaching method
scale for the B.Sc group showed any significant relationship with
exam average. On this scale the "pass" group scored significantly
lower than the "fail" group i.e. their attitude towards teaching
methods was relatively more favourable.

The same procedures were then repeated for the A2 scales. In this case there were four sets of results to be considered as results were available for the 1978 intake of students who had acted as a pilot group. With this scale the attempt was to determine the relationship between attitude towards the course prior to exams and the exam average.

TABLE 5.

Linear Regressions of Exam Average on Relevance, Interest, Staff and Teaching Methods for B.Sc. 1978 intake (A2).

SCALE	REGRESSION-EQUATION	STANDARD ERROR OF COEFFICIENT	SIGNIFICANCE OF COEFFICIENT
Relevance	$EA = 81.45 - 0.4263R2$	$SE = 0.1654$	$p < 0.01$
Interest	$EA = 79.11 - 0.310512$	$SE = 0.1175$	$p < 0.01$ N=39
Staff	$EA = 76.39 - 0.6073S2$	$SE = 0.2878$	$p < 0.05$
Teaching-Methods	$EA = 82.63 - 0.582T2$	$SE = 0.1701$	$p < 0.001$

TABLE 6.

Linear Regressions of Exam Average on Relevance, Interest, Staff and Teaching Methods for HND 1978 students (A2).

SCALE	SIGNIFICANCE OF COEFFICIENT	
Relevance	NS	
Interest	NS	N = 18
Staff	NS	
Teaching Methods	NS	

TABLE 7.

Linear Regressions of Exam Average on Relevance, Interest, Staff and

Teaching Methods for B.Sc. 1979 (A2).

SCALE	SIGNIFICANCE OF COEFFICIENT	
Relevance*	$p < 0.05$	
Interest	NS	
Staff	NS	N = 32
Teaching Methods	NS	

* Regression equation $EA = 84.61 - 0.6933R2$

TABLE 8.

Linear Regressions of Exam Average on Relevance, Interest, Staff and

Teaching Methods for HND 1979 students (A2).

SCALE	SIGNIFICANCE OF COEFFICIENT	
Relevance*	$p < 0.05$	
Interest	NS	
Staff	NS	N = 38
Teaching Methods	NS	

* Regression Equation $EA = 81.45 - 0.6064R2$

From examining the above four tables it seems that in general

terms the scale A2 shows a more significant relationship with exam

results than A1. The scale showed particularly significant results

with the pilot group of B.Sc students (1978). The HND group for

that year unfortunately only numbered 18 and it is possible that

this group was too small for any relationships to emerge. For the

1979 groups the only scale showing any significant relationship to

exam average was the relevance scale.

It was decided to try the same statistical test with the 1978 + 1979 groups together. This would have the advantage particularly for the HND group of increasing the numbers. The results were as follows:-

TABLE 9.

Linear Regressions of Exam Average on Relevance, Interest, Staff and Teaching Methods for B.Sc. 1978 and 1979 (A2).

SCALE	REGRESSION-EQUATION	SIGNIFICANCE OF COEFFICIENT	
Relevance	$EA = 74.64 - 0.363R2$	$p < 0.05$	
Interest	$EA = 76.38 - 0.314412$	$p < 0.01$	$N = 71$
Staff		NS	
Teaching Methods	$EA = 71.05 - 0.3803T2$	$p < 0.01$	

TABLE 10.

Linear Regressions of Exam Average on Relevance, Interest, Staff and Teaching Methods for B.Sc. 1978 and 1979 (A2).

SCALE	REGRESSION-EQUATION	SIGNIFICANCE OF COEFFICIENT	
Relevance	$EA = 76.33 - 0.4097R2$	$p < 0.05$	
Interest	$EA = 78.97 - 0.406612$	$p < 0.05$	$N = 56$
Staff		NS	
Teaching Methods		NS	

When the two year groups were combined the pattern of results remained. Relevance which had been shown to be significantly related to exam average in all the groups was unchanged.

Interest 2 which had previously only shown a relationship for the B.Sc. 1978 group now shown to be significantly related to exam average for both the B.Sc and HND groups; possibly this was due to the increase in numbers. Teaching methods which had shown a significant relationship with exam average for the B.Sc 1978 group retained this relationship when the groups were combined. The staff scale however showed no relationship with exam average when the year groups were combined for either B.Sc. or HND.

As with the results for A1, T-Tests were then performed to see if they supported the evidence from the linear regression results.

TABLE 11.

T-Tests on Relevance, Interest, Staff and Teaching Methods for B.Sc. Students 1979 (A2).

SCALE	SIGNIFICANCE	
Relevance	$p < 0.05$	
Interest	NS	
Staff	NS	N = 32
Teaching Methods	NS	

TABLE 12.

T-Tests on Relevance, Interest, Staff and Teaching Methods for HND 1979 students (A2).

SCALE	SIGNIFICANCE LEVEL	
Relevance	$p < 0.05$	
Interest	$p < 0.01$	
Staff	NS	N = 38
Teaching Methods	NS	

Again the Relevance scale showed a level of significance for both groups.

Students who passed their exams scored significantly lower on the Relevance 2 scale than those who failed (i.e. those who passed had a more "favourable" attitude). For the B.Sc. group the relevance scale was the only scale to show any significant relationship to exam results but for the HND, the pass group also scored significantly lower on the Interest 2 scale than those who failed.

3. DIFFERENCES IN ATTITUDE AS MEASURED BY A1 & A2.

Having looked at A1 & A2 and their individual relationship to exam average the next step was to consider attitude change (as measured by the difference in score betweem A1 & A2) and exam average. An overall score for attitude change was found by taking A1 from A2. If the student had a higher score on A2 giving a positive result then their attitude had become less favourable and vice versa. If Figures 1-8 are considered then several points may be observed.

    a. For both B.Sc and HND the relevance scale contained the widest range of attitude change. For the other three scales, Interest, Teaching Methods and Staff attitudes deteriorated for the majority of students.

    b. There seemed to be a slight relationship for both groups between amount of attitude change and exam results for the relevance and interest scales. That is to say the greater amount of attitude change the less well students performed. For the teaching methods and staff scales no relationships between attitude change and exam performance were apparent.

FIGURE 1.

Difference in scores between A1 + A2 for the
Relevance Scale for B.Sc. 1979
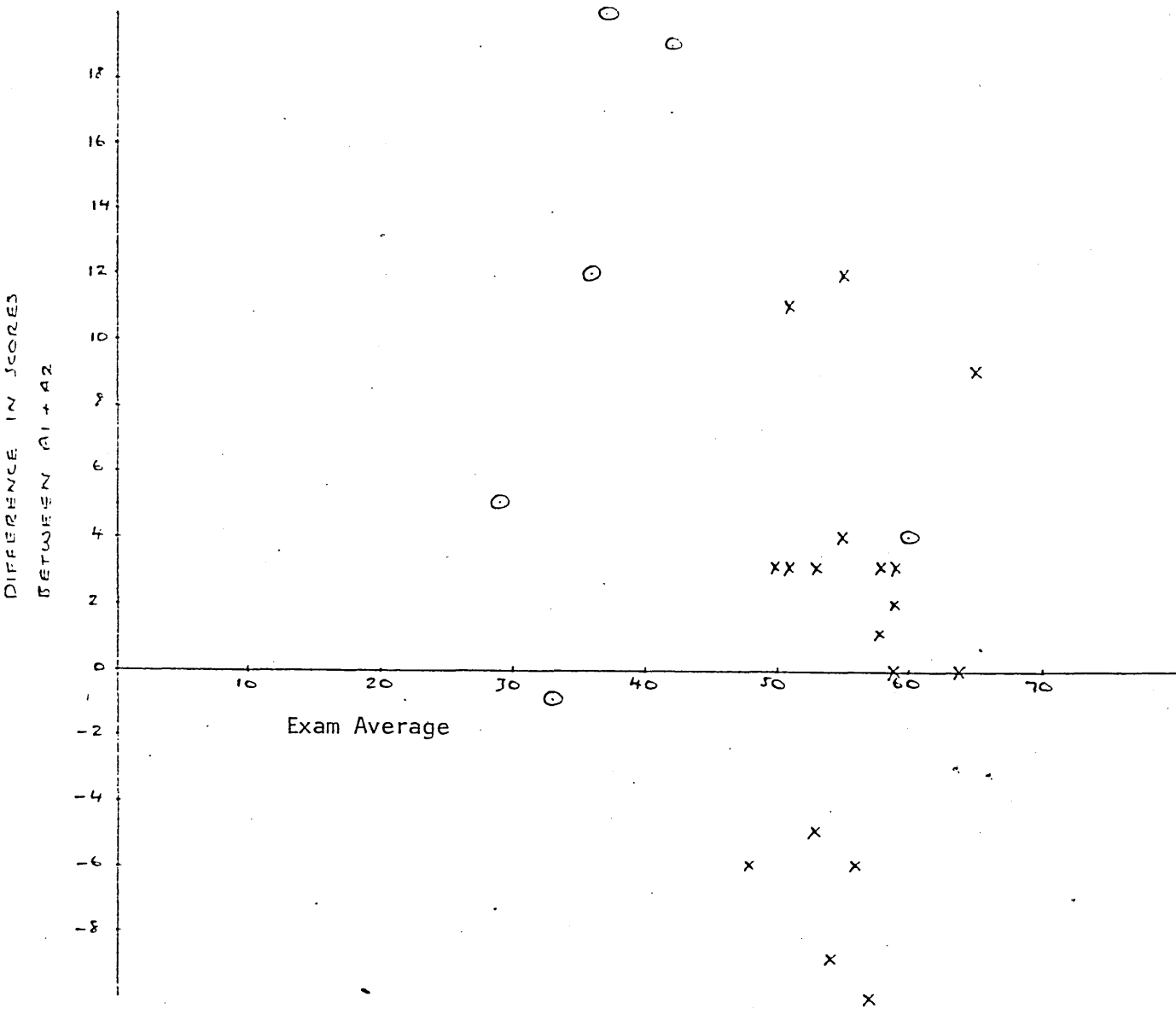
O: Students who failed or left at end of 1st year
x: Students who passed

FIGURE 2.

Difference in Scores between A1 + A2 for the
Interest Scale for B.Sc. 1979

Exam Average

○ :.   Students who failed or left at end of 1st year
.x :   Students who passed

FIGURE 3.

Difference in Scores between A1 + A2 for the
Teaching Methods Scale for B.Sc. 1979

O :   Students who failed or left at end of 1st year

X: .   Students who passed

FIGURE 4.

Difference in Scores between A1 + A2 for the
Teaching Methods Scale for B.Sc. 1979

Exam Average

O: Students who failed or left at the end of 1st year

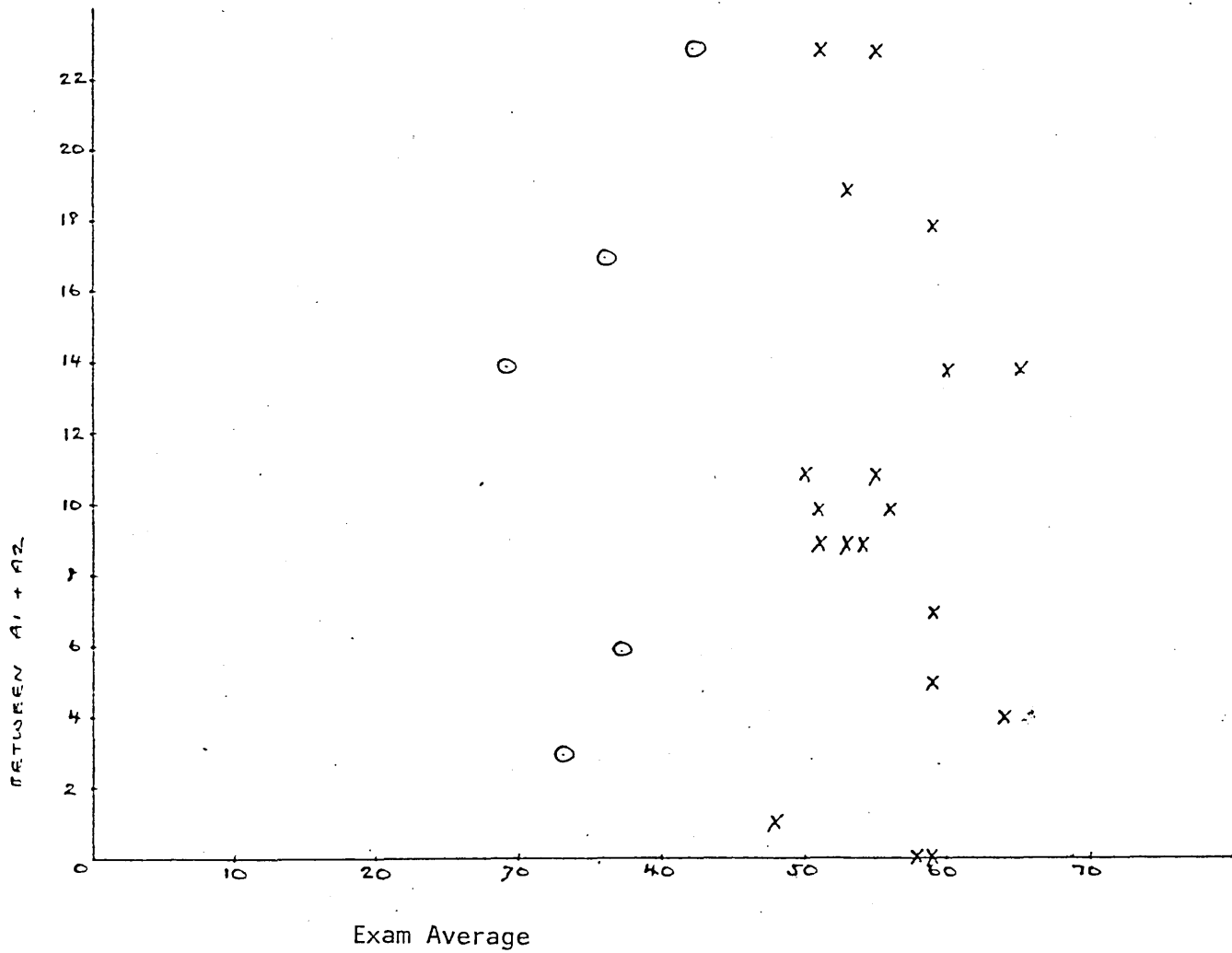X: Students who passed

FIGURE 5.

Difference in Scores between A1 + A2 for the
Relevance Scale for H.N.D. 1979

O :.   Students who failed or left at end of 1st year

X :.   Students who passed
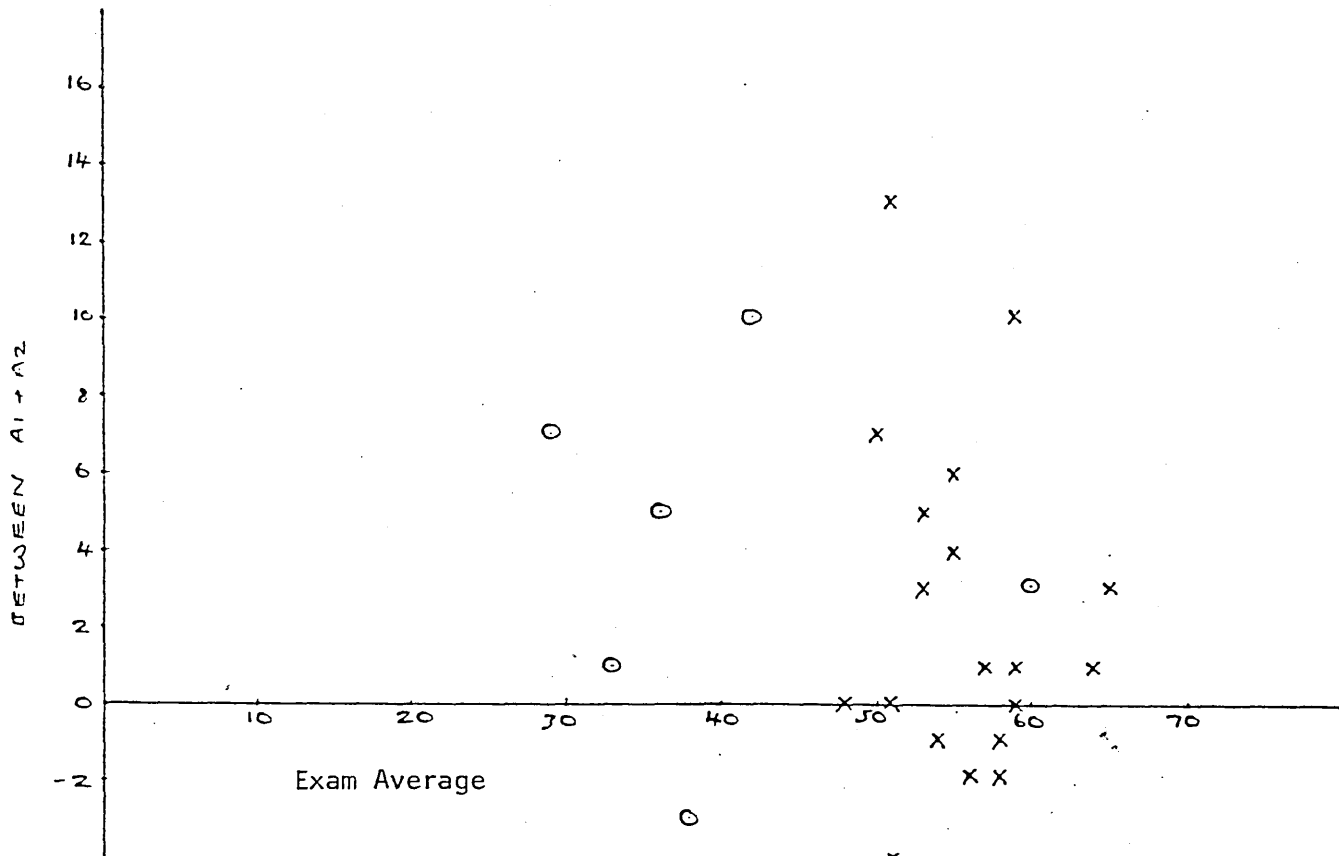
FIGURE 6.

Difference in Scores between A1 + A2 for the
Interest Scale for H.N.D. 1979

O :   Students who failed or left at end of 1st year

X :   Students who passed

FIGURE 7.

Difference in Scores between A1 + A2 for the
Teaching Scale for H.N.D. 1979
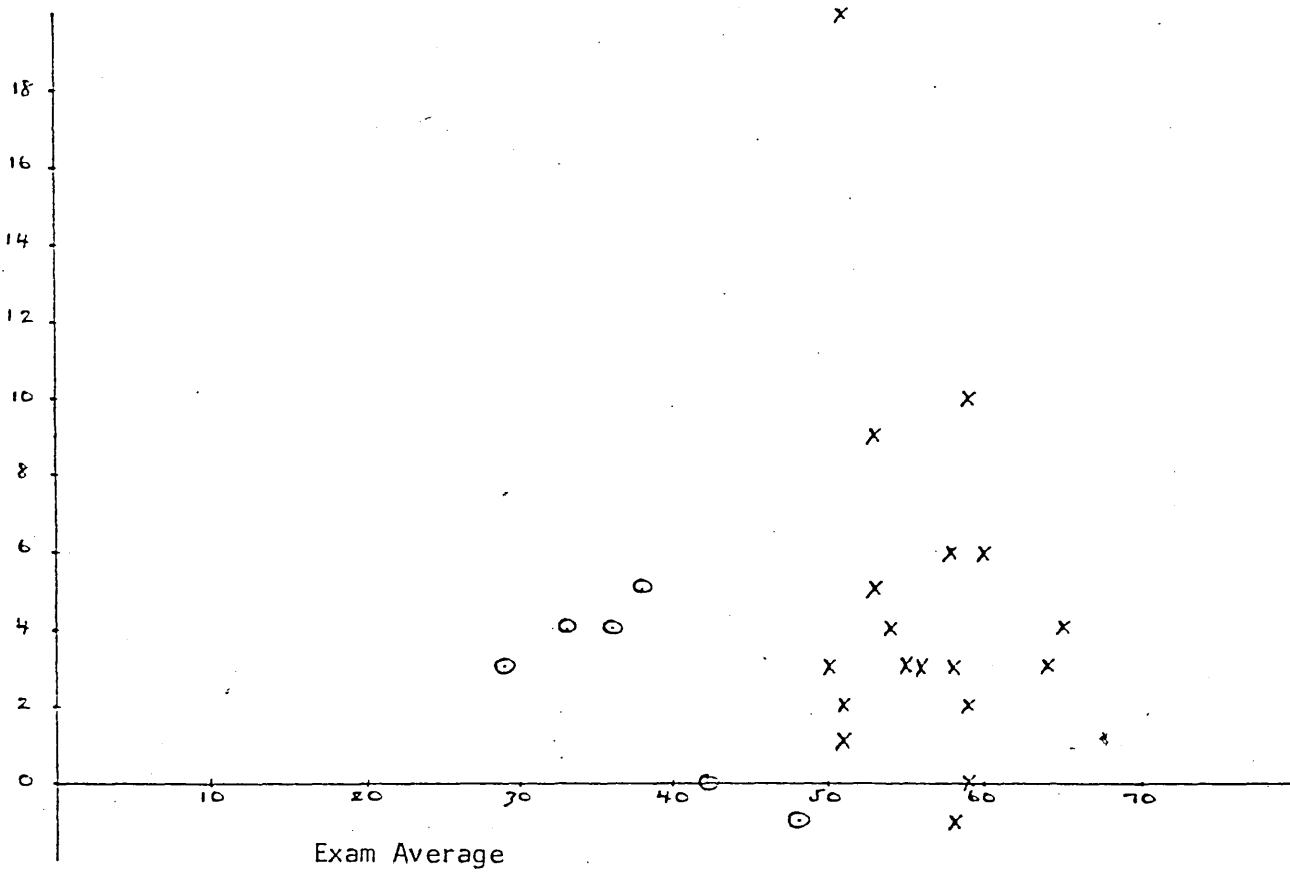

O :∹   Students who failed or left at end of 1st year
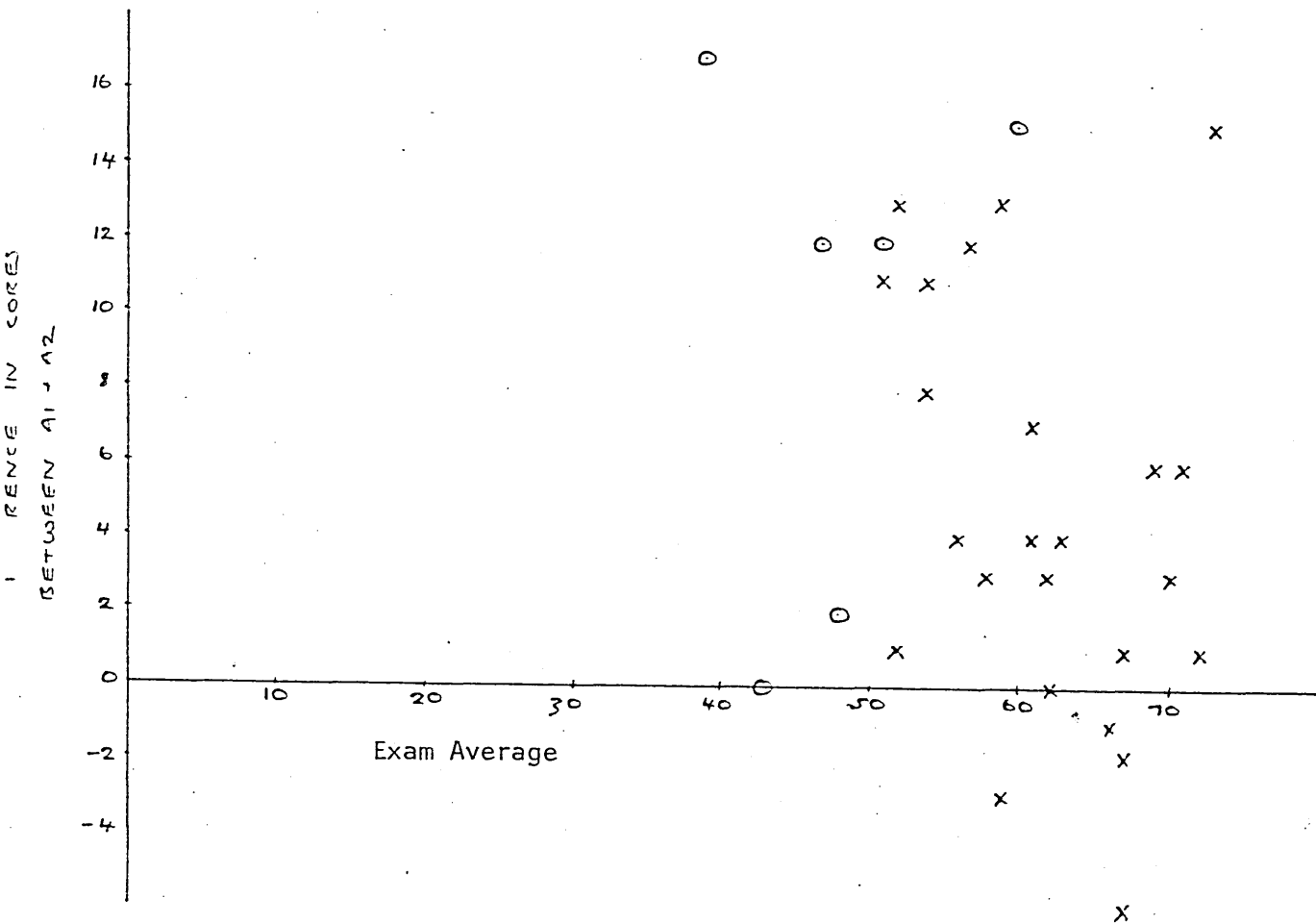
X:∽   Students who passed

FIGURE 8.

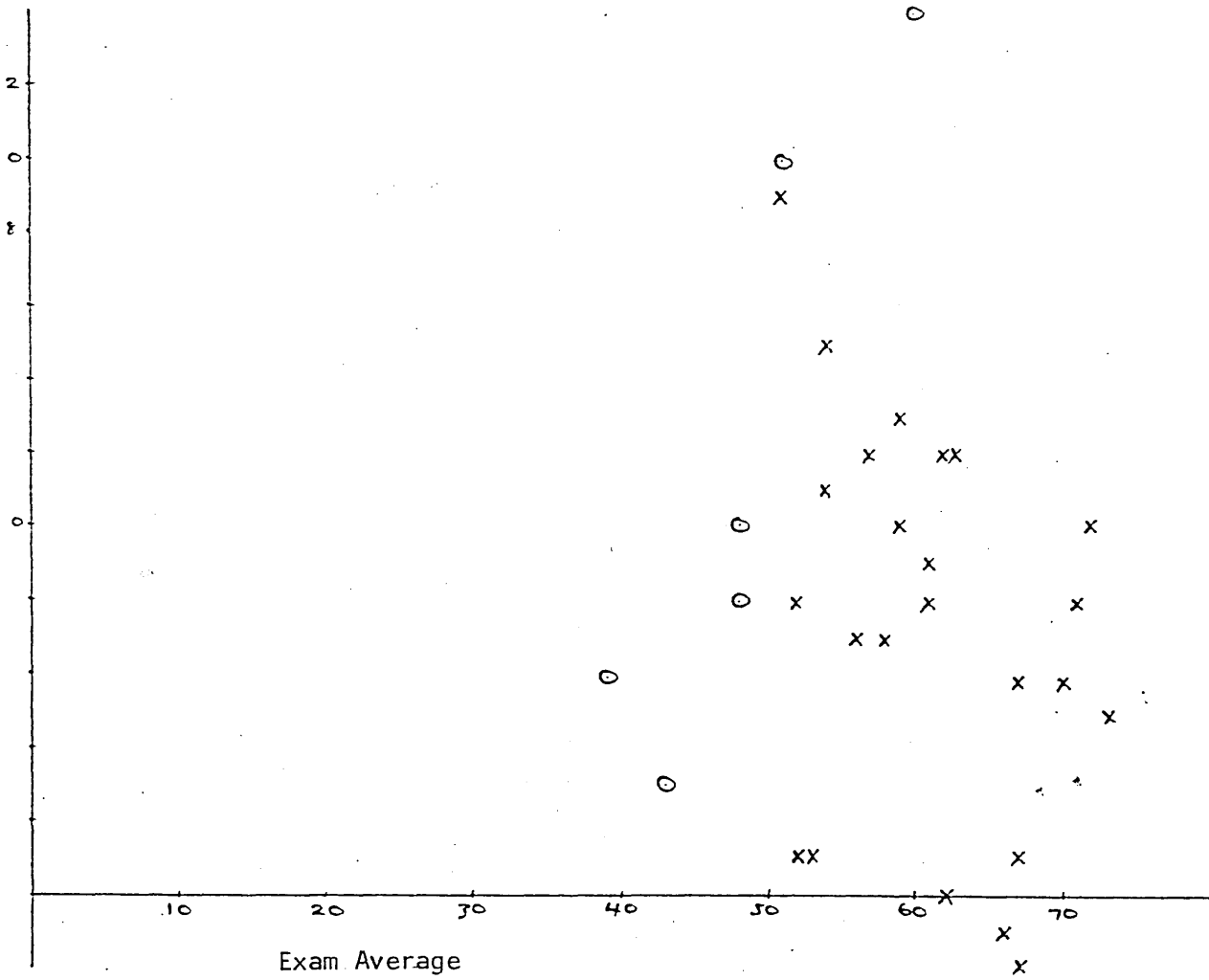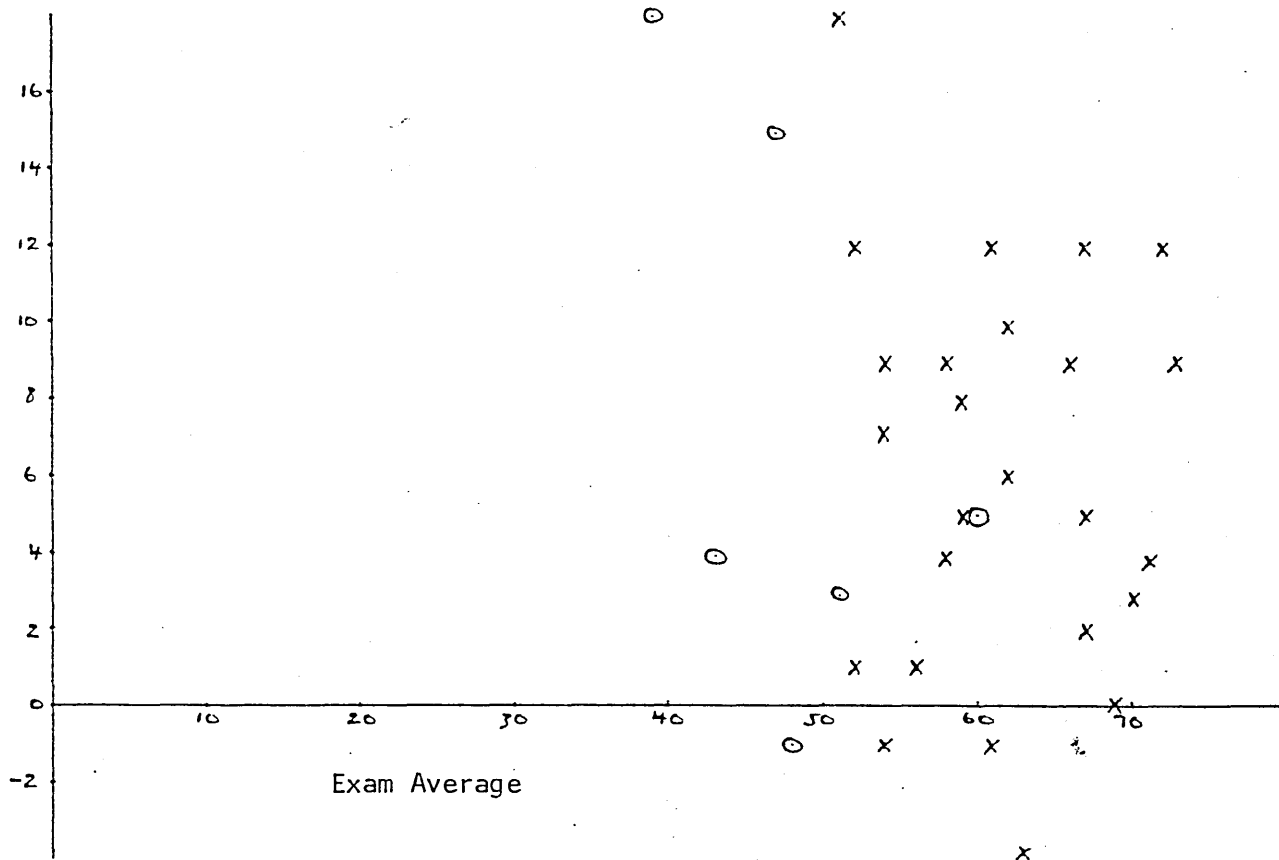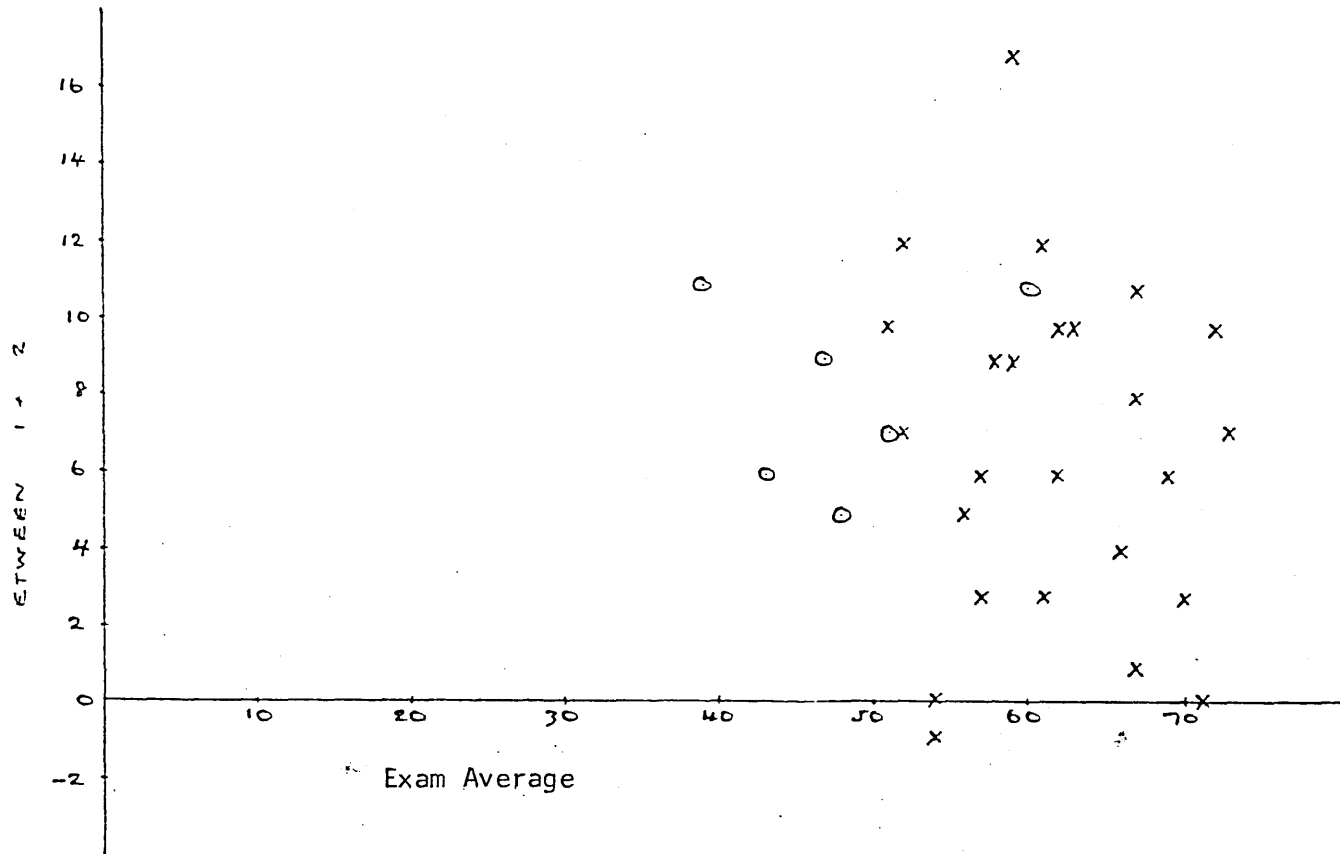Difference in Scores between A1 + A2 for the
Staff Scale for H.N.D. 1979

O :   Students who failed or left at end of 1st year

X :   Students who passed

c. It should be remembered that the measurement of attitude change did not take into account whether the scores suggested a positive or negative attitude but only how far the attitude had changed.

SUMMARY OF RESULTS FOR A1 & A2.

Students attitudes on entry to the course as measured by A1 appeared to show little relationship with exam results. The only exception to this being the teaching method scale for B.Sc. which did show a slight correlation. When questionnaire A2 was examined however, a pattern of results emerged which seemed to suggest that the Relevance 2 scale as measured just prior to the exams did correlate with exam average for all groups (HND 1978 was an exception but this was probably due to it being such a small group). Changes in attitude (as measured by the difference between A1 & A2) seemed to only show a slight relationship between relevance, interest and exam average and no relationship between staff, teaching methods and exam average.

4. EXPECTANCIES AND EXAM AVERAGE

E1 and E2 were questionnaires given to students in conjunction with A1 & A2. Some of the issues it was hoped they would cover were as follows.

a. How accurate were student expectancies about the course? Did this accuracy have any relationship to exam average?

b. In what areas would students experience transition problems? Did students anticipate where problems would occur and how, if at all, did these difficulties affect exam average?

c. Included in E2 was a shortened version of Eysnecks personality questionnaire. It was hoped to briefly examine the relationship between personality and exam average.

TABLE 13.

Linear Regressions of Exam Average on hours expected to be spent in

study and transition problems expected for B.Sc. 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT	
Number of hours expected		
to be spent in study	NS	N = 32
Transition problems expected	NS	

TABLE 14.

Linear Regressions of Exam Average on hours expected to be spent in

study and transition problems expected for HND 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT	
Number of hours expected		
to be spent in study	NS	N = 38
Transition problems expected	NS	

It can be seen from the above two tables that students

expectancies concerning private study and transition problems did

not appear to relate to their exam result.

In a further question students were asked to rate subjects

in order of importance. Importance was defined as the amount of

contact hours spent on a subject during their first year. The

results from this question can be seen in Figure 9 + 10. There does

seem to be a pattern for both the HND and B.Sc. groups whereby the

students with the most accurate perceptions had higher exam averages

than the others.

FIGURE 9.

H.N.D. Expectancies of time spent on subjects
in 1st year.

Exam Average
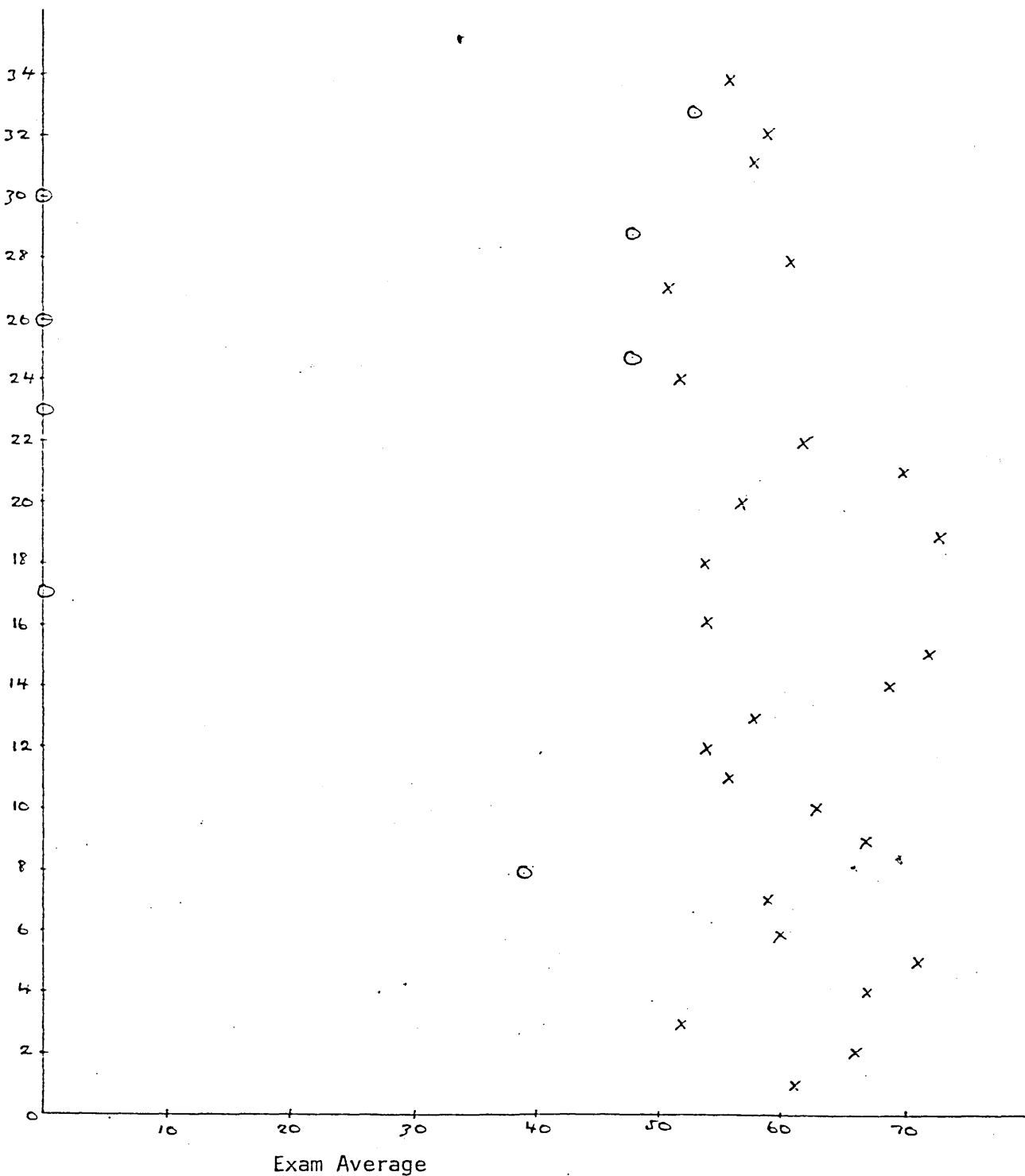
o :   Students who failed or left at end of 1st year

1 =   Most accurate expectancy 35=least accurate expectancy
n =   34

FIGURE 10.

B.Sc. Expectancies of time spenton subjects
in 1st year.
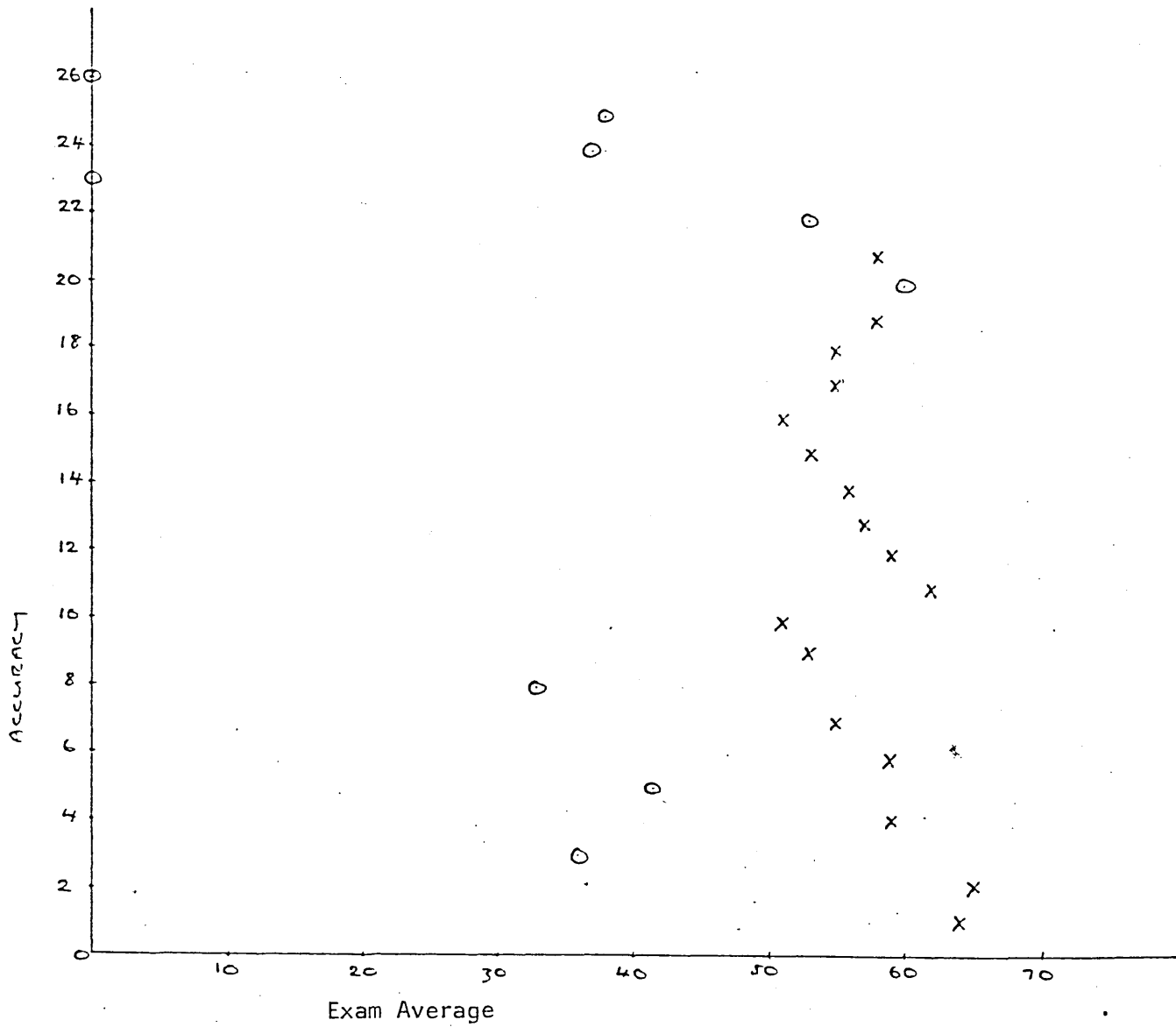
Exam Average

o : Students who failed or left at end of 1st year

1 = 1 Most accurate expectancy 26 = least

n = 26

TABLE 15.

Linear Regressions of Exam Average on hours spent in study and

Transition Problems encountered for B.Sc. 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT
Hours spent in private study	NS N = 32
Transition problems encountered	NS

TABLE 16.

Linear Regressions of Exam Average on hours spent in Private Study

and Transition problems encountered for HND 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT
Hours spent in private study	$p < 0.01$*
Transition problems encountered	NS N = 38

* Regression equation EA = 47.34 + 1.06 + EH2.

      Neither the B.Sc. or HND group showed any relationship
between transition problems encountered and exam average. Where
students were asked to rate the number of hours they spent in
private study quite a strong relationship emerged for the HND group
between hours spent studying and exam average, this result was not
repeated for the B.Sc. group however. The result showed that those
who expected to spend more time did better.

TABLE 17.

Linear Regressions of Exam Averages on Differences between E1 and E2
for B.Sc. 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT	
Hours spent in study minus		
hours expected to be spent	NS	
Transition problems encountered		N = 32
minus transition problems expected	NS	

TABLE 18.

Linear Regressions of Exam Average on Differences between E1 and E2
for HND 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT	
Hours spent in private		
study minus hours expected		
to be spent	NS	
Transition problems encountered		N = 38
minus transition problems expected	NS	

It can be seen from Tables 17 and 18 that the accuracy or
student perception as measured by the differences between E1 and E2
was not significantly related to exam average for either student
group. When T-Tests were performed on these differences the result
remained the same, suggesting that pass and fail groups could not be
differentiated by the accuracy of their expectancies as measured by
E1 and E2.

5. PERSONALITY AND EXAM AVERAGE

The Eysenck personality inventory was given in a shortened form with questionnaire E2. The results were as follows:-

TABLE 19.

Linear Regressions of Exam Averages on Extroversion and Neuroticism for B.Sc. 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT
Extroversion	NS
	N = 32
Neuroticism	NS

TABLE 20.

Linear Regression of Exam Average on Extroversion and Neuroticism for HND 1979.

SCALE	SIGNIFICANCE OF COEFFICIENT
Extroversion	NS
	N = 38
Neuroticism	NS

Tables 19 and 20, illustrate that for both groups of students personality as measured by Eysencks inventory appears to bear little relationship to exam average. If Figures 11 and 12 are considered however it it interesting to note that both courses seem to attract a certain type of person which may help to explain the above result. It is noticeable that the vast majority of students scored as "extroverts".

FIGURE 11.

Personality Profile of B.Sc. 1979

n = 28
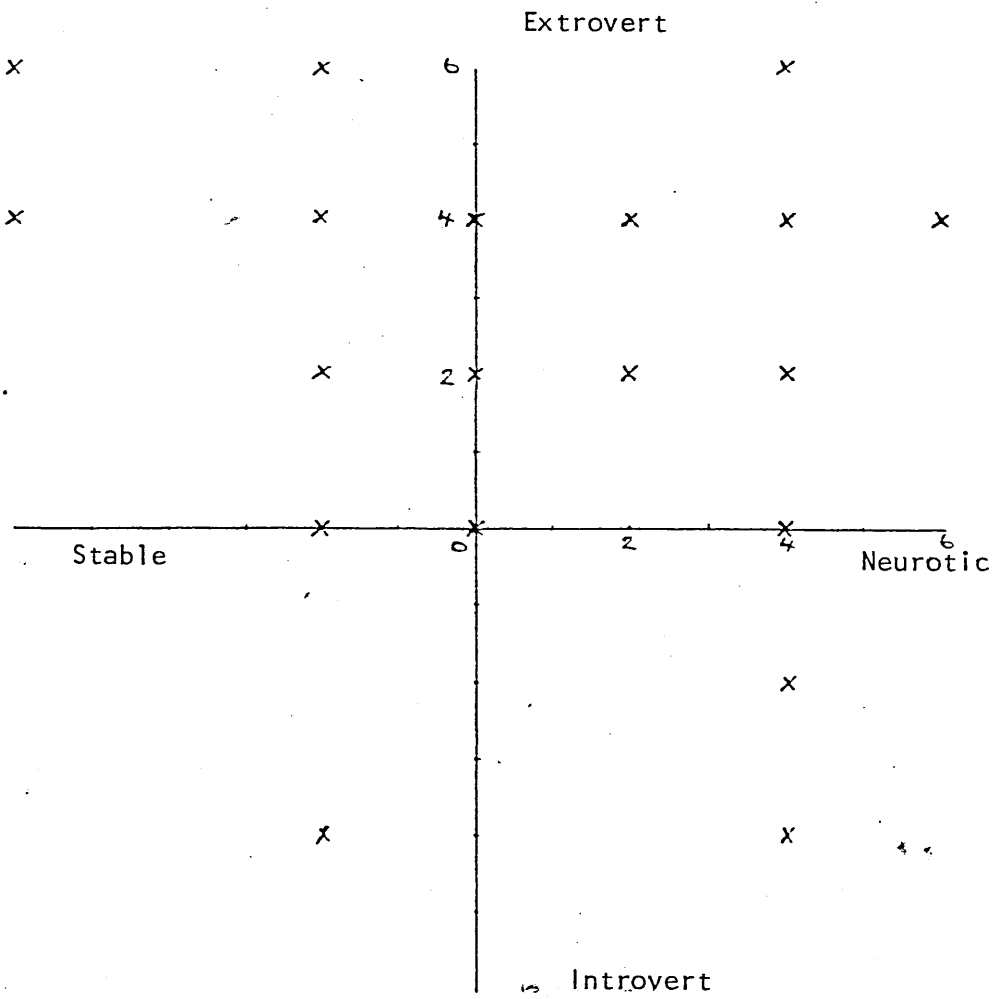
FIGURE 12.

Personality Profile of H.N.D. 1979

n = 35
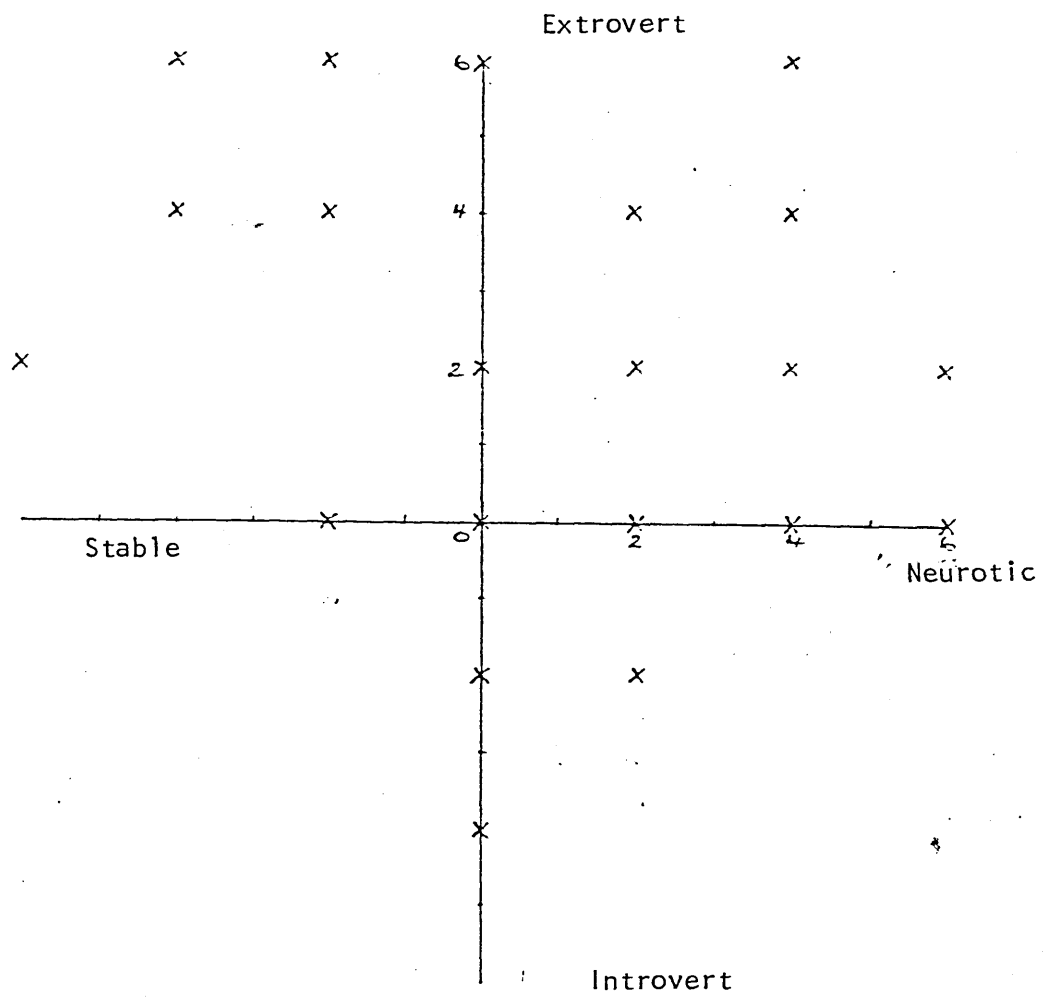
Of the B.Sc. course only 3 from 28 could be classed as introverts and of these 2 left before the exams. For the HND group again only 3 from 35, fell into the introvert classification. It would seem then that for the 1979 intake the personality profile of students was similar so extroversion may have been a factor in the students choice of course.

6. RESULTS OF INTERVIEWS

Semi structured interviews were held with first year B.Sc. and HND students just prior to exams. The interviews were not compulsory and if students failed to attend they were not re-contacted. Thirty out of thirty five HND students attended and twenty one out of thirty B.Sc. students. Although the interviews were only semi structured in outline, they did follow the attitude scales with a general section at the end where students talked about their reasons for joining the course, what they hoped to gain from it, where they thought the course might be improved and other similar issues.

a.   Relevance of Course

It was immediately apparent that most students saw the two courses as the first step in their career and as such were very conscious of the relevance of the course to this. Comments from HND students included, "If I can see the relevance of a subject to my career then I will work harder", "I'm not keen on the food and beverage side because I can't see the point of it". "Lecturers teach subjects in a very general way like in school, if I could see how they are applied to the industry I would be more interested." If I don't think something will be useful then I don't do it" and "things that aren't applied are a waste of time".

It had been hypothesized that the B.Sc. students being on a less practical course would not attach the same importance to relevance as the HND students but infact it seemed to be mentioned just as often. Typical remarks were "I was worried about the amount of food studies until the lecturer explained why it was important." "I think psychology is very useful because it shows you how to relate theory to actual situations." "If you have a career in mind at the end then that motivates you because you have something to aim for." and finally "I want to do hospital catering so I found the first term very frustrating because everything centred around hotels."

b.   Interest in the Course

Interest was not mentioned as much as relevance, neither was it mentioned as much by the HND students as the B.Sc. HND comments did include, "To succeed you need to be interested in lots of subjects not just one or two." "I'm disappointed that the course isn't as stimulating as expected." "I get a lot of satisfaction from being able to cope with new subjects." and "Working in the restaurant is incredibly boring because we just keep doing the same thing."

The B.Sc. emphasis seemed to be slightly different, they seemed to get more enjoyment from the work itself, for example, "I get a lot of satisfaction from doing good work, I think everyone does," "I hated economics at first but my marks have been quite good and I'm getting to like it now", "I've enjoyed doing new subjects like psychology, infact I've probably got too involved in it." and "I like to know I've done well it reflects my interest and capability."

c.   Teaching Methods

Both groups were taught by a mixture of seminars, lectures and practicals although the HND group had less seminars amd more practicals than the B.Sc. group. Most students mentioned teaching methods in terms of satisfaction or dissatisfaction, unfortunately more often the latter, although it is true to say that if students criticized one method it was usually because they preferred another.

Seminars

The main problem with seminars seemed to be the size of the groups for example, "Our group is far too large and so tends to be dominated by the same few," "I feel rather shy about offering an opinion when the group is so large." and "because of the numbers the atmosphere is very formal and it takes a long time to get started." Given a situation where the numbers would be less however, most students were enthusiastic and comments included "seminars encourage me to think things through", "I enjoy learning through discussion rather than the usual one way information flow." "Giving a seminar paper really helps me to understand the subject but I'm not sure how good it is for everyone else" and "If there's something you don't understand the seminars are the only time we get for discussion."

Lectures

Lecturing was the teaching method students were most familiar with and most felt quite happy with this as long as it was supplemented with seminars. The only problem seemed to be taking good notes, for example "I couldn't keep up at first but now I've developed a shorthand" and "It's a matter of working out which things are important enough to write down and what can be ignored."

Much seemed to depend on who was giving the lecture as some staff were obviously more gifted than others, "X is always forgetting his notes so his lectures are disjointed and hard to follow," and "the way a lecturer puts over his material has a lot to do with how much you get out of it." More typical comments were, "I enjoy lectures, for me lectures are the easiest way of learning." Only one student had serious reservations he said "I'm used to being dictated to, learning reams of notes and churning them out, so for me lectures are the best way of learning, if it is learning."

Practicals

There were practical sessions for both groups in applied science and food studies and also in food and beverage for the HND only. The latter tended to be a source of dissatisfaction as it basically involved waiting on in the restaurant which many students had already done, for example "It (waiting on) was OK at first but there's no organization as now were not learning anything new" and "Waiting on is really tedious, just doing the same thing every week." The food science practicals were also criticised by the HND students, some comments were "I quite enjoy the practicals but I can't see the point as I shan't use the knowledge in industry." "A lot of practicals are unsatisfying because we are not told what to do or why we're doing it," and "I feel that practicals could be really good but they're so badly organized it's a waste of time."

The B.Sc. students seemed more satisfied for example "I find practicals interesting I can also remember much better if I've actually done something for myself" and "I enjoy the practical sessions."

It may be that their practicals were better organized as no one in the B.Sc. group mentioned having any problems in this area wehereas most of the HND complained about the organization.

d. Staff and Department

There seemed to be a division of feeling between the two groups, the HND students in general felt that the staff were less approachable or sympathetic than the B.Sc. students did. One HND student said "Lecturer's aren't bothered, you plod along at your own pace, if you pass fair enough, if you fail tough luck" other comments included, "you could'nt approach some staff - it would be held against you" "I'm disappointed that the staff aren't more helpful, there seems to be a general disregard for students especially regarding industrial placements" and "some staff make it obvious they don't care, which rubs off on us but others are fair and you want to do well for them."

Although a couple of B.Sc. students expressed similar sentiments for example "some staff don't give a damn, you get the feeling they're here for research and consultancy not teaching" most had a more positive picture, and typical comments included, "I think most staff are interested, certainly if they are enthusiastic and approachable it helps," "the staff do seem to treat you more as individuals than in school," and "I feel that the staff are always there if I need them."

A few HND students made unsolicited comments which may help explain why the groups seemed to be so different, these included, "The department is very orientated towards the B.Sc., some lecturers make it clear that the HND are below average,"

"There is a difference between the B.Sc. where lecturers take an interest and us, for example no – one arranges visits for the HND" and "The HND group are looked down on compared to the B.Sc."

Whether or not the HND had any sound reason for believing themselves to be the "poor relation" of the B.Sc. group is hard to say, however there did seem to a a ground swell of opinion which was affecting morale in this area.

e. Expectancies

Students were asked to remember if the course had been what they expected and for the overwhelming majority the answer was "no". Here are some typical comments from HND students "There is far more science than I expected, nor is it so related to industry as I thought it would be, "The course is a lot different to what I expected, I expected it to be more practical," "I feel I was misled at interview, they said there wasn't much science", "There's far more in the course than I ever imagined like statistics and psychology" Similar comments came from the B.Sc. group like, "The course isn't at all like I expected, I thought it would be cooking why I don't know," "I was amazed when I got here to be doing maths and biochemistry to such a standard" and "I knew what the subjects were going to be but I had no idea what was really in them."

No-one at all said the course was exactly like they had expected the nearest anyone came was "I didn't know what to expect so I had an open mind," and 'In some ways it's what I expected I mean we were told what was in it and I suppose that's what we've done."

The other aspect mentioned in this section besides course content was workload and there was a sharp dichotomy between groups. The HND had expected a much heavier workload," "Except for this last term the workload has been lighter than I expected" and "The standards aren't as high as I thought, we had very little work in the first two terms." For the B.Sc. group however, "There isn't much opportunity to do reading because so much work is set, more than I expected and the workload is very heavy."

i. Transition Problems

In general the students seemed to experience no problems in the social context such as making new friends as these statements illustrate "I settled in very quickly" and "I enjoy living in Sheffield" and "I find that all our group are very friendly." There had however been two mature students on the B.Sc. course and one mentioned that although she got on well with the other she was always conscious of the age difference and all that it entailed, for example she found many students immature. The other mature student had unfortunately left before the interviews were conducted.

For both groups of students the main transition problems all centered on their academic work and in particular gaugeing the level of performance required. Typical comments from HND students were "We need more course assessment and feedback because at the moment we just don't know where we stand", "I had difficulty knowing what standard lecturers wanted in fact I still don't concerning exams," and "Lecturers don't make it clear how much work they expect."

From B.Sc. students the position was identical, "I had "OK" at the bottom of an essay, that's not really a mark, just two letters and I wondered how I was really doing." Different lecturers expect different standards and it takes time to work out what each wants," and "with 'A' levels we were told the standard to aim for, here I'm not sure what they want, you think this is a trash piece of work but you still pass — maybe they mark better to give you confidence."

The other problem mentioned by the majority of students was course organization in particular the workload for e.g. "Work is so unevenly spread, in some subjects we've had no written work at all so I've no idea how I'm doing." The work comes in waves, there's loads at the moment just when we need the time for revision." and "Each lecturer considers their own subject to be the most important and sets work accordingly and usually all at the same time!"

g. General

At the end of the interview students were encouraged to speak about anything they felt important in relation to the course the topics covered were many and included why they were doing the course, what they found satisfying/dissatisfying about it, what motivated them to do well. To take the HND group first.

Reason for doing course:

The most popular reason which was mentioned can be typified by the statements "I want to get a job at the end that's my reason for doing the course" The course itself doesn't motivate you, you have to know you need the qualification at the end to keep you going," or "I am doing the course as a way into leisure, for me the course is a means to an end.

"Some students didn't know what they were meant to be doing or what was expected of them at the beginning which has caused ill feeling," "Our main source of information on the course is from second years and it shouldn't be like that." "We need more assessment, it is difficult to ascertain the level of performance wanted," and "everything seems so jumbled up so you can't see how it related to industry and then I start to lose interest."

In general all these comments can be seen as indicative of one major problem which seems to be lack of communication between staff and students. Any effort to improve channels of communication should therefore help to reduce areas of dissatisfaction and improve attitudes towards the course.

B.Sc. Students Reason for Choosing the Course

When the B.Sc. students discussed their reasons for choosing the course, they were in contrast to the HND. They seemed to place far more emphasis on the course and the prestige of the qualification than a specific career at the end, for example, "My first idea was to do the HND but then I thought a degree would be more use if at the end I decided to do something else altogether." "I wanted this course because it seemed more interesting and varied than the others," "I knew I wanted a degree and this was the lowest offer I got." "I did the course because I couldn't think of anything else I could get a degree in." "It just seemed more interesting than other catering courses because it was generalised and I didn't really know what I wanted." "I wanted a degree and this course seemed the most interesting and varied as I didn't just want hotel management."

"Other reasons included, "I really wanted to do the degree but failed my 'A' Levels and they offered me the HND," "I don't really know why I chose the course" and "I wanted more than just a qualification, I felt I needed the experience of higher education." Overall it seemed fairly clear that for most HND students the reason for doing the course was closely tied in with their decision to enter catering as the course was seen as a first step towards their career.

Satisfaction within the Course

It is perhaps not surprising to note that when students mentioned areas of satisfaction within the course these were also seen by the students as motivating factors. For many students these satisfactions lay outside the course in the strictest sense as they were more connected to the students social life, for example "The most satisfying thing over the last few weeks has been finding a boyfriend, I feel much more settled now" "My social life is very good and this makes the course better for me," "The fact I'm happy here makes the course so much better, if I wasn't things would have been much harder" and "I would have left by now if I didn't get so much from outside college and I feel that it shouldn't be like this" Infact the students social life was the only source of satisfaction mentioned by the HND group in connection with the course.

Sources of Dissatisfaction

Conversely when students talked about sources of dissatisfaction these were seen as demotivating factors leading towards negative attitudes and lack of interest and most of these were concerned with course structure and administration. To cite a few examples, "The course is muddled with poor organization which has lead to a feeling of apathy," "I am hoping industrial training will remotivate me but even that seems badly organized, we're told one thing at interview and another on arrival."

Sources of Satisfaction

Again social life was mentioned as a source of satisfaction for example "I like living in Sheffield, its important to enjoy your social life as if you're just wrapped up in the course and something went wrong then that would be it." Enjoying the place makes a big contribution as it helps you feel more relaxed about the work," and "the social life is good, if it wasn't you wouldn't be happy on the course." In addition to this however the course itself was seen as providing some satisfaction as can be seen in the following statements. "I enjoy reading for essays and get satisfaction from achieving good marks." "I get a lot out of visits to industry because I find I'm picking up points that I might have missed before." and "I enjoy the work it interests me and I take a lot of pride in it."

Sources of Dissatisfaction

The problems mentioned here were again concerned mainly with communication although not on the same scale as for the HND course, for example "It's important for me to know why I've got certain marks in order to judge how well I'm coping" "Arrangements for industrial training have been very slow and we don't know whats going on which is worrying." "More effort should be made to explain what the course is about industrial training because we haven't really been told what to expect."

h. Conclusion

The interviews supplied a wealth of information which supplemented and complimented that derived from the attitude scales and questionnaires.

Many of the comments mirrored or enlarged upon the subjects dealt
with in the attitude scales, although there were some important
deviations. Probably the most significant of these was the
relationship between satisfactions/dissatisfactions stemming from
the course structure/administration and the students attitudes and
personal qualities.

7. INDUSTRIAL TRAINING

a. Introduction

The second half of the research examined the students attitudes and expectancies towards industrial training. The first industrial period for degree students lasts 20 weeks and comes at the end of the first academic year. The first period of industrial release for HND students lasts 12 weeks and follows after two terms in college. In both cases the industrial training questionnaire was given to the students just prior to their leaving college and within one week of their return. The questionnaires were split into two main sections; the first dealt with expectancies about job skills, social skills, preparation and value of the training. The second was taken from the work of Smithers (1976) and was an attitude scale of 30 statements which the students rated on a Likert type scale. Although ths scale was developed for use with engineering students it appeared to be suitable for use with our students after a few minor word changes. An objective in using the Smithers scale was to determine if scales developed particularly for one group of students would prove successful when used on students from a different discipline.

b. Aims of Questionnaires

1. To see how well students were prepared for the training period. This was done in two ways; by direct questions and by seeing how accurate student expectancies were.

2. To examine social and technical benefits expected and gained.

3. To consider differences in attitude towards the period of training on the Smithers scale.

c. HND and B.Sc. 1978 Preparation for Industrial Release

The general aim of the course is to give the students a basic grounding of skills to be used in the training period. Prior to industrial training students also receive a talk from the industrial supervisor concerning the more practical aspects such as the jobs they should expect to be given, their reception, how the course and industry should tie in and the structure of the placement. It is hoped then, that the students enter the period with an accurate balanced picture of what the placement will entail.

TABLE 21

What jobs are you expecting to be given?

B.Sc. 1978 Jobs expected + Jobs Experienced on Industrial Release.

Jobs Expected		Jobs Experienced	
Kitchen	77%	Kitchen	77%
Restaurant	77%	Restaurant	69%
Bar	63%	Bar Work	54%
Office	31%	Office	49%
Storekeeping	26%	Supervisory	46%
Supervisory	17%	Storekeeping	31%
		Banqueting	20%
		Housekeeping	17%
		Reception	17%

Numbers = 29   N = 35

TABLE 22

HND 1978 Jobs Expected – Jobs Experienced on Industrial Release.

Jobs Expected			Jobs Experienced	
Kitchen	82%		Kitchen	73%
Bar & Cellar	76%		Restaurant	73%
Restaurant	76%		Housekeeping	58%
Housekeeping	59%		Bar Work	50%
Office	29%		Office	31%
Reception	18%		Reception	23%
Storekeeping	18%		Stores	15%

Numbers = 18   N = 25

These Tables show that the students had fairly accurate perceptions about the types of jobs they would encounter on industrial training. Probably the most significant finding was that nearly half of the degree group were given some form of supervisory post during their training. Why there should be such a contrast in this area between the two groups is open to speculation, perhaps employers felt their skills from the course would be better utilized this way while the HND students would benefit more from manual/craft work. That the B.Sc. students were given these positions of responsibility is certainly most encouraging. Concerning the other job areas, broadly speaking there was little difference between the courses concerning job allocation.

TABLE 23.

How would you describe the briefing you had from the

department on industrial experience?

Scale	HND		B.Sc.	
	Before IT	After IT	Before IT	After IT
Adequate	33.3%	22%	23%	34%
Neither Adequate nor				
inadequate	33.3%	33%	48%	51%
Inadequate	33.3%	45%	26%	15%
	n = 18	n = 25	n = 29	n = 35

It can be seen that the two groups show quite different
trends for the HND slightly more students considered the briefing to
be inadequate after the training period than before. For the B.Sc.
group the opposite was true. Perhaps the most important thing
though was that nearly half the HND group considered their briefing
to have been inadequate with hindsight.

TABLE 24.

On arrival were you shown around the establishment?

Scale	HND		B.Sc.	
	Before	After	Before	After
Yes shown round				
all departments	67%	44%	90%	43%
Yes some Depts.	28%	40%	10%	34%
No not at all	5%	16%	–	23%
	n = 18	n = 25	n = 29	n = 35

TABLE 25.

On arrival were you introduced to the staff?

Scale	HND		B.Sc.	
	Before	After	Before	After
Yes to all staff	44%	20%	34%	20%
Yes to some staff	56%	76%	66%	69%
No not to any staff	–	4%	–	11%
	n = 18	n = 25	n = 29	n = 35

It can be seen from these two tables that perhaps the students were over optimistic concerning their reception at their placements. Both groups expected to be taken round more departments and introduced to more staff than they actually were.

TABLE 26.

How structured was your training?

	HND		B.Sc.	
	Before	After	Before	After
Very structured (Detailed plan of work)	28%	12%	10%	6%
Semi structured (General plan but fexible)	67%	52%	86%	51%
Unstructured (No plan or supervision)	5%	36%	4%	43%
	n = 18	n = 25	n = 29	n = 35

Table 25 follows a similar pattern to Tables 23 and 24 in that the students of both groups seemed to have a greater expectancy than was actually observed. It was particularly noticeable for the B.Sc. group that the training period was less structured than expected.

TABLE 27.

How well were you prepared by the department for industrial training?

Scale	HND		B.Sc.	
	Before	After	Before	After
1. Social Skills				
Very well/well	17%	22%	48%	26%
Average	33%	43%	38%	54%
Poor/very poor	50%	35%	14%	20%
2. Technical Skills				
Very well/well	55%	54%	72%	26%
Average	39%	29%	24%	34%
Poor/very poor	6%	17%	4%	40%
	n = 18	n = 25	n = 29	n = 35

To consider social skill first; the two groups were quite different. Half the HND students considered their preparation in social skills to be poor/very poor prior to the training whereas half the B.Sc. students considered it to be very well/well done. The observed result however shows a similar pattern with both groups moving towards a more central position. The HND students reported that their preparation was more adequate in practice than expected and the B.Sc. vice versa.

TABLE 28.

How valuable do you consider your industrial experience to be?

	HND		B.Sc.	
Scale	Before	After	Before	After
1. To you				
Very/Quite Valuable	94%	72%	93%	83%
Average	–	16%	7%	3%
Little/No Value	6%	12%	–	14%
2. To the Establishment				
Very/Quite Valuable	50%	68%	34%	74%
Average	44%	20%	52%	17%
Little Value or				
no value	6%	12%	14%	9%
	n = 18	n = 25	n = 29	n = 35

Student expectancies about the value of their placement to themselves were very accurate. For both groups the majority of students both expected and found their placements to be of value. When the value of the training to the establishment is considered the results are again very positive, particularly the observed result where most students reported that they had contributed to the establishment.

TABLE 29.

How well did industrial experience and the course tie up?

	HND		B.Sc.	
Scale	Before	After	Before	After
A great deal/A little	72%	80%	69%	63%
Not sure	22%	0%	31%	9%
Not much/very little	6%	20%	–	28%
	n = 18	n = 25	n = 29	n = 35

Student expectancies about the course and industrial training before and after were identical. A few people observed that training tied up less well than expected but the numbers were small. It was encouraging to notice that the majority of students felt that the two experiences of course and industry did complement each other and that they could see the links between practical and theory.

TABLE 30.

How relevant to your career was industrial training?

	HND		B.Sc.	
Scale	Before	After	Before	After
A great deal/A little	88%	76%	86%	83%
Not sure	12%	20%	14%	8.5%
Not much/very little	–	4%	–	8.5%
	n = 18	n = 25	n = 29	n = 35

It is clear from Table 29 that students both expected and found their industrial training to be relevant to their career. Indeed this has always been one of the aims of the training period.

d. Skills and Industrial Training

Industry by definition is likely to demand some new skills from the student. It is also likely that while both industry and college require some command of the same skills each institu tion will then place the greatest emphasis on different skills. For the purposes of the study "skills" were divided into two broad groups, social skills and technical skills; social skills might be defined as skills necessary to deal with people while technical skills were skills needed to deal with equipment.

students were asked what social and technical skills they expected to use, then on return from industrial training they were asked what social and technical skills they had actually needed and what social and technical benefits they had gained. All these questions were open ended allowing the students complete freedom of response.

Table 31.

Social Skills expected by HND and B.Sc. 1978

Social Skills expected HND		Social Skills expected B.Sc.	
Friendly	65%	Friendly	62%
Co-operative	47%	Willing	62%
Willing	47%	Helpful	17%
Helpful	29%	Co-operative	17%
Easy to get on with	29%	Outgoing	14%
Polite	24%	Enthusiastic/	
		Patient	10%
Adaptive	18%	Tactful	
Confident	12%	Ability to Communicate	
n = 18		n = 29	

Table 31 illustrates that both groups anticipated the same social skills as being necessary to successfully complete their industrial training. The most important four skills were seen as being friendly, willing, helpful, and co-operative.

Table 32.

   Social Skills observed by HND and B.Sc. 1978 post industrial

experience.

Social Skills Observed HND		Social Skills Observed B.Sc.	
Friendly	76%	Friendly	66%
Willing	48%	Willing	63%
Easy to get on with	32%	Adaptable	23%
Ability to communicate	20%	Ability to commu-	
Easy to get on with	29%	nicate.	23%
Polite	16%	Helpful	17%
Patient	16%	Patient	17%
		Co-operative	11%
		Responsible	11%
n = 25		n = 35	

The students seem to have anticipated the social skills
they would need very accurately. There is very little difference
between social skills anticipated and observed, the only exceptions
being ability to communicate and patience for the HND group and
responsibility for the B.Sc. students.

Table 33.

Technical skills expected to be used by HND and B.Sc. students on industrial training.

Technical Skills Expected HND		Technical Skills Expected B.Sc.	
Cooking Methods	59%	Recipe knowledge	40%
Cleaning Methods	53%	None (learn there)	24%
Business skills	41%	Silver service	14%
Silver Serivce	35%		
Recipe Knoweldge	29%	General knowledge	
Use of Kitchen Equipment	24%	Equipment Knowledge	10%
Bar operations	12%		
Accommodation Procedures	12%		
	n = 18		n = 29

The HND students seem to have a far more detailed idea about the technical skills they thought they would need, perhaps reflecting the more practical bias of their course compared to the B.Sc. degree. Quite a significant number of the B.Sc. students considered that any technical skills needed would be learnt on the placement while as a group they tended to generalise, e.g. compare their "equipment knowledge" with the specific "knowledge of kitchen equipment" from the HND group.

Table 34.

Technical skills observed by HND and B.Sc. students 1978 on industrial training.

Technical Skills Observed HND		Technical Skills Observed B.Sc.	
Silver Service	59%	Basic Recipes	54%
Cooking Methods	36%	Silver Service	31%
Recipe Knowledge	27%	Accounts/book	
Silver Service	35%	keeping	23%
Bar Operations	32%	Knowledge of Equip-	17%
Accommodation methods	23%	ment	
Bar operations	12%	Bar Operations	17%
Use of Kitchen Equipment	18%	Manual dexterity	17%
Business Skills	14%	Good maths	11%
Stocktaking	14%		
Common Sense	14%		
	n = 25		n = 35

Although the nature of the courses is quite different both groups observed using the same technical skills to a large degree. Once again the students perceptions of skills needed was very accurate.

A final question in this section concerned social and technical benefits the students had gained in industrial training.

Table 35.

Social benefits gained on industrial training by B.Sc. and HND
1978 students.

Social Benefits Observed		Social Benefits Observed	
HND		B.Sc.	
Self confidence	70%	Self Confidence	69%
How to deal with people	22%	Ability to get on with HND	
Using own initiative	22%	Acceptance of other	
Ability to get on with		attitudes	20%
others	17%	Sense of responsibi-	
Greater understanding of		lity	14%
people	15%		
Patience	13%		
	n = 25		n = 35

It seems that for both groups the most important social
benefit was self confidence and ability to get on with others was
also mentioned. A general picture emerges where students seem to
have gained in their acceptance and understanding of others probably
from working in an environment including people of different class,
age and nationality.

Table 36.

Technical benefits gained on industrial training by B.Sc. and HND 1979 students.

Technical Benefits Experienced HND		Technical Benefits Experienced B.Sc.	
Ability to deal with large nos.	52%	Greater knowledge of industry	31%
Increase in speed of skills	26%	Quicker Preparation	
Knowledge of how to organise	17%	Large scale production	23%
Coping under pressure	9%	Coping under pressure	17%
Knowledge of equipment	9%	Use of equipment	14%
Learning new methods	9%	Waiting on skills	14%
None	9%	Handling Cash	11%
		Bookeeping	
n = 25		n = 35	

It is interesting to note the quite different main technical benefit as experienced by the two groups. The HND cite the very specific "ability to deal with large numbers" while the B.Sc. used the global term "greater knowledge of the industry." It is possible that this is an illustration of the different outlook of the two courses affecting the students perceptions. Surprisingly 9% of HND stated they gained no technical benefits at all indicating perhaps that the placement only utilized skills they already possessed e.g. silver service.

e. Results from Industrial training attitude scale taken from
Smithers for HND and B.Sc. 1978 intake.

As had been previously noted the Smithers scale was
developed for use with engineers but was thought to be suitable for
catering students. It was administered with the other scale prior
to industrial release and within one week of students return. The
results were as follows:-

Table 37.

	% Strongly agreeing or agreeing prior to industrial experience	% Strongly agreeing or agreeing after industrial experience
Industrial training gave me a good opportunity to see how my theoretical knowledge worked in practice.	100%	40
My industrial training will be particularly useful once I'm qualified and working in the industry.	94%	52%
During my time in industry I was simply a form of cheap labour	22%	44%
During my industrial training I worked to a considerable extent on my own without constantly being told what to do.	100%	76%
In industry I was given a lot of low level work which was of little or no help to my college studies.	5%	36%
Much of what I learnt in theory had more meaning when I saw it in practice.	94%	64%
I have become more self confident when tackling technical problems.	100%	76%
I added a great deal to my knowledge and understanding of catering while I was in the industry.	100%	48%
During industrial experience I learnt about the latest practical developments and advances in catering.	38%	12%
In industry I was treated as an individual.	55%	80%
During industrial experience I was given efficient helpful instruction and guidance for the work I did.	72%	28%

Results of Industrial Training Questionnaire. HND
Attitude statements where there was a discrepancy of 20% or more.

Table 37.

	% Strongly agreeing or agreeing prior to industrial experience	% Strongly agreeing or agreeing after industrial experience
I had a strong sense of purpose because profits depended to some extent on how efficient I was.	50%	28%
I was given the opportunity to use my knowledge from the course while on industrial experience.	77%	32%
I had a strong sense of purpose because the results of my work were of value to both the establishment and myself.	72%	40%
	n = 18	n = 25

Results of Industrial Training Questionnaire. B.Sc.

Table 38.	% Strongly agreeing or agreeing prior to industrial experience	% Strongly agreeing or agreeing after industrial experience
Industrial experience gave me an excellent opportunity to discover what I'm most suited for.	79%	51%
During my industrial experience I was little more than a "dogs body" working alongside experienced and highly qualified people.	55%	14%
During my industrial experience I worked to a considerable extent on my own without constantly being told what to do.	38%	77%
Much of what I learnt in theory had more meaning when I saw it in practice.	69%	46%
During industrial experience I forgot a good deal of what I had learnt at the Polytechnic.	21%	46%
I made a lot of new friends during industrial experience.	55%	86%
During industrial training I learnt about the latest practical developments and advances in catering.	38%	14%
I was given efficient, helpful instruction and guidance for the work I did.	83%	23%
I had a strong sense of purpose because profits depended to some extent on how efficient I was	45%	23%
I was given the opportunity to use my knowledge from the course while on industrial experience.	69%	23%
I had a strong sense of purpose because the results of my work were of value both to the establishment and myself.	69%	49%
	n = 29	n = 35

To consider the results for the HND group first it is immediately apparent that there are some discrepancies between what the students expected and what they reported as actually observing. To take item 3 for example, 100% of students expected industrial training to give them a good opportunity to see how theoretical knowledge worked in practice however only 40% observed this as actually happening. It is perhaps rather disturbing to note that the majority of the attitude changes are in a negative direction we have already seen this with item 3 but it it is also apparent in items, 4, 8, 10. 14. 18. 21. 2.. 26. 29 and 30. Only in item 24 did students observe a more positive change, prior to industrial training 55% expected to be treated as an individual but on return 80% observed that this had been so.

The B.Sc. group shows a similar but less pronouced pattern and in general they did seem to have more positive observed attitude than the HND group. Items 1, 16, 19, 22, 26, 27 and 29 all showed some discrepancy between what students had expected and observed, these particular items being observed in a more negative light than expected. Certain items in this category were reported by both groups notably numbers 22, 26 and 29.

On the positive side B.Sc. students reported greater satisfaction concerning items 2, 10 and 20, perhaps the more positive results observed by the B.Sc. group can partly be explained by jobs they were given (see Tables 21 and 22) where 46% of B.Sc. students were engaged in supervisory skills as against 12% of HND.

Item 26 showed a clear discrepancy for both groups and this may well link up with Table 25 where students expected training to be more structured than actually occurred. Item 29 on the other hand seems rather at odds with Table 29. The students observed that there was little opportunity to use knowledge from the course whilst on industrial training but also stated that for the majority the course and industrial training tied up either a great deal/or a little. Perhaps this may be explained by suggesting that the students themselves could still recognise the links between course and industry even if the opportunity to make practical use of this knowledge did not occur.

1.   Introduction

        Perhaps before beginning the discussion proper it would be a good point to recap on the aims of the project. The main aim was to produce attitude scales that could be used to pinpoint potentially "weak" students (defined as students who fail or drop out) as early on in the course as possible, so that they may receive relevant help. It was not expected that any one attitude scale would act as a predictor but it was hoped that the results would form a pattern, perhaps revealing the interaction of variables which could be built up to form the profile of an "at risk" student. It was hypothesized that such a student may for example have, poor attitudes - as measured by the instruments constructed, inaccurate expectancies concerning course content and/or experience difficulty in the transition period.

The Results

        Perhaps the first thing to note is that on a very basic level the attitude scales did work, that is, the students found them easy to complete and a set of results was therefore obtained for each student who undertook to complete the scales. Taking this a stage further the results obtained then needed to be discussed in the light of the aims.

        None of the attitude scale scores obtained from A1 (given on entry) related to student performance except for teaching methods for the B.SC. 1979 group. As this is such an isolated result being confined to one group and one scale it would not be prudent to draw any conclusions from this reult at this stage.

To look at the other results which show a pattern, albeit, a negative one, they seem to suggest that the students attitudes on entry as measured by the scales could not be be used as an indicator of how the student will perform.

Questionnaire El was completed at the same time as Al, and it dealt with student expectancies. Again the reults from both groups followed the same pattern i.e. students expectancies concerning the number of hours expected to be spent in study and the amount of transition problems did not relate significantly to their exam results. One scale on El did however show a positive if, slight, relationship, students who had an accurate idea of the course content on entry did perform better in the exams than those whose idea of course content was inaccurate.

The results for the attitude scale A2 given just prior to the exams shows the strongest correlation between any of the scales and the exam results. Of the four scales contained within A2, Relevance significantly correlated with exam average for three of the four groups of students, the exception being HND 1978 (this may have been due to the small numbers in the group.) On an intuitive level it would seem more likely that a students attitude just prior to an exam would be more closely related than their attitude of six months previously, however it is interesting that even at this stage, the attitude scales of staff and teaching methods did not significantly correlate with the exam results.

For E2 the pattern of the results followed those of E1. There was no significant relationship beween transition problems encountered and exam results and no significant relationship between hours B.Sc. students studied, and their results. For the HND students however there was a relatively strong correlation between hours spent in study and exam results.

Finally information from the interviews seemed to indicate that some major sources of dissatisfaction stemmed from the course structure and administration, "Problem areas" within the course as identified by the students seemed to be strongly related to student attitudes.

Having reviewed the results in the light of the aims certain factors become clear.

a. From the attitude scales devised it would not be possible to discover students at risk on entry.

b. The use of scale Relevance 2 prior to exams would help distinguish some of those at risk but at this juncture it would probably be too late.

c. The type of student most likely to be at risk is one who has entered the course with inaccurate expectancies of course content and who finds that the course is not relevant to their career plans. They may also be introverts as although there is no link between introversion and failure as previously noted the overwhelming majority of students are extrovert.

d. It was apparent that students attitudes did not exist in a vacuum and evidence suggested that there might be quite a strong relationship between attitudes and aspects of course structure. Following on from this initial research suggested that modifying aspects of the course seemed to effect attitudes and possibly behaviour.

2.   <u>Critique of the Attitude Scales</u>

From the above comments it is clear that only the Relevance 2 scale consistently related to exam average however that does not mean that the other aspects can be rejected as variables. It is very important to understand that the variable staff, for example, was only non significant as measured by these particular scales, indeed it is a weakness of these scales that what was called the "staff" scale may have been measuring something else as the students saw it.

A further problem was that with the scales the same score could be obtained by two quite different sets of answers. This becomes even more apparent when the changes in attitude are considered (i.e. the difference between A1 and A2) as it does not take into account whether the attitude goes from positive to neutral or neutral to negative; either might be represented by the same score.

Even using the attitude scales twice in order to try and document attitude change it was impossible to discover whether attitude change influenced performance or vice versa. Perhaps the only conclusion to be made here is that it is a two way process with each influencing the other.

Some of the questions were perhaps too simplistic in their construction. A good example of this was the question "How many hours do you spend in private study." Firstly it is probably very difficult for the student to guess and it would perhaps have been better to ask them to keep a record over an average week. Secondly as a statement on its own, it probably could not provide enough information, i.e. without reference to how the time was spent it was unlikely to significantly relate to exam results as it is more likely to be the quality of study rather than just the quantity.

The problem remains of does attitude affect behaviour? The attitude scales in this project did not show a very strong relationship to behaviour as measured by exam results. It is possible that (a) the scales were not measuring the "right" variables, that is attitudes were effecting behaviour but not the ones that were chosen for study. (b) Attitudes do not have a strong relationship with behaviour and other variables might be more important for example intelligence. (c) Attitudes are formed from a persons past experience and also projected future and as such they are unique to each individual. By definition then it will be difficult to produce a scale to which all students can relate as each will have an individual set of attitudes no two the same. The only possible option is to try and produce a fairly general attitude scale but the more generalized it becomes, the less likely it is that it will illustrate a strong relationship with behaviour.

Although for three of the four groups studied a fairly good response was obtained (approx. three quarters responded) for the HND 1978 group the response for one questionnaire was only just over half (eighteen from a group of 30) There is some element of self selection by the students which may have biased the results slightly.

3.   The Results in Relation to Previous Research

The first important thing to become apparent is that like all the previous research the study highlighted the complexity of the problem. Following Wilson (1973) whose work at Aberdeen had identified a number of "symptoms of failure" or "indicators of success" the end of the study showed the beginnings of a profile which may be built on to identify students at risk. It would seem however that each study discovers new variables and every variable belongs to a sum of parts relating to performance. The problem is however that every individual would seem to possess this sum of parts in a different combination.

Much time has been spent in previous research considering the relationship betweem I.Q. and exam performance although this did not specifically look at the area, it is interesting to note that during interviews with students who subsequently failed or dropped out no one mentioned that they felt their failure would be due to lack of intelligence. The most aired reason (where students expected to fail) was that due to a change in career plans they had simply stopped trying. Whilst the present system insists on a student obtaining minimum requirements before embarking on a course of higher education to some extent the question of IQ and exam results is rather a red herring as only the most able have been selected anyway.

Concerning the area of personality and performance Wankowski (1973) had suggested that practical subject areas seemed to attract stable students with varying degrees of extroversion. This study also had similar findings in that the students on the course were "extroverts" however within this categorisation was an even balance of stable and neurotic. It is possible that certain personality types are more suited to some courses, initially however once beyond this point, personality may not be so important in itself as in the way it interacts with other variables.

There has been much previous work concerning motivation and performance – part of the problem when looking at this research has been the lack of definition – motivation tending to be seen as all things to all people. In order to combat this the research followed the work of Peters and looked at two types of motivation extrinsic, and in this research seen as relevance, and intrinsic seen as interest. Regarding extrinsic motivation the relevance scale seemed to have the strongest relationship to performance and it was also clear from the interviews that the majority of students had a definite goal in mind i.e. The course was a means to an end not a goal in itself. These results support the work of Hornsby-Smith (1972) and Musgrove (1968) who found that some career orientation on entry was associated with good performance in technological universities.

Concerning intrinsic motivation - several studies (e.g. Mathews 1957, Wankowski 1968) have suggested that interest, or rather the lack of it contributed to students poor performance. The interest scales in the present study did not show such a strong relationship to the exam results as the relevance scale. This may be explained to some extent by considering the interviews where students often mentioned interest not as a single major factor but as a facet of relevance e.g. if they could not see the relevance of the subject to their future career then they found it boring - or if they had changed their career plans from the catering sector the course was no longer interesting to them. For these students doing a vocational course interest seems to stem from the idea of relevance rather than existing separately beside it.

Perhaps in the present economic climate with mass unemployment this is not surprising, many students can no longer afford the luxury of doing a three of four year course merely because they like the subject, instead they must look to the future and have a career path in mind in order to compete in the increasingly difficult job market.

The work concerning teaching methods showed little relationshp to exam results and this was supported by evidence from the interviews with students where although teaching methods were mentioned as sources of satisfaction/dissatisfaction the overall impression was that the students were always concentrating on what was being taught and not in what manner. One problem with looking at teaching methods is that in most courses one method tends to predominate.

On the HND course in particular there were actually few seminars and students were taught predominantly in a lecture/practical situation. This might be seen to be true in general for most science/technical courses. The change then from the structured teaching situation of the sixth form to higher education was perhaps then not very great for these students rather it was a continuation of what they were used to.

With regard to the importance of staff-student relations as a variable in performance the research failed to support the work of Halleson (1963) and Fearn-Wannan (1979) who had both suggested interaction with sympathetic staff as a factor for successful students. This result may well be linked to the teaching methods employed by the department i.e. mainly lectures and practicals, where little interaction can take place, nor do Polytechnics possess the tradition of Oxbridge tutorials. During the interviews with students prior to the exams it became apparent that many students did not really see staff as individuals but more in terms of being a good or a poor lecturer which may help to explain the above result.

4. Results and Policy

At interview the content and aims of the course should be impressed upon candidates. This should be put in concrete terms, for example, most of your time in the first year will be spent on science subjects. It is important that the students should have as much information as possible about the course. The interview might be seen less as a means of selection and more as a source of information.

It would seem that for this particular group of students extrinsic motivation is a fairly important factor therefore when covering new subjects their relevance to the catering industry and to students future jobs should be stressed. A good example of this might be using examples from the catering industry to illustrate theoretical points.

As can be seen the scales provided only a very limited amount of information of potential risk students. Perhaps then a better method would be a close monitoring of students by personal tutors, maybe a tutorial once a fortnight to inquire how the students feel about their work and the course. There are of course problems with this approach too, as it would be very time consuming and also depends on the student and tutor developing some rapport and trust.

Another approach would be to have a completely open entry and accept that wastage would occur. As has been seen, it was not only impossible to pinpoint students at risk, it was also impossible to discover those who did exceptionally well.

If then everyone who wished to do the course and was qualified was accepted, the first year exams could be taken as a watershed as they have been cited as the best single predictors of final results (e.g. Milson 1978).

More research could perhaps be carried out in the field of personality and career choice. As this study indicated extroverts seemed to be far more attracted to the course than introverts, that is not to say introverts would be rejected, but more research may lead to personality being seen as a factor when councelling for career and course choice.

From the interviews it became clear that students had problems in three main areas.

    a. What level of work was expected.

    b. They lacked feedback on why certain marks were given and their progress.

    c. The workload was badly spread over the year.

All these problems were brought to the attention of staff and discussed. It was apparent that during their first term at least, students needed more guidance, as they were experiencing difficulty changing from the more structured situation of the sixth form to higher education where the responsibility for work was theirs alone. Having defined the problem, staff agreed to try and improve the level of feedback and guidance and also to try and spread the workload more evenly where ever possible.

To a large extent these issues were all symptomatic of the same problem, lack of communication. Once the problem had been identified then it was relatively easy to deal with. Although there is no quantitative evidence in this, once staff had been made aware of the problems the "wastage" rate did drop significantly and the students seemed noticeably happier.

Following on from the above it would seem rather more productive to consider areas of student satisfaction/dissatisfaction with the course and then use this information in a constructive manner rather than only concentrating on students personal qualities. This might be done by an informal termly meeting of staff and students or through an intermediary such as a research student.

The results from the industrial training questionnaires were in the main very encouraging. For the majority of students industrial release did tie up to a large extent with the academic part of the course. Students enjoyed their release period, finding it beneficial to their own personal development and they also felt that they had been of use to the industry. Indeed the number of students offered positions of reponsibilty on their first placement indicated that students were found to be quick to learn, responsible and efficient. At a time when it is becoming increasingly difficult to find suitable placements for students these results are important. They are important because they illustrate to the industry the value of their efforts to the students and also because they show students successfully tackling genuinely useful work. Hopefully these findings will encourage the industry to continue to provide industrial placements.

CONCLUSION

The main objective of the research was to produce and validate attitude scales which could then be used to identify areas which may be related to students failure or withdrawal. The attitude scales were successfully developed and tested and the scale "Relevance" was seen to be related to performance. This result was shown to be particularly strong when the scale was administered prior to the first year exams. The courses considered were both vocational, and interviews with students had highlighted the emphasis they placed on the course as a means of gaining employment which also seems to support the premise that the students performed better if they could relate their academic work to industry.

None of the other scales developed showed any consistent significant relationship to academic performance. There are probably numerous explanations for this but the main two are the ambiguous relationship between attitude and behaviour and the problem of validity. Relevance was seen to be related to performance and it could be argued that in this instance attitude was affecting behaviour. A clear instance of the opposite however was seen during the interviews where a student stated she disliked a subject but kept getting high marks and after a while she found herself liking the subject. Here behaviour seemed to affect attitude. It is also obvious from a common sense point of view that many other variables such as class, sex, economic considerations will also be important as well as attitude. In determining a persons behaviour it was for this reason that the scales were never intended to predict performance in a strict sense, but rather to try and identify general areas of importance.

Concerning validity, a scale was devised with the label "Interest" but it is very difficult to then prove that "Interest" in the scale is the same as "Interest" as identified by the students. By taking attitude statements directly from interviews with students it was hoped to avoid this problem as far as possible but it is impossible to completely eliminate it.

The attitude scales illustrated two main points. One was the importance of "Relevance", the other was the difficulty in identifying any other major factors. The interviews reiterated this finding:- that each student is unique and as such if performance is seen as a jigsaw and variables as the pieces then each student has their own design with pieces of different sizes.

In response to the above problems the research began to change slightly in emphasis. The interviews in particular had revealed sources of satisfaction/dissatisfaction which appeared to be related to exam results and were within the courses themselves. Prior to this it had been assumed that success would be dependant on the student having certain personal qualitites thereby placing responsibility for performance on the student alone. The research now began to consider the interaction between personal qualities of the students and course structure and administration. Personal qualities were still seen as being important variables contributing to a students perfomance but they were no longer seen in finite terms as something the students either did or did not possess but instead as something that could be developed. Having considered the above problems from a practical point of view it seemed easier to try and change small items of course structure in order to make the course more enjoyable for all the students rather than attempting to identify students personal qualities as these seemed to be unique to each individual.

Concerning industrial training the results were most encouraging. Students reported that they considered the course and industry to be mutually compatable and that they gained valuable skills from their industrial training period. Students on the B.Sc. course in particular found that they were entrused with positions of responsibility. In a time where, due to economic recession, it is becoming increasingly difficult to place students it is hoped that these results will illustrate to industrialists the value of the training period to students and also how students can play a useful role within the industry.

One of the consequences of the research was to increase levels of communication beteen staff and students involved with the courses and to emphasise the need for relevance of subject matter in teaching.

A conclusion would be that a focus on attributes and attitudes of the student, which in this study was enlarged to include a range of factors, not just IQ or exam performance at school as in previous studies, is still too narrow a perspective. Future studies, perhaps making use of 'more sophisticated analytical techniques', need to examine both factors to do with the person, the course they are on, and the interaction of these variables, in trying to reach an understanding of what influences performance.

H.N.D. QUESTIONNAIRE   Trial B

Could you please indicate how far you agree with the following
statements by placing a tick in the relevant box.

Food and Beverage Studies includes: Analytic food preparation;
food and beverage service.
Accommodation Studies includes: cleaning and textile science;
Accommodation studies.
Applied Science includes: H & C Chemistry and Physics + food
science + nutrition.
Business Studies includes: CH & C costing and control, H & C
Business statistics,H & C Business economics.
Management Studies includes: Applied psychology and work study.

The rating scale is as follows:

SA = Strongly agree
A   = Agree
N   = Neutral
D   = Disagree
SD = Strongly disagree.

                                              SA   A   N   D   SD

1.   I enjoy applied science.

2.   I often daydream in business studies.

3.   Food and beverage studies is my favourite
       part of the course.

4.   Accommodation studies is the most stimulating
       subject we have.

5.   I don't feel guilty if I miss a business
       studies lecture.

6.   Management studies is really fascinating.

7.   I find applied science tedious.

8.   I have never really liked accommodation
       studies much.

9.   I wish we had time for more food and
       beverage studies.

10.   I like to spend quite a bit of time
       on management studies assignments.

11.   Applied science can be boring in parts.

12.   Business studies is a welcome challenge.

13. Food and beverage periods are undemanding.

14. I would prefer less time to be spent on accommodation studies.

15. Applied science is one of my favourite subjects.

16. Business studies periods tend to depress me.

17. I get a lot out of the management studies part of the course.

18. Food and beverage studies never seem to stimulate as much thought as other subjects.

19. I feel very enthusiastic about accommodation studies.

20. I always enjoy food and beverage studies.

21. Management studies doesn't really hold my attention.

22. I'm glad if an applied science session is cancelled.

23. I don't like business studies as much as other subjects.

24. I shall be sorry to finish the management studies part of the course.

25. There's always something interesting happening in food and beverage studies.

26. I tend to leave set work for accommodation until the last possible moment.

27. I find time flies in business studies.

28. I look forward to doing applied science.

29. I would prefer to spend less time on management studies.

30. I find work in accommodation studies very satisfying.

31.   I'm always relieved when food & beverage
      studies are over.

32.   I could feel a lot more enthusiastic
      about applied science than I do.

33.   For me business studies is the least
      interesting subject.

34.   The work in management doesn't really
      appeal to me.

35.   Accommodation studies sometimes
      bore me.

36.   I feel relaxed and happy in food and
      beverage periods.

37.   Time seems to drag by in management.

38.   I always enjoy doing the set work for
      business studies.

39.   I find applied science stimulating.

40.   Most of my private work concentrates on
      accommodation studies.

41.   If there wasn't an exam in management
      studies I wouldn't bother to attend lectures.

42.   I would enjoy spending more time on
      business studies.

43.   If I could avoid food and beverage
      studies I would like to do so.

44.   I would say most other people enjoy
      accommodation more than I do.

45.   I find management studies very thought
      provoking.

46.   I often daydream in food & beverage
      periods.

47.   I would feel upset if I missed an
      accommodation period.

48.   I don't look forward to applied science
      very much.

49.   For me business studies is enjoyable
      and interesting.

50.   Applied science is an interesting
      subject to study.

                THANK YOU FOR YOUR CO-OPERATION

Could you please indicate how far you agree with the following
statements by placing a tick in the relevant box.

<u>Food and Beverage Studies</u> includes: Analytic food preparation;
food and beverage service.
<u>Accommodation Studies</u> includes: cleaning and textile science;
Accommodation studies.
<u>Applied Science</u> includes: H & C Chemistry and Physics + food
science + nutrition.
<u>Business Studies</u> includes: CH & C costing and control, H & C
Business statistics,H & C Business economics.
<u>Management Studies</u> includes: Applied psychology and work study.

The rating scale is as follows:

SA = Strongly agree
A   = Agree
N   = Neutral
D   = Disagree
SD = Strongly disagree.

                                          SA   A   N   D   SD

1.   All catering courses should include
      applied science.

2.   There would be a distressing gap in course
      structure if business studies was removed,

3.   I don't feel management studies is
      particularly relevant to my career.

4.   Food and Beverage studies is the most relevant
      subject to catering on the curriculum.

5.   Accommodation studies as an academic
      subject is irrelevant.

6.   I don't expect my knowledge of Applied Science
      to be useful once I've left.

7.   I have difficulty relating business studies
      to other subjects.

8.   Food & Beverage studies is what the industry
      is all about.

9.   Management studies should be optional for
      those who find it useful.

10.   Work covered in food and beverage sessions
      is one of the least essential parts of the
      course.

11.   Accommodation studies takes up too much
      valuable time.

12. The amount of science in the course matches our future needs.

13. People who complain about doing business studies are short sighted.

14. Management studies isn't really necessary.

15. Our work in food and beverage studies should be more related to industry.

16. I expect my knowledge of accommodation studies to be advantageous in my career.

17. I don't think Applied Science is as relevant to catering as the course insists.

18. Business studies is taken to an academic level we will never need.

19. I think future caterers need to learn about management techniques.

20. A sound knowledge of food and beverage studies is essential for my career.

21. No time spent on accommodation studies is wasted.

22. I think caterers without any knowledge of applied science would be inefficient in some respects.

23. I don't find my work in business studies relates to practical catering.

24. For me, management studies is an indispensable part of the course.

25. It is doubtful how many of the skills from food and beverage studies will actually be of use later on.

26. Accommodation studies is studied in too much detail.

27. Time spent on accommodation studies will be of use later in many jobs.

28.   Much time spent on applied science
      could be more usefully spent.

29.   Work we cover in business studies
      will be invaluable once I've left
      college.

30.   I find it easy to relate work in
      management studies to practical situations.

31.   I don't consider it important if I miss
      food and beverage sessions.

32.   I think any relevance accommodation studies
      has to our future is over-estimated.

33.   I can't actually imagine using my knowledge
      of business studies in a practical situation.

34.   I consider the course to be overly concerned
      with the food and beverage aspect.

35.   Any knowledge of applied science will be
      relevant in my future career.

36.   I expect management studies to be a real
      help when dealing with staff.

37.   It would be impossible to run a catering
      course without spending considerable time
      on food and beverage studies.

38.   It would be damaging to cut down on 'time'
      allotted to accommodation studies.

39.   I would feel insecure working in the industry
      without having done any applied science.

40.   Business studies is studied in far too much
      depth.

41.   It's difficult to see how much help
      management studies will be in practice.

42.   More time should be spent on food and
      beverage studies because of their practical
      value.

43.   It is vital to understand the importance of
       business studies for the future.

44.   It wouldn't matter if less time was spent on
       management studies.

45.   There is more science on the course than I
       will ever need.

46.   I can't see my work in business studies
       being of much real use.

47.   We could easily spend less time on
       accommodation studies.

48.   I would feel at a disadvantage if I started
       work without having any knowledge of
       management studies.

49.   It is becoming important for caterers to have
       a firm grasp of business studies.

50.   Most caterers need to know about accommodation
       at some time.

                 THANK YOU FOR YOUR CO-OPERATION

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box. The scale is as follows:

    SA = strongly agree
    A   = agree
    N   = neutral
    D   = disagree
    SD = strongly disagree

                                              SA A N D SD

1. Lectures are too formal.

2. I look forward to seminars.

3. I get most of my ideas from seminars.

4. Practical work will help me later on.

5. I find lectures interesting in general.

6. Seminars too often get sidetracked.

7. Practicals don't serve a very useful purpose.

8. I would prefer to cover work done in practicals by other teaching methods.

9. Lectures don't really hold my attention.

10. I enjoy discussing my ideas in seminars.

11. Lectures are the best way to introduce new material.

12. I find practicals stimulating.

13. I am nervous to say anything in seminars.

14. I find lectures thought provoking.

15. Practicals are an essential part of the course.

16. I would learn more if the course was entirely taught by seminars.

17.   Lectures are unnecessary really.

18.   Practicals should be optional for those
      who want them.

19.   Lectures are a poor way of learning.

20.   Seminars are very necessary as they allow
      students to express their own opinions.

21.   I enjoy the informal atmosphere of seminars.

22.   Practical work is a refreshing experience.

23.   Lectures are ideal for presenting
      information.

24.   If seminars weren't compulsory I wouldn't go.

25.   I find lectures too structured.

26.   There is a need for more practical work.

27.   Shy and quiet peole can find seminars
      upsetting.

28.   I enjoy attending most lectures.

29.   I find some practicals tedious.

30.   Seminars are too easily dominated by one
      or two people.

31.   I could spend lecture time more productively
      in other pursuits.

32.   The course would lose much of its validity
      without practicals.

33.   Seminars are a good way of learning for me.

34.   Practical work can be mundane.

35.   Lectures are probably my main source of
      information.

17. Lectures are unnecessary really.

18. Practicals should be optional for those
     who want them.

19. Lectures are a poor way of learning.

20. Seminars are very necessary as they allow
     students to express their own opinions.

21. I enjoy the informal atmosphere of seminars.

22. Practical work is a refreshing experience.

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     information.

24. If seminars weren't compulsory I wouldn't go.

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     upsetting.

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     or two people.

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     in other pursuits.

32. The course would lose much of its validity
     without practicals.

33. Seminars are a good way of learning for me.

34. Practical work can be mundane.

35. Lectures are probably my main source of
     information.

36. I find seminars friendly and relaxed.

37. Practical sessions are necessary to place
    the theory we learn in perspective.

38. I like the set outline of lectures.

39. Seminars are too unstructured for me.

40. The importance of practicals is over-
    estimated.

41. I feel more comfortable in lectures than in
    other learning situations.

42. Practicals could be disbanded without damaging
    the syllabus.

43. Seminars are good because they give people
    confidence in their own ideas.

44. Practicals are the least enjoyable part
    of the course.

45. I think most lectures are boring.

46. No lectures should be compulsory.

47. Seminars help me to clarify ideas.

48. There is no real need for practicals.

49. For me lectures are a good way of
    learning.

50. I learn quicker in a practical situation.

51. Seminars don't usually stimulate ideas
    for me.

52. Lectures are simply 'spoon feeding' knowledge

53. People should place a higher value on
    Practicals.

54. Lectures fail to inspire me.

55. I don't reall enjoy seminars.

56. Practicals are usually very enjoyable.

57. Intellectually practicals are unstimulating.

58. Lectures are a good way of making sure everyone has the same knowledge.

59. I would prefer less seminars.

60. I find talking myself in seminars is stressful.

THANK YOU FOR YOUR CO-OPERATION.

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box. The scale is as follows:

     SA =   strongly agree
      A =   agree
      N =   neutral
      D =   disagree
     SD =   strongly disagree

SA A N D SD

1. I get on well with staff

2. I enjoy talking to lecturers.

3. I am embarassed to call a member of staff by his/her Christian name.

4. I feel at home in the department here.

5. A formal department is better than an informal one.

6. The content of the course is more important than the lecturers.

7. In the sixth form I was treated as a student rather than a pupil.

8. The staff are very helpful here.

9. If possible I don't approach staff with problems.

10. I wouldn't say I really know any lecturers as individuals.

11. I like to feel 'accepted' by staff.

12. I tend to be rather in awe of lecturers.

13. I have no wish to discuss anything but academic problems with staff.

14. Staff are interested in academic results not students.

15. I prefer to be in an informal department.

16. I think staff and students should mix socially.

17. I try and avoid getting involved in discussions with lecturers.

18. Lecturers are interested in students as individuals.

19. I find it difficult to approach lecturers outside class.

20. As a rule I prefer to look to other students
    for help rather than staff.

21. I would always stop and chat to any lecturer
    I met outside the Polytechnic.

22. I somehow feel unfomfortable when I'm with
    staff.

23. I would like to come back to visit the
    department after I graduate.

24. I don't feel staff really understand students.

25. Students who try and get on well with
    staff are 'creeps'.

26. Staff and students are part of a team
    working together.

27. I consider myself to be on good terms with
    my lecturers.

28. If staff don't take any notice of me I'm
    not at all bothered.

29. Lecturers only function simply to pass on
    knowledge.

30. I find staff very sympathetic towards
    students.

31. Good staff/student relations are essential.

32. I would feel unhappy if staff weren't
    friendly towards me.

33. I see the staff as friends really.

34. I don't look for much personal contact
    with staff.

35. I tend to see staff/student relations as
    a kind of 'them and us' situation.

36. I never hesitate to approach staff if I
    have a problem.

37. I don't think I'll ever revisit the
    department after leaving.

38. I consider myself lucky to have such
    good relations with my lecturers.

39. I don't tend to notice much about the
    lecturers as individuals.

40. I'm more influenced by my friends than
    lecturers.

THANK YOU FOR YOUR CO-OPERATION.

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box.   The scale is as follows:

SA = strongly agree
A = agree
N = neutral
D = disagree
SD = strongly disagree

SA   A   N   D   SD

1. I enjoy applied science (i.e. food biochemistry/microbiology/physics & chemistry)

2. Technical communication periods tend to be undemanding.

3. CCOA is the most stimulating subject we have.

4. Economics can be boring.

5. I often day dream in quantitative methods.

6. I always enjoy doing assignments for psychology.

7. I don't look forward to applied science periods very much.

8. I never get fed up of doing food preparation.

9. I wish we had more technical communication periods.

10. I don't enjoy CCOA as much as other subjects.

11. I really enjoy the challenge of economics.

12. I'm pleased the course includes so much food preparation.

13. Time seems to fly by in quantitative methods.

14. If there wasn't an exam in psychology, I probably wouldn't bother to attend lectures.

15. I look forward to applied science periods.

16. I find psychology stimulating.

17. I tend to leave work for CCOA until the last minute.

18. Work in food preparation is rather dry.

19. I don't like to miss any quantitative method periods.

20. Economics is one of my favourite subjects.

21. I'm not very enthusiastic about applied science work.

22. There's always something interesting happening in technical communication.

23. I find psychology really fascinating.

24. Nothing could make food preparation really interesting for me.

25. I always pay attention in economics.

26. I find CCOA very satisfying.

27. I always enjoy the set work in quantitative methods.

28. Applied science is boring for me.

29. I look forward to the end of technical communication periods.

30. I would miss economics if we didn't do it.

31. CCOA can be uninteresting.

32. Food preparation always holds my attention.

33. Psychology doesn't really appeal to me.

34. Applied science is a stimulating subject.

35. I would prefer not to do quantitative methods.

36. I get a lot out of doing psychology.

37. I enjoy doing private study in CCOA.

38. I find food preparation uninteresting.

39. I rarely do any work for economics unless
     forced.

40. I would enjoy spending more time on
     quantitative methods.

41. If I could avoid technical communication
     I would do so.

42. I shall be sorry to finish the psychology
     part of the course.

43. I find applied science tedious.

44. One hour of economics is enough to last
     me a week.

45. I don't like to spend so much time on CCOA.

46. Time seems to drag by in psychology.

47. I don't like quantitative methods as much
     as other subjects.

48. I love time spent on applied science.

49. I'm pleased if food preparation is
     cancelled for some reason.

50. I would think most other people enjoy
     CCOA more than me.

51. I feel relaxed and happy during technical
     communication.

52. I don't really enjoy economics.

53. Applied science is my favourite subject.

54. Work in psychology doesn't really
     interest me.

55. I find myself thinking of other things
     during technical communication.

56. I tend to remember work done in
     economics really well.

57. I'm glad if applied science periods are cancelled.

58. For me quantitative methods is the least interesting subject.

59. I feel very enthusiastic about CCOA.

60. I would prefer to spend less time on psychology.

61. For me technical communications doesn't stimulate much thought.

62. I never think about food presentation between one lecture and the next.

63. I don't really pay as much attention in economics as I could.

64. CCOA is always an enjoyable period.

65. Quantitative methods is a welcome challenge.

66. Food production and service periods are always fun.

67. I find food preparation fascinating.

68. Quantitative methods have never fired my enthusiasm.

69. I enjoy doing extra reading for food preparation.

70. I always enjoy technical communication.

THANK YOU FOR YOUR CO-OPERATION

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box. The scale is as follows:

       SA =   strongly agree
        A =   agree
        N =   neutral
        D =   disagree
      SD =   strongly disagree

SA A N D SD

1. Applied science (ie food biochemistry/ microbiology/physics and chemistry) will be useful to me when I enter the industry.

2. Quantitative methods is far too over stressed.

3. It wouldn't matter if less time was spent on psychology.

4. Technical communication is probably the most relevant subject to catering on the syllabus.

5. I think food preparation is taken to an unnecessarily high academic level.

6. One of the most important subjects studied is economics.

7. I think CCOA is rather superfluous to the course.

8. I don't expect to use my knowledge of applied science again once I've left.

9. Catering managers need to have a basic grasp of quantitative methods.

10. I doubt if I will ever use the skills learnt in technical communication later on.

11. Psychology is an indispensible part
    of the course.

12. Work covered in food preparation is
    really relevant to a large sector of
    the industry.

13. CCOA helps close the gap between
    academic studies and the industry.

14. There is the right amount of applied
    science in the course for our needs.

15. I don't expect my work in quantitative
    methods to be of any real practical use.

16. Work covered in psychology will be a
    real help to me in dealing with staff
    and customers.

17. I don't think that work in technical
    communication will be very relevant
    to my future,

18. No time spent on food preparation is
    wasted.

19. I would prefer to spend economics
    periods on more useful subjects.

20. CCOA is better in theory than in
    practice.

21. There is too much applied science
    in the course.

22. It is important to realise
    quantitative methods is useful
    in catering.

23. Psychology is an academic luxury
    not a practical necessity for
    caterers to know about.

24. Technical communication work is
    what the industry is all about.

25. It would be silly to have less
    economics as we need this experience.

26. Food preparation takes up too much
    time.

27. Without doing CCOA I would not have
    such a good understanding of what
    the industry is really like.

28. All catering courses should include applied science.

29. I have difficulty relating quantitative methods to other parts of the course.

30. I can't imagine work from psychology being of any real practical use.

31. Work covered in technical communication is one of the least essential parts of the course.

32. Work covered in economics will be an important part of my career later on.

33. If I miss a food preparation period I don't feel it is of any importance.

34. I'm not sure what CCOA is really aiming to do.

35. I would feel insecure working in the industry if I hadn't done applied science here.

36. Work we cover in quantitative methods will be invaluable to me later on.

37. I think the course is too concerned with the technical communication aspect.

38. I think caterers ought to know more about the type of work we do in psychology.

39. Economics is studied in too much depth.

40. CCOA is a good preparation for entering the industry.

41. Applied science is not as relevant as the course makes out.

42. Psychology should be optional for those who think it useful.

43. People who complain about doing quantitative methods are being short-sighted.

44. I expect my knowledge of food preparation to be advantageous once I am working.

45. It is essential I have a good
    understanding of work covered in
    economics,

46. I don't feel it is necessary to try
    and remember work in technical
    communication.

47. I don't think work in CCOA will help
    me in a real situation.

48. Work covered in applied science is not
    related to practical catering.

49. There would be a distressing gap in
    course structure if quantitative
    methods was removed.

50. I find it easy to relate work done in
    psychology to practical situations.

51. I don't think my knowledge of food
    preparation will ever be needed in
    my career.

52. More time should be spent on
    technical communication because of
    its practical value.

53. In reality caterers need to know very
    little of the work we cover in
    economics.

54. CCOA doesn't succeed in tackling real
    problems.

55. I think caterers without any knowledge
    of applied science would be less
    efficient than those who had studied it.

56. I can't imagine actually doing anything
    with my knowledge of quantitative
    methods.

57. I feel my work in psychology will put
    me at an advantage when I start work.

58. The relevance of work covered in food
    preparation to our careers is over-
    estimated.

59. I don't like to miss economics periods
    because I know the work will be useful
    later on.

60. I find CCOA helps me to see the industry in 'real' terms.

61. Quantitative methods is too 'academic'.

62. I don't see how my knowledge of psychology will be of use in my work.

63. The time we spend on technical communication is absolutely essential.

64. Economics takes up far more time than is really necessary.

65. CCOA deals with problems directly relevant to the industry.

66. A good knowledge of technical communication is important for my future career.

67. It would be damaging to cut down on time spent on food preparation.

68. The economics we do is too general to be of any real help.

69. Much time spent on applied science could be better employed elsewhere.

70. Caterers need some knowledge of food preparation such as the course provides.

THANK YOU FOR YOUR CO-OPERATION

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box. The scale is as follows:

     SA = strongly agree
     A   = agree
     N   = neutral
     D   = disagree
     SD = strongly disagree

                                                  SA A N D SD

1.   Lectures are too formal.

2.   I look forward to seminars.

3.   I get most of my ideas from seminars.

4.   Practical work will help me later on.

5.   I find lectures interesting in general.

6.   Seminars too often get sidetracked.

7.   Practicals don't serve a very useful
     purpose.

8.   I would prefer to cover work done in
     practicals by other teaching methods.

9.   Lectures don't really hold my attention.

10. I enjoy discussing my ideas in seminars.

11. Lectures are the best way to introduce
     new material.

12. I find practicals stimulating.

13. I am nervous to say anything in seminars.

14. I find lectures thought provoking.

15. Practicals are an essential part of the
     course.

16. I would learn more if the course was
     entirely taught by seminars.

17. Lectures are unnecessary really.

18. Practicals should be optional for
     those who want them.

19. Lectures are a poor way of learning.

20. Seminars are very necessary as they allow
    students to express their own opinions.

21. I enjoy the informal atmosphere of
    seminars,

22, Practical work is a refreshing experience.

23. Lectures are ideal for presenting
    information.

24. If seminars weren't compulsory I wouldn't go.

25. I find lectures too structured.

26. There is a need for more practical work.

27. Shy and quiet people can find seminars
    upsetting.

28. I enjoy attending most lectures.

29. I find some practicals tedious.

30. Seminars are too easily dominated by one
    or two people.

31. I could spend lecture time more product-
    ively in other pursuits.

32. The course would lose much of its
    validity without practicals.

33. Seminars are a good way of learning
    for me.

34. Practical work can be mundane.

35. Lectures are probably my main source
    of information.

36. I find seminars friendly and relaxed.

37. Practical sessions are necessary to place
    the theory we learn in perspective.

38. I like the set outline of lectures.

39. Seminars are too unstructured for me.

40. The importance of practicals is over-
    estimated.

41. I feel more comfortable in lectures than
    in other learning situations.

42. Practicals could be disbanded without damaging the syllabus.

43. Seminars are good because they give people confidence in their own ideas.

44. Practicals are the least enjoyable part of the course.

45. I think most lectures are boring.

46. No lectures should be compulsory.

47. Seminars help me to clarify ideas.

48. There is no real need for practicals.

49. For me lectures are a good way of learning.

50. I learn quicker in a practical situation.

51. Seminars don't usually stimulate ideas for me.

52. Lectures are simply 'spoon feeding' knowledge,

53. People should place a higher value on practicals.

54. Lectures fail to inspire me.

55. I don't really enjoy seminars.

56. Practicals are usually very enjoyable.

57. Intellectually practicals are unstimulating.

58. Lectures are a good way of making sure everyone has the same knowledge.

59. I would prefer less seminars

60. I find talking myself in seminars is stressful.

THANK YOU FOR YOUR CO-OPERATION

Could you please indicate how far you agree with the following statements by placing a tick in the relevant box. The scale is as follows:

      SA = strongly agree
      A   = agree
      N   = neutral
      D   = disagree
      SD = strongly disagree

SA A N D SD

1. I get on well with staff

2. I enjoy talking to lecturers.

3. I am embarassed to call a member of staff by his/her Christian name.

4. I feel at home in the department here.

5. A formal department is better than an informal one.

6. The content of the course is more important than the lecturers.

7. In the sixth form I was treated as a student rather than a pupil.

8. The staff are very helpful here.

9. If possible I don't approach staff with problems.

10. I wouldn't say I really know any lecturers as individuals.

11. I like to feel 'accepted' by staff.

12. I tend to be rather in awe of lecturers.

13. I have no wish to discuss anything but academic problems with staff.

14. Staff are interested in academic results not students.

15. I prefer to be in an informal department.

16. I think staff and students should mix socially.

17. I try and avoid getting involved in discussions with lecturers.

18. Lecturers are interested in students as individuals.

19. I find it difficult to approach lecturers outside class.

20. As a rule I prefer to look to other students for help rather than staff.

21. I would always stop and chat to any lecturer I met outside the Polytechnic.

22. I somehow feel uncomfortable when I'm with staff.

23. I would like to come back to visit the department after I graduate.

24. I don't feel staff really understand students.

25. Students who try and get on well with staff are 'creeps'.

26. Staff and students are part of a team working together.

27. I consider myself to be on good terms with my lecturers.

28. If staff don't take any notice of me I'm not at all bothered.

29. Lecturers only function simply to pass on knowledge.

30. I find staff very sympathetic towards students.

31. Good staff/student relations are essential.

32. I would feel unhappy if staff weren't friendly towards me.

33. I see the staff as friends really.

34. I don't look for much personal contact with staff.

35. I tend to see staff/student relations as a kind of 'them and us' situation.

36. I never hesitate to approach staff if I have a problem.

37. I don't think I'll ever revisit the department after leaving.

38. I consider myself lucky to have such good relations with my lecturers.

39. I don't tend to notice much about the lecturers as individuals.

40. I'm more influenced by my friends than lecturers.

THANK YOU FOR YOUR CO-OPERATION.

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