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ARTICLE

First impressions last

An innovative approach to induction

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ABSTRACT Low progression rates and voluntary student withdrawal are increasingly a concern as participation rates in the tertiary sector rise. Models of departure stress the importance of transition mechanisms in obtaining the commitment which ensures persistence. This article describes an innovative induction programme which was devised by applying student persistence research findings. Sufficient details of the activity's structure are provided to allow it to be adapted by others. The evaluation reported is based mainly on data collected after the first time the programme was run. The programme has now operated for several years and evaluations and modifications are described. The primary aim of this article is to provide guidance on optimizing the effectiveness of the approach.

KEYWORDS: *progression rates, transition and persistence model, undergraduate induction*

Introduction

Induction is the first contact that undergraduates have with the university and forms their impressions. Induction literally means 'lead in'. In many cases, this is passive and dull. To succeed in their studies students must be motivated, accustomed to the university culture and feel part of the university community. Induction must effectively 'lead in'. In former years, induction for our engineering students meant sitting in a lecture theatre for a day. Speakers queued up to deliver their concentrated 20-minute talk on course structure, computer systems, Students' Association – and, what was most probably needed by the end of the day, counselling services. Little of what the freshers, trying to cope with the new environment, were told registered. It probably did more to confuse and dishearten than to inform and motivate. Early voluntary withdrawal rates were unacceptable. A university report (Casely and Robertson, 1995) showed our School to have the worst record in the university. Among the reasons given by respondents for dropping-out of their course, 40 percent cited inadequate induction and a higher number ranked induction-related issues. They felt uninformed

about their course structure and organizational issues, disoriented in an impersonal environment and homesick and lonely. Our School devised an innovative active induction programme to inform, involve and orientate the entrants – and to dispel the impersonal image.

The nature of transition from secondary to tertiary education

Tinto's (1993) model of student departure has been widely applied to student withdrawal and the transition from school to university. Research findings have been published on both of these issues. Little has been published on the transitional induction process identified by Tinto (1993) and others as a key factor in the student's departure decision. Induction can ameliorate or exacerbate the student's predisposal to withdraw. Hargreaves et al. (1996) found that three factors in particular are influential:

- student anxiety about the transition;
- the process of adjustment to the new context;
- continuity between the previous and new curricula.

Many universities have increasingly diverse intakes; see, for example, McInnis et al. (1995). In the context of this article, the intake is predominantly of male students direct from secondary education with, however, a wide dispersion of academic attainment from those of high academic calibre to the marginally qualified. Induction should be designed to address the issues most influential in their departure decision and to prepare them for the demands of the course; these issues must be made explicit. Edward (2001a) identified the growing disparity between students' expectations of the course and their experiences. There is a growing disparity between the expectations of staff for student performance and students' abilities (Edward, 2001b). Increasing class sizes have restricted staff accessibility. This increases students' perceptions of impersonality and remoteness (Edward, 2001a). The initial experience the entrant has of the university is a key influential factor in the student's persistence in higher education (McInnis et al., 1995). Failure to adjust to the environmental demands, rather than intellectual difficulties, accounts for a high proportion of student departures (Pitkethly, 1997).

The programme described here addressed these issues by interposing a regulatory mechanism into Tinto's research-backed model which was based on his perception of cessation decisions being contingent on the interaction of many variables. Individuals enter university with varying patterns of personal, social and prior academic characteristics, and these interact with the individual's skills, educational achievement and experience. This

predisposes the individual towards or against institutional and goal commitment. The transitional process influences these predispositions. For a given individual, an effective process of transition can increase persistence. Clearly, an unsuitable transitional experience can increase the probability of early departure. Tinto (1995) emphasized the long-term effects of the transitional experience. We applied the research findings to identify the key design issues for induction.

The model (Figure 1), based on attrition theory and the author's research on socialization and transition, shows these issues interposed on a modified version of Tinto's model. Pre-university experiences and personality influence the probable degree of persistence exhibited by an individual and affect the congruence between the individual's capabilities and the demands of the course. Career guidance and influential persons influence congruence with course demands and institutional context and fitness for professional development. Career conversancy is an amalgam of advice from official and personal sources. The perceived attractiveness and demands of the course and the profession mould an individual's motivation and apprehensions and determine a key factor, tolerance for the ambiguity characteristic of higher education. Space restricts the number of factors which can be displayed. For example, Elton (1991) has shown that an individual who excelled in school may experience 'disenchantment syndrome' on finding themselves not considered exceptional. Successful integration of the individual depends on establishing a number of factors. Goal commitment, both academic and professional, is influential (Tucker, 1999). Motivation to gain an academic qualification promotes effort to achieving this aim. Motivation may be intrinsic, mastery, or extrinsic, for example, a high salary after graduation. Professional goal commitment, identification with the chosen occupation, may sustain an individual through a course which they might otherwise leave.

Commitment to the institution, a sense of belonging, is seen by many as paramount in the survival of a student. Campus involvement has been shown to be strongly correlated to persistence (Milem and Berger, 1997). Tucker stressed the importance of fostering a sense of belonging while others (Bandura, 1997; Hemmings et al., 1995; McInnis et al., 1995) note the positive influence of the generation of self-reliance and of peer support groups. Students who do not socialize are more vulnerable (Mackie, 2001). Boyle (2002) stresses the importance of helping students to believe in their own abilities to meet the demands of their course. Commitment may ensure persistence, but without the necessary skills it is unlikely to guarantee a student's survival. The study and group working skills needed at university will be new to many entrants. The model depicts the interaction of ability and motivation by the logical *and* operand. Academic failure will lead to

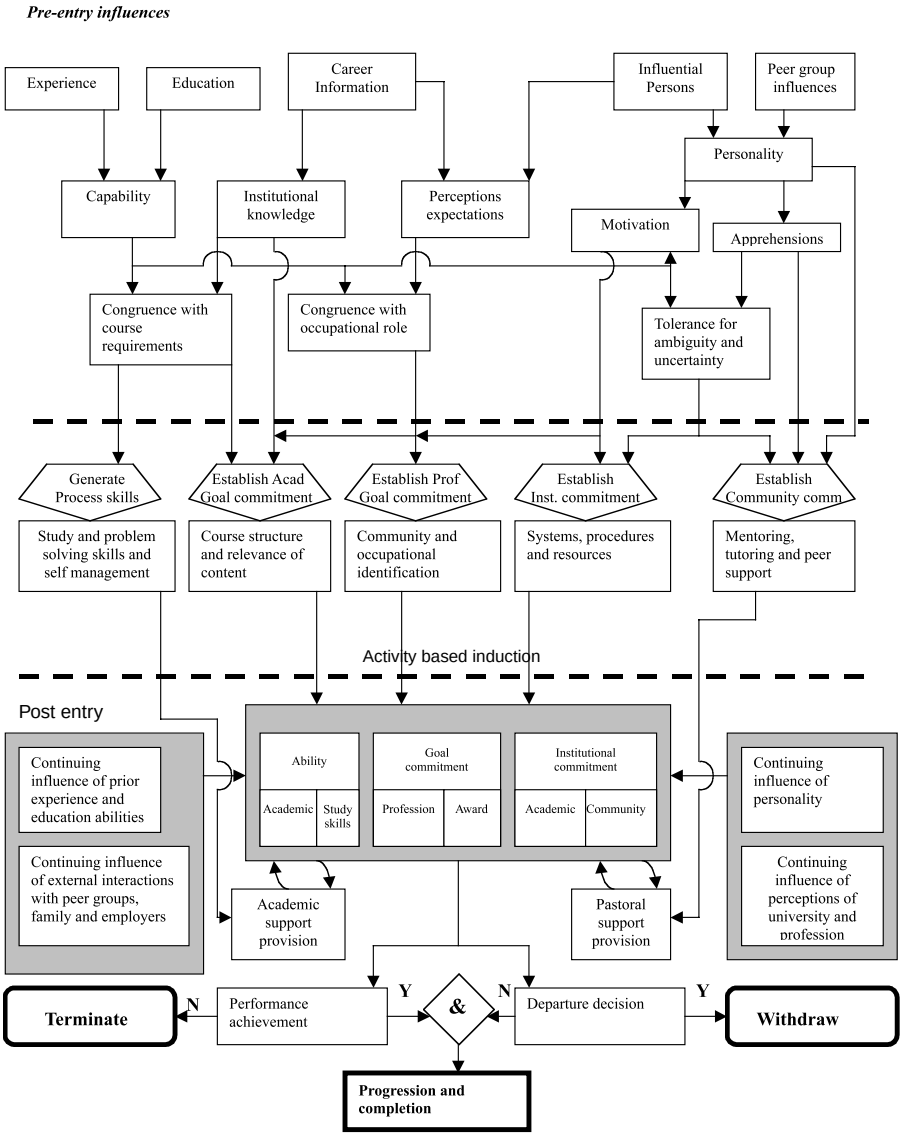

Figure 1 **Model of academic progression and the role of induction in the transitional process from secondary to tertiary education.**
Note that the post-entry processes are redrawn from Tinto's (1975) model of student departure

termination. Only positive performance *and* a negative departure decision lead to progression and completion.

The model uniquely shows the role of induction in developing commitment and in equipping students to apply their ability to best advantage.

Activity-based induction (ABI) is designed to familiarize students with the systems, resources and procedures of the university by demonstrating their relevance and encouraging commitment to institutional norms. By demonstrating the relevance and coherence of the subjects in their course it develops goal commitment. Recently graduated professional speakers reinforce motivation to gain the award which secures entry to the profession. Active, tutor-guided development of study skills will optimize deployment of the individual's abilities and reduces the demotivational effects of inefficient approaches to study. Crucially, the individual is immediately absorbed into the campus community. The induction group becomes their tutor group throughout the course and the facilitator is their tutor. Interaction is ensured with many staff members. The use of experts helps the students to quickly appreciate that knowledge is not absolute. The realization that real problems are open and not subject to definitive solution is known to be demoralizing and confusing to many students. ABI helps students to adjust to this in an informal supportive environment.

Summary of the innovative features of the novel approach

Student-centred induction is now more common. Our approach differs in that it was designed to address the issues identified as being the most influential in determining student persistence. In summary, the innovations included:

- the use of experts and multiple sources which encourages evaluating information in relation to its source;
- discipline-related speakers to engender occupational commitment, subject relevance and note-taking skills;
- using multiple communication media and information sources to familiarize participants with systems and resources and develop generic skills;
- interrogative facilitator intervention which encourages effective study strategies, peer cooperation and institutional commitment;
- a 'treasure hunt' which ensures familiarization with the premises and key locations within the university;
- 'tongue in cheek' prize awards to cement group and class relationships.

The induction programme

As they arrived students were arbitrarily divided into groups. A staff member, their facilitator, was attached to the group, welcomed them and

engaged them in ice-breaking activities. These served the purpose of quickly encouraging students to talk to each other. It is noted that other research conducted by the author exposed this ambivalent attitude. Meeting new people can be stressful. For further details of our programme, see Edward and Middleton (1998, 2001a, 2001b).

The Challenge – The students' activity

The Challenge (Figures 2–4) relates to engineering, but similar briefs could be devised for any discipline. Each group investigated and built a case. Groups were encouraged to organize themselves and leaders emerged voluntarily without friction. The facilitators encouraged their groups to define their needs, devise a plan to achieve their ends and deploy advantageously their group resources. Encouraging the use of as many information sources as possible promoted learning about information searches and use of the university's systems. A more formal introduction to the library and computer systems was timetabled for the second day. This caused logistical difficulties, partly because groups engaged with The Challenge were difficult to locate. Speakers, young engineers and recent graduates, hopefully provided inspirational role models, but were also able to speak authoritatively on some aspect of The Challenge. Attendance, although not mandatory, was strongly encouraged. Facilitators helped students to prepare relevant questions, providing an introduction to learning from lectures. Debriefing encouraged meta-cognition and consolidated the experience. This generated both goal and institutional commitment and enhanced study skills. All the students visited a large gas-powered generating station. Its operator runs most of Scotland's hydro stations and generates power from wind machines. Senior managers assessed the relative merits of fossil fuel and renewable approaches. Again we sought to nurture academic and professional goal commitment.

Groups preferred library and Internet searches to consulting experts. One suspects that the very term 'expert' may have been off-putting. A search engine does not recognize a naïve question. Experts, however, reported sensible, if not very technically advanced, questions and groups seemed to have little difficulty in recognizing and reconciling vested interest. Today's young people are generally very used to telecommunications devices and yet at interview they reported anxiety about making technical phone and video-link calls. The presentation of findings to the assembled class, facilitators and a mock government board was more stressful. The board consisted of invited outsiders and although every effort had been made to build confidence, many participants were clearly nervous. More concerning was the degree of absenteeism. The presentation has been retained in subsequent years to provide a culmination. Staff now act as board members but it remains stressful for many students.

Incoming students were randomly divided into 6 groups of around 10 students. Desks were arranged into 'round table' arrangements. A member of academic staff was attached to each group from the outset and, other commitments permitting, spent all of their time with their group. At least two facilitators were always available for consultation on matters requiring immediate response by any of the groups. We had six experts available for consultation by the students. Each represented a different organization with an interest in energy supply. These included an academic researcher, an environmental group, a political party and an energy supply company. Staff members took the roles of experts in the first year but subsequently we obtained assistance from real organizations. Use of different communications technologies was encouraged as any given expert could only be accessed by using a particular medium. These included fax, telephone, e-mail and face-to-face interview and a high-speed link and video phone set up by BT for the students' use. Systematic information searches were made using resources including the university library, the Internet, local and national businesses and our video library. The objective was to familiarize the students with the systems they would subsequently be expected to use in their studies. An introduction to the use of the library and the university's computer system was built into the programme. Students presented their findings orally with visual aids on the final day.

Invited speakers addressed the whole class. They were recent graduates involved in energy supply who could provide indications of where career paths lay. The students spent 3 hours at a major gas-powered generation plant learning about its operations. Its operator, Scottish and Southern Electric, also produce most of Scotland's renewable electricity from hydro and wind installations. Aspects of useful information, which could not be easily built into the activity, were included in a treasure hunt. A prize given at an 'awards ceremony' was given to the student with the highest number of correct answers. Other prizes were given to groups in light-hearted categories.

Figure 2 **Activity structure**

On January 1 20xx Scotland became independent. The incoming Government is concerned about the effects of fossil fuel power generation on our environment. Your company The (fuel type) Electric Co. is invited to tender to supply up to 25% of the nation's need by 20xx. Statistics on current and projected consumption are attached. Tenders must make a realistic technical case for supply options. The Government is, however, concerned about other issues including cost of supply, effect on employment and environmental impact of your proposals.

To assist you we have appointed a panel of experts (see attachment). You are encouraged to use them freely. Contact details are included. We would expect you to base your justification on their views and on other information sources such as written and Internet reports. We have arranged for on-site inspection of an existing fossil and renewable electricity supplier.

The Government wishes to promote entrepreneurship. An advisor has, therefore, been instructed to be at your service. He/she has considerable experience of the systems you will be using.

You are invited to present your findings in person to a Government Panel at 14.00 on……

Figure 3 **The Challenge–scenario* (Summary of four page brief)**

Group - typically around 8 to 10 members
Facilitator - 1 per group, academic staff member and subsequently personal tutor to the group
Expert - 6 spokespersons representing various political, environmental and industrial organizations
Communications interface - sole medium of communication with a given expert (different for each)
Information resources - library, Internet, video library, etc. available for referencing by students
Systems interface – medium of accessing information source

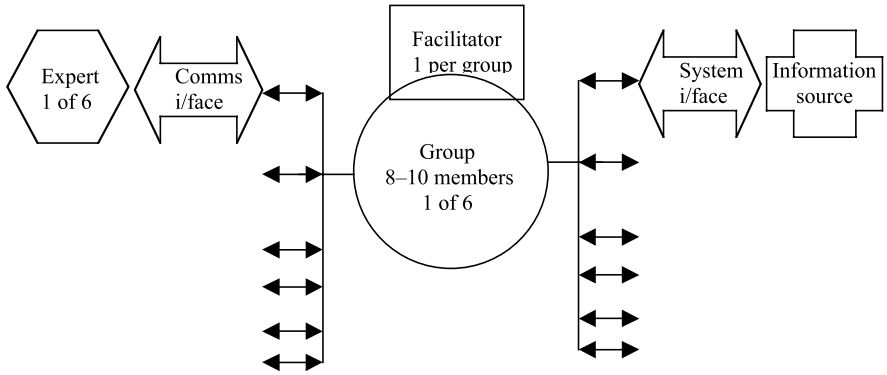

Figure 4 **Diagrammatic representation of induction activity structure**

The induction week is rounded off by an 'awards ceremony'. Prizes are awarded for joke categories, for example, a compass and map was awarded to the group which became most comprehensively lost.

Evaluations of the event – The student perspective

Feedback was obtained from the students using two questionnaires, one immediately after the event and one two weeks later, and from a 10 percent sample by interview. The second was intended to detect re-evaluation of induction once the course had started. Facilitators and experts also completed questionnaires and were interviewed immediately following the induction. The student questionnaires covered:

- motivation to select engineering as a career;
- motivation to select a particular course;
- influential factors on these choices;
- affective perceptions of The Challenge;
- technical skills gained;
- personal and interpersonal skills gained.

They were also asked to provide a free-form request for a self-descriptive statement and any additional comments. Statistics are cold, but indicated that the students' perceptions of the experience were generally very favourable. We let some of their words speak for themselves.

Quotes from students

> At first The Challenge didn't seem very enjoyable. After we got started things brightened up and by the end it had changed remarkably. Some jokes and meeting new friends changed the whole week for the better.
>
> The course was really good and well organized. I learned a lot and had to work quickly and get to know the other members of the group quite quickly as well.
>
> Yeah! Looking good so far!
>
> The one-week programme was overall a good idea!! Thanks guys!
>
> I am glad I didn't make the grade for my first choice (of University). I have really benefited from the course, the staff have all been very helpful.

These are typical of the majority of views expressed. Any criticisms related to the overall length of the activity and inadequate advance information. Self-descriptive statements reveal young people highly committed to engineering as a career and motivated to succeed. A typical statement was:

> Engineering is to me a very interesting profession and opens doorways to jobs that I dream of doing. I want to be the best, the most innovative, the peak of my profession.

Students rated their gains in technical skills (3 measures) and personal and interpersonal skills (15 measures) on 5-point scales. It was assumed that the activity would not detract from any skill. A score of 1 represents no gain. Averaging was conducted to combine both individual and category measure scores. Thus, the technical skills gain average is that for 75 respondents and 3 measures. The score of 3.23 is between 'moderate' and 'quite a lot'. This compares with facilitators' estimate of the students' learning of 3.33. (Note: facilitators were rating the skills of the students. Students were rating their perceptions of skills *gained*.) The corresponding figures for personal and interpersonal skills gains were very similar at 3.26 and 3.50. The lowest rating by the students was 2.97 for critical thinking, whereas the facilitators rated their note-taking skills at only 2.50. There were two major discrepancies between the students' score and their facilitators' ratings. The students' evaluation of their planning and control skills at 3.09 was significantly lower then that of the facilitators at 3.80. The entrants, however, thought themselves considerably more able to work alone (3.40), whereas the staff members' score was only 2.80. Scores for the same questions on the follow-up questionnaire were noticeably lower. One of our challenges is to find ways of maintaining and capitalizing on the enthusiasm which The Challenge generates.

The developing of effective teamworking skills, valued by future employers, was a key objective. It was also felt that learning during induction would

Table 1 **Facilitators' ratings of group skills, 1 = very poor, 5 = very good**

	Ratings					
	1	*2*	*3*	*4*	*5*	*Missing*
Planning and Organization	–	–	4	4	3	–
Oral Communication	–	1	2	5	2	1
Written Communication	–	1	2	4	3	1
Time Management	–	3	4	3	–	1
Critical Thinking	–	3	3	4	–	1
Decision Making	–	2	3	4	1	1
Problem-Solving	–	2	1	6	1	1
Teamworking Ability	–	2	7	1	10	1
Note Taking	–	5	5	–	–	1
Business Awareness	–	5	3	2	–	1

be improved by effective teamworking. More important is our conviction that self-help study groups lower withdrawal rates and improve student performance. The evidence is largely anecdotal, but it would be predicted by the model. Facilitators encouraged the election of a leader, and group maintenance practices, and promoted planning and organization to make optimum use of resources. The students reported good group working skills and harmonious operation, and most had a leader who had emerged or been elected without friction. Some were nominated, for example, by virtue of age or sex. The only possible indication of discord is the comment that leader was 'the eldest and most mature member (allegedly)'. Leadership style was generally consensus. Facilitators are strongly encouraged to attend staff development workshops related to team building. These enhance a participant's own skills and are also beneficial in facilitating the generation of the skills in others.

Facilitators' responses

Eleven of 12 facilitators completed questionnaires (Table 1). Only six of the groups were reported by the staff member to have selected a leader. They reported only six groups having a leader who had 'emerged' or been nominated without dispute, the groups progressing from forming to performing seamlessly. The harmony was reflected in mean scores of 3.73 and 4.18 respectively for groups working well together and cooperation between members. Facilitators were impressed by the enthusiastic, motivated (4.0) and focused approach with which their groups approached The Challenge.

'The biggest difficulty was tempering their urge to bash on without planning' commented one. Even so facilitators were impressed with the organization (3.63) and effectiveness (3.27) of their charges. Information retrieval is an important skill for any undergraduate. Eight facilitators thought their group's information retrieval skills were good. Only one said they were poor. Computing and IT skills were less impressive. Five groups were rated as good and two as poor. Poor approaches can be turned to advantage. A facilitator used an ill-structured library search to advantage by having the group analyse its effectiveness.

In general, groups were not thought to have an understanding of technical terminology. Only four groups were rated as good. Facilitators were, however, impressed with the participants' environmental awareness (4.1). Interviews revealed that entrants had a strong commitment to engineering, but surprisingly few had practical hobbies or read technical books. We asked facilitators to respond to a number of questions on study and teamworking skills as the development of these was a key objective of the programme. Although the scores were generally high, two groups were rated low on most measures. The facilitators described them as 'not really getting their act together' and as 'lacking group cohesion'. It is a moot point whether this was due to the arbitrary group compositions or to the facilitators' not effectively performing their role. The lowest scores were for note-taking skills. This is of concern as lectures are still the major information dissemination medium.

Staff ratings of their group's skills may conceal wide variations in individual members but facilitators interviewed were generally impressed and did not report wide divergences. The exception was a group in which a member was reluctant to become involved. He subsequently dropped out. The activity-based approach may not suit the introverted individual. Staff felt that the groups worked well under pressure. They did not feel that individuals were very good at working on their own. To take advantage of the effective groups, peer support study groups are promoted through the personal tutor scheme which follows the induction programme.

Facilitators became caught up in their group's enthusiasm and this may have affected their objectivity. Despite thorough training and briefing, facilitators' performances ranged from overly to insufficiently involved. We strongly suspect that some of the facilitators, at least at times, were leading rather than guiding their groups. Others, perhaps due to uncertainty about the role, did not really engage with their students. Quite a number of staff were concerned about the benefits of a week devoted to induction but even the declared sceptics entered wholeheartedly into the activity. Given that a main objective is encouraging institutional commitment, measures to ensure the effectiveness of staff must themselves be effective. Facilitators

were asked to comment on the best and worst features and to recommend changes. They approved of the team building and socialization aspects. One commented 'seeing the group start as complete strangers and then working well together within a short period was the best feature'. Worst features generally dealt with technical and logistic difficulties although one felt that the problem-based approach had adumbrated the underlying objectives. Although the importance of encouraging reflection was stressed, one facilitator observed that 'not enough emphasis was put on reflection on learning processes'.

Facilitators are the key to the success of the venture. They must be active otherwise the students lose direction and may become dispirited. They must avoid leading their groups instead encouraging reflection. They must steer their groups between over-concentration on the technical challenge and reflection on the effectiveness of their investigative processes. They have, as one put it, 'to be convinced that this way of motivating students is the appropriate one'. It is a difficult and demanding role. Careful selection and training of facilitators is crucial.

The experts

The first time The Challenge ran members of academic staff acted the role of experts, each with an affiliation. They prepared for the role by investigating the opinions of organizations in their field. In subsequent years we have been fortunate to obtain assistance from external organizations. These experts provide an additional source of information, help the students to appreciate the need to evaluate 'expert' opinion and to conduct a technical dialogue with previously unknown people. To provide familiarity with communications technology each expert could only be consulted through a single medium. Facilitators helped their groups to formulate an interrogation plan. Experts found the students to be organized, focused and enthusiastic. Briefings were provided for the experts. Staff playing the role of expert admitted that they had not adequately researched the views of the organizations they nominally represented. Outside experts felt that they could have benefited from more detailed information on the students and the expectations of The Challenge. Subsequently, more detailed briefings were prepared. A workshop with the experts is recommended if it is practical. Experts suggested that students should have more detailed information on the role of the experts and the information they might supply should be provided for the students. Facilitators also should strongly encourage the use of these sources.

We were perhaps over-optimistic to think that entrants, fresh from school and in an unknown environment would feel comfortable interviewing or phoning an unknown person. It is, therefore, perhaps not

surprising that most use was made of experts who could be contacted by the less personal media of e-mail, fax and letter. In subsequent years efforts have been made to encourage the use of experts as this is intended both to familiarize them with communications media and to develop skills in their use. Use of experts has consistently been lower than is desirable. It clearly requires effort to encourage entrants to approach an unknown person on technical matters.

Discussion

This induction programme is resource intensive. It requires concentrated staff involvement and dedicated accommodation for the students to avoid disruption and provide them with familiar surroundings. In the first operation other classes were given projects to free staff and accommodation. Their progress was affected and induction is now part of the general programme. Even given this, the approach is resource hungry. Similar concerns about the demands on staff and other resources of activity-based learning have been reported by others (Yorke, 1999). This has required some compromises. Although there are at least four members of staff available for the induction groups at all times these are not always the facilitators. We have tried to ensure that students will be in the same room for the whole of each morning or afternoon but changes of accommodation have had to be accepted. Our programme is broken by a weekend and loses some impetus. We strongly advise others wishing to adopt this approach to avoid the weekend hiatus if possible. We encourage entrants to make use of the computing facilities. In the first year they had free access. Now they have some priority slots but in general they must fit around other classes. Library induction involved each of the 12 groups having half an hour of comprehensive explanation of library facilities and systems. It proved logistically difficult to maintain the schedule. Although this comprehensive familiarization is preferred, the introduction has been reduced to the essentials. The fuller programme is now part of the tutor programme.

The induction programme has achieved its underlying aims. By the end of the week the students were on easy terms with many of their peers and staff. They knew the geography of the university. By this, we mean more than they knew how to reach the library, for example. They knew where or who to ask about course information, staff office locations and specific laboratory functions. They had a more reasonable familiarity with the use of IT systems. In the past some of these were not acquired by some students until they were doing final year projects! The facilitator was already on easy terms with what became his/her tutor group. Pascarelli and Terenzini (1997) identify informal interaction with staff as a major influence on

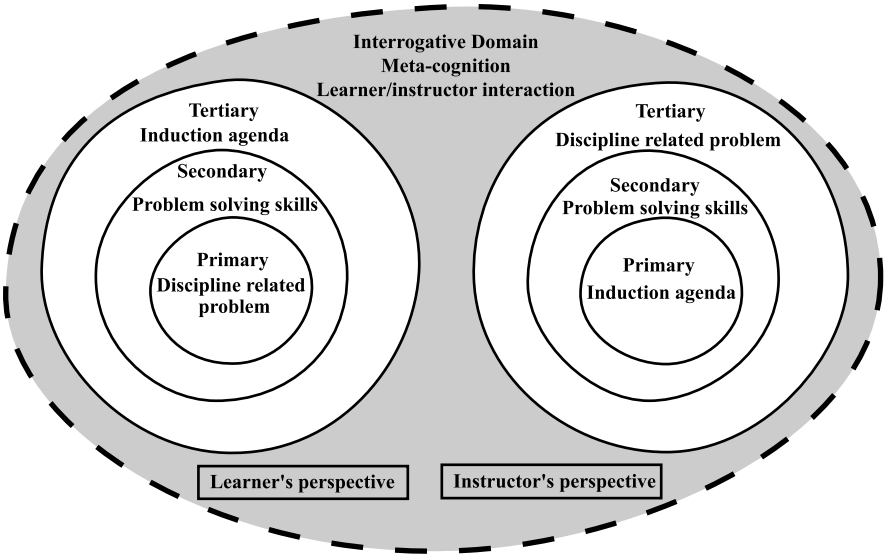

Figure 5 **A model of activity-based induction (ABI)**

students' social and academic integration. The groups arbitrarily formed at induction are enduring. The first cohort has not long graduated. Groups still keep in touch with each other. This coherence is a key to achieving both goal and institutional commitment. McInnes et al. (1995) reported that many students who never socialize with classmates are typically low achievers.

There is an interesting inversion of the immediacy of the three nested sets of objectives when considered from the student's and the instructor's perspective (Figure 5). The student is engrossed in the problem, and the mechanisms of tackling it are what Conklin (1987) has termed cognitive overhead. The instructor seeks to achieve goal and institutional commitment. The Challenge is a vehicle for achieving these ends. The technical challenge with facilitator guidance is a form of problem-based learning (PBL). Good references on PBL are Savin-Baden (2000) and Vernon (1995). At the deepest level The Challenge sought to welcome the student into the community and provide survival skills. This was a deliberate attempt to achieve congruence between the student's profile and the institutional goals and so to address high attrition rates. Given their stage, students performed well on The Challenge. Reports were balanced and informed, if somewhat lacking in technical analysis. The feedback confirms that the underlying objectives were achieved. Overwhelmingly students rated the programme

highly and facilitators thought that their groups had gained skills and knowledge. In the fundamental aim, however, success has been qualified. The very early losses have largely been stemmed. Attrition through the first year, however, is little changed. Induction appears to carry the student through orientation to university life. The acquired skills and knowledge of systems are an insufficient remedy for later disenchantment or lack of progress. The Challenge may be emitting the wrong message. Its ethos of 'university life is fun' followed by the hard realities of lectures, theory and assessment may be postponing or aggravating the realization of the difficulties of obtaining a degree. Perhaps induction should prepare them better for the rigours of their course. The roots of the problem may, however, lie elsewhere. We are already actively addressing the poor grasp of mathematical concepts and misconceptions of physical concepts.

Conclusion

We have developed, and successfully operated for a number of years, what we believe to be a novel approach to undergraduate induction. The discipline-specific problem investigation is simply a vehicle for providing the basic skills and knowledge needed to use the university's systems and cope with student life. Several novel devices were employed including the use of experts who could only be contacted by using a particular channel of communication. The easy familiarity the students developed with peers, staff and systems, is viewed as very positive. We believe the approach could easily be adapted for adoption by most other disciplines.

Failure to reduce high attrition rates is of concern and is now the focus of our attention. Intense scrutiny on completion rates has become a fact of university life. Attrition is adversely affected by inadequate facilitation of the transition to university from school. Others have introduced some form of socialization activity. For many it involves 'putting them into teams and getting them to run about a bit, collecting things and such like'. The innovative features of this approach can be summarized as: (i) they take cognisance of research findings, and (ii) they are *planned* to address the major issues identified by these studies.

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