

PROGRAMME EVALUATION, ACCREDITATION AND ACCOUNTABILITY  
FOR TERTIARY INSTITUTIONS

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This paper reports on the development of the Programme Evaluation Project adopted by the Western Australian College of Advanced Education as part of the implementation of self-accreditation procedures for courses of study offered by this institution.

Since the early 1970's, institutions in the then Advanced Education sector were required to have their courses of study accredited by an external examining panel and the accredited courses listed in a national register for the institution to qualify for Commonwealth funding. During the 1980's a few Colleges of Advanced Education (CAE's) in Victoria and the Western Australian College of Advanced Education, applied for and were granted self-accrediting status by the respective state post-secondary education authorities in an attempt to free up the rigid, authoritarian accreditation procedures that had developed throughout Australia during the previous decade.

To achieve self-accrediting status, the institutions involved were required to demonstrate a level of organisational maturity that could support and maintain evaluation of courses of study relevant to, and acceptable by, the community at large. An important feature in this demonstration was the presence of a strong network of advisory committees and evidence that an effective interaction and communication link existed between these committees, and the academic committees and governing council of the institution. Central to the functioning of this process was the implementation of a procedure suitable for evaluating the courses of study offered by the institution. The recently established unified national system for tertiary institutions within Australia has seen the rapid disappearance of CAE's as a separate and distinct sector within the post-secondary education community and, with this change, a reassessment of formal requirements for the accreditation of courses within all tertiary institutions.

The related issues of assessment, accreditation and registration of courses have provided the substance of two discussion papers

released during 1989. In both of these papers, one from the Higher Education Council of the National Board (1989) and the other from the Australian Education Council (1989), emphasis has been placed on the Commonwealth Government's statement in the White Paper: "Higher

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Education: A Policy Statement" (Dawkins, 1988), that institutions of the unified national system are to be responsible for the assessment and accreditation of their own courses within an agreed framework of principles and outcomes. The outcome of these statements has been the creation, by the Australian Education Council, of the new Register of Australian Tertiary Education which will replace the Australian Council on Tertiary Awards. The development of this framework and set of principles for accreditation of award courses in Australian tertiary education, together with the preparation of research management plans, educational and research profiles, and the implementation of performance indicators within institutions, is a clear demonstration that the accountability process is already underway.

#### Evaluation

The Western Australian College of Advanced Education was created in 1981 following the amalgamation of the four teachers colleges and CAE's located in the inner Perth metropolitan area. During the early years of the amalgamated College, considerable debate ensued on the merits or otherwise of the need to adopt an evaluation plan. The Academic Council agreed in 1984 that evaluation of College programmes was a necessary activity, but there was difference of opinions on how this evaluation should be carried out and whether an overall College evaluation plan would be appropriate for all Schools within the College. Some members also considered that the proposed plan was too ambitious and appeared to be an expensive undertaking.

Finally, in March 1985, the Academic Council established a working party to design a course evaluation plan suitable for the College. The Working Party examined the Evaluation Survey Package (Done, Hunter & Malone, 1981), material prepared by Roe and McDonald (1981) for the Higher Education Research and Development Society of Australia (HERDSA), and other source material from the Evaluation Unit at Murdoch University together with that made available by College staff.

Before considering a general model that would provide the basis for an evaluation plan, a suitable definition of evaluation was required. For this purpose, the Working Party focused on the notions

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specified by Roe and McDonald (1981), as well as on Stufflebeam's (1983) conception of evaluation. Following Roe and McDonald (1981), programme evaluation is taken as the process of gathering information about a programme so as to assist in making judgments and decisions about the worthiness of the programme and its future. Such evaluations can help identify a need and the way that need is being met, and can assist in deciding how a programme should be changed to make it more efficient, cheaper and effective.

The Stufflebeam (1983) conception of evaluation can be stated as the process of delineating, obtaining, and providing useful information for judging decision alternatives. The approach implied here is "that context, input, process, and product evaluation may be used both to guide decision making, the formative role, and to supply information for accountability, the summative role" (p. 124). More specifically, and in relation to the present Project, this approach would aim to yield information by addressing the following:

1. definition of the operating context to establish course needs and diagnose problems in meeting these needs (addressed by context information);
2. identification of resource, time and budget capabilities needed to realise programme objectives (addressed by input information);
3. provision of periodic feed-back to the persons responsible for implementing the course on processes employed (addressed by process information);
4. relation of outcome information to the course objectives, operating context, input variables and process information (addressed by product information).

In arriving at a synthesis of these notions, it became important to realise that a necessary component in the final process is for the adoption of an evaluation system capable of supporting the approval and accreditation procedures which, and at the same time, would assist Schools of study in determining the effectiveness of their programmes.

To achieve these purposes, then, the Working Party proposed an evaluation model that would operate in conjunction with the course approval and accreditation procedures. It attempted to design a workable system and accordingly recommended the adoption of a

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five-stage evaluation model, the details of which will be presented in the next section. To safe-guard standards of evaluation, comprehensive criteria developed in the U.S.A. by the Joint Committee on Standards for Educational Evaluation (1981) would be adopted. These concentrate on utility, feasibility, propriety, and

accuracy, in developing, implementing and monitoring evaluation designs.

The Working Party also advocated the role of an evaluation unit. The concept of an independent evaluator is important for two reasons. Firstly, for establishing the credibility of the whole evaluation exercise, and secondly, for ensuring confidentiality of the data collected. Further to the latter issue, consideration is required regarding who is to own the data collected, to whom is the data to be made available and, possibly, how is the data to be presented: by reports, meetings, seminars, videos, etc?

The recommendations of the Working Party were then submitted to the Academic Council for its consideration. In due course, the proposal was adopted by the Academic Council and finally by the College Council. The task of implementing the plan, now known as the Programme Evaluation Project, was assigned to the Head of the Research and Development Department in accordance with the recommendation to involve an independent evaluator to coordinate the project.

### The Model

The Programme Evaluation Project adopted by the Western Australian College of Advanced Education is based on the Stufflebeam (1983) Model which emphasises the four phases of context, input, process, and product evaluations. When reformulated in terms of the specific tasks associated with the aims of the present Project, the Model is seen to consist of five main stages identified within the (a) initiation, (b) development, (c) implementation, (d) completion, and (e) post-assessment sequence of any course. This Model is also compatible with the rationale used to guide the procedures specified in the Evaluation Survey Package (Done, Hunter & Malone 1981). A brief summary of each stage of the Model and the evaluations specific to each is now considered.

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#### Stage 1 - Initiation

The concern here is with the implementation of new courses or the reassessment of existing courses, is guided generally by initiatives or requests from course planners and advisory committees, and involves the collection of data that will provide information on both need and demand for the course under review.

#### Stage 2 - Development

This stage relates to entering students and is involved with the establishment of data records for assembling student profiles over time (in association with later stages of the model) and for comparing characteristics of a specific intake with those for earlier cohorts. Data involves both objective information (viz, TEE

scores; gender; secondary school subjects and grades as well as type of school attended; employment plans for coming semester) and information of a more subjective nature, such as student goals, expectations, aspirations, self esteem and study habits.

#### Stage 3 - Implementation

During stage, concern is focussed on assessing process of learning and characteristics and rates of attrition during the period of enrolment in a course. A systematic evaluation over time of course units will also be undertaken as part of the requirements for this Stage.

#### Stage 4 - Completion

When students have completed, or are in the final stage of completing, all course requirements, this Stage comes into operation. The data collected at Stage 2 will also be used in a pre-test/post-test situation for extending and complementing the data obtained with this Stage.

#### Stage 5 - Post-assessment

The final stage is concerned with follow up evaluations after students have graduated from a course, and will assess the effectiveness of a course in the market place.

This Model is cyclic in nature, as Stage 5: Post-assessment leads logically back to Stage 1: Initiation and Stage 2: Development for re-evaluation of the course in preparation for re-accreditation. In fact, the re-accreditation may occur at any stage of the evaluation cycle, once a course has been running for several years.

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In adopting this Model, the College Council has specified the broad aims and justification for an evaluation programme as part of the accreditation profile for the College. Details specific to any evaluation plan - information required and when to be collected, instrumentation, target populations, data analysis methods, dissemination of information, and ownership of data - has also been documented as an elaboration of the Model. These features relate more to the implementation of the Model and will now be considered in this context.

### Implementation

#### Design

The extended nature of the design for the evaluation plan has made it necessary for the implementation of the Model to be phased-in progressively over a period of time. By concentrating generally on one aspect of the Model at a time, steady progress has been made given that the limited resources available to the project have been put to maximum effect.

An early priority for the implementation of the Model, which commenced in 1986, has been the development and refinement of the instrumentation required, especially with students, and the development of procedures for establishing and maintaining the extensive data files required. Because of the sequential nature involved in collecting the different student data sets over a period of time, developments commenced with the need and demand surveys for Stage 1, the entering students information for Stage 2, and unit evaluations and former students surveys for Stage 3. During Semester 1, 1989, attention was concentrated on the implementation of the recent graduates surveys for Stage 5 by incorporating into the Model the annual survey of the Graduate Careers Council of Australia (GCCA). By late 1989, considerable progress has been achieved on the end-of-course surveys for Stage 4 relating to graduating students. This means that from 1990, most of the material and processes for all stages of the evaluation sequence will be in place.

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In the meantime, there are some developments specific to this early phase of the implementation that have yet to be finalised. Some progress has been made with the course progress surveys for Stage 3, and on the employer and practitioner surveys for Stage 5, by concentrating on a few selected courses within two Schools. Pretesting of the attitude measures associated with both Stage\2 and Stage\4 of the Model is also unfinished, but it is anticipated that these measures will be available for implementation during 1990. Similarly, the mounting of formal evaluations of selected aspects of the course to compare staff perceptions with student expectations and perceptions has yet to be implemented, as is the case for the evaluation procedure pertaining to the implementation of the recently adopted Research Management Plan.

As this phase of the implementation is nearing completion, the next phase of the evaluation plan has commenced with the collection of data from the 1989 student cohort. Over a period of time, data will be obtained on a systematic basis for this cohort across the different stages proposed by the Model, and for subsequent cohorts from 1990 onwards. For these student data sets, a mix of various types of evaluative processes is envisaged to include both longitudinal and cross-sectional studies on a College wide basis as well as for individual courses. These procedures will be using such internal and external resources as the College Council can support in both formative and summative activities. The remaining data, to be collected from other clients in the impacted population (employers, practitioners, staff) will be used to enable the development of course profiles to proceed, and thus provide the major outcome for this second phase of the evaluation plan.

Whereas the College Council has encouraged open reporting for evaluation of programmes it recognises the need for confidentiality, and procedures have been developed to protect the rights of staff and students. It must be emphasised, too, that the general evaluative policies of the Council will not deny individual staff and departments the right to conduct their own evaluative studies, but open reporting of these will be encouraged.

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### Instrumentation

The Evaluation Survey Package (Done, Hunter & Malone 1981) has provided a sound basis upon which to commence implementation of the evaluation instruments. Most of these instruments involve answers that are both structured and unstructured, where the former requires statements to be either rated according to specified criteria or for checkboxes to be marked as appropriate. For the evaluation of course units, the most popular form of instrumentation involves statements requiring a rating scale response format together with a section allowing for anecdotal type comments. Interviews are also envisaged for the collection of data associated with staff and advisory committee members.

Instruments for the collection of attitudinal data associated with Stage 2 and Stage 4 of the Model are not available in a form suitable to the requirements of the evaluation plan. This has meant that measures have to be created specifically for this project. A feature of this aspect of the implementation of the Model will be the employment of recent developments in latent trait theory for the calibration and pretesting of these instruments. The techniques and approach used is similar to that specified in Andrich and van Schoubroeck (1989).

### Sample

In general, the samples used for the pretesting and trial runs of instruments have involved total populations. This has been necessary because of the relatively small numbers of students in many of the courses involved, or because the total population was desirable. The target for entering students is the total population as a range of statistical information is required for compiling profiles on student characteristics at the time of entry.

These data will also be necessary for the compilation of performance indicators. In addition, information obtained from the Tertiary Information Service Centre (TISC) on all students enrolling through the tertiary entrance system, especially secondary school leavers, is available for linking with the entering students survey data and the total population is desirable for this exercise. Similarly, all graduates from the College are required for the Stage\5 aspect of the Model incorporating the annual survey of the GCCA if a comprehensive assessment of all courses is to be obtained.



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For the pretesting of attitude measures such as self-esteem, a structured sampling technique is employed involving a cross-section of students from different years across a range of courses within different Schools. By structuring the calibration sample in this way, advantage can be taken of the special features offered by the extended logistic model of Rasch (Andrich & van Schoubroeck, 1988).

As phase two of the evaluation plan becomes more prominent, it is envisaged that selective sampling procedures will be undertaken across both student populations and courses as the Project grows in size and scope. A balance will be struck in this regard, between the desire to observe sound research principles and procedures on the one hand, and the necessity on the other hand, of keeping the Project within a manageable size given the time and resources available.

#### Data File System

To facilitate the management and analysis tasks associated with the large data base involved with student responses and related background and contextual information, special procedures and computer programmes have been written especially for this Project. Each student entering the College is allocated a separate record in the data file for the particular cohort they represent. Background information from the student records system and from TISC (as appropriate) is included with the data collected from the evaluation instruments.

The data management system is driven from knowledge of the student ID numbers in association with the course code. These codes enable the required linking to be performed for the assimilation into one computer record of the different data sets associated with the Model. Security is maintained as access to the system is limited to authorised persons only for the transfer, processing, updating and reporting procedures. It should be stressed that student numbers are involved for the linking procedure only, and that no student number is available subsequently at any stage when accessing the data records for purposes of analysis. While it is realised that the use of these numbers can create a reluctance on the part of a student to co-operate, every opportunity has been taken to explain the rationale behind the evaluation plan and the need for student co-operation. The evidence to date would suggest

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that this strategy is successful and with increasing involvement and familiarity on the part of the student body with the Project is seen

as a desirable goal in maintaining this trust and respect.

The data file compiled for students entering the College in Semester\1, 1989 represents the first comprehensive collection of data for the Project. Information collected from these students at the subsequent stages specified in the Model, will be added to the file progressively over the next few years. Parallel data sets, to complement that already obtained for the initial 1989 data set, will become available as new cohorts enter the College from 1990 onwards. As these data files are assembled over a period of time, comparative analyses will be undertaken to explore trends across different student cohorts (that is, cross-sectional in design) and to monitor possible changes in student attitude, goals and attainments across a period of time within a particular cohort (using a longitudinal design).

The background information will be used to provide structural variables for the analysis of data collected from the evaluation instruments as well as providing formal statistical information, especially on students enrolling through TISC. Information obtained from employers, practitioners, College staff, and other persons associated with College programmes, such as members of Advisory committees, can be organised using standard procedures for data file management and no special arrangements are necessary in this respect.

#### Data Collection

Data is collected from students at different stages of their enrolment in a course and at one (possibly two) points beyond their graduation date. The data collection points occur at the time of enrolment for the entering students survey; during the course, which involves the course progress survey, the former students survey, and various unit evaluations; at the time of completing the course, with the end of course survey; and after graduation for the GCCA survey. Information is also sought from employers of graduates, using the employers and practitioners survey, who are asked to report on the performance of graduates from the College who are employed in the employer's business or in the practitioner's area of control. In addition, other information is collected from the remaining target populations as necessary, but on a less systematic basis.

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The method of data collection involves direct access to clients, especially students during teaching time, as well as mail surveys. Efforts have been made to reduce where possible the cost of mailing surveys (for example, within the former students category) but a significant proportion of the information collected is dependent on this method.

Overview

While it is beyond the scope of this paper to provide a detailed presentation of the pretesting and data analyses involved in the implementation of the Model, brief reference is now made to salient features of this phase as they relate to the main aspects of the Model.

#### New Course Initiatives

Most of the activity to date in this area has been associated with the development of new courses associated with the growth since amalgamation of the College as a multipurpose institution. Data relevant to need and demand is collected usually on a one-off basis from both students and employer groups likely to benefit from the presence of the proposed course.

#### Entering Students

The collection of most data for this stage of the Model is undertaken at the time of student enrolment and is organised by Student Services personnel as part of the material forwarded to students with their enrolment forms. While this arrangement was undertaken for the first time in 1989, early indications are that this procedure is a better method of surveying students entering the College, than those originally adopted. Pretesting of attitude measures for self-esteem has been undertaken independently of this phase of the procedures. The data for this aspect of the Model will not be collected from students until they have completed their first semester of instruction, as the information sought assumes some exposure to the College community.

#### Former Students

Procedures for the collection of data specific to this aspect of the Project have been modified in an endeavour to maximise the response rate and to minimise costs. Originally, the data

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collections were confined to mail surveys but, in an endeavour to improve the response rate, only those students who do not re-enrol for the next semester and who do not notify the College (designated as "unofficial withdrawals") are now surveyed by mail. "Official withdrawals" are requested to complete the survey form at the time of withdrawal; this task is undertaken by personnel from Student Services, and was first introduced for Semester 1, 1989. It appears that considerable success has been achieved in increasing the response rate using this latest technique.

#### Unit Evaluations

The present situation for the evaluation of course units involves a mix of procedures. Some departments prefer to use the centralised system developed by the Department of Research and Development using optical scoring answer sheets while the remainder have continued with assessment procedures traditionally employed with these departments. Heads of departments are required to maintain a unit

evaluation schedule which will indicate which units are being evaluated in which semester over a five year cycle. This data is also required for the compilation of performance indicators as specified in Commonwealth Government initiatives. Individual staff, departments and course advisory committees are encouraged and supported as far as possible to become involved with both formal and informal self evaluation of course unit aims and outcomes, methods of teaching and assessment, and use of resources.

#### Course Progress

While some trialling has been undertaken with this aspect of the Model, it appears likely that the form of mid-course evaluation as originally conceived may not be all that useful as significant changes in emphasis often occur at different stages during the presentation of a course. For the present, more will be gained with this stage of the Model by concentrating both student and staff efforts and resources on the evaluation of course units and leaving the evaluation of courses until Stage 4 and Stage 5. However, efforts will be made to have appropriate evaluations undertaken where course planners and advisory committees believe feed-back at this stage would be useful to them.

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#### End-of-Course

Developments for this stage of the Model have, until recently, been limited. Of the efforts so far expended in this regard, the most extensive developments have occurred within the School of Education. Isolated, one-off surveys have been undertaken in the School of Arts and Applied Sciences (for Environmental Science and Sports Science), the School of Business, the School of Community and Language Studies (for Youth Work and Recreation) and for the School of Nursing. Feedback from all of these trials has proved of value in developing suitable instrumentation for the first comprehensive evaluation planned for the end of Semester 2, 1989.

#### Recent Graduates

Following early trialling with graduates from the School of Education and the School of Business, it is evident that the annual survey of recent graduates undertaken in association with the GCCA is a suitable format for this stage of the Model. While the present survey is undertaken about six months after student graduation, the introduction of a second survey to be conducted about two years after graduation, is also proposed.

#### Employers and Practitioners

Some preliminary work has been done in this area in the School of Education and the School of Business. This aspect will receive closer attention in 1990 as more of the Model is implemented and consolidated with the progress of the 1989 cohort of students through their various courses to graduation and then into employment.

### Response Rate

As students become more involved with the evaluation plan over time it is hoped that the response rate to the various surveys will rise to a high level. Reference has been made earlier in this paper at attempts to improve the returns from students who withdraw early from a course. For graduating students, a letter signed by the Director of the College is included with the final course transcript posted to these students. Besides congratulating the students on their success, the Director also invites them to participate in the forthcoming GCCA survey and indicates the advantages that the information collected has for course evaluation and for the compilation of reference material sought by undergraduates from

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these courses. A similar message is also relayed to these students at the time of completing the end of course survey prior to graduation.

### Discussion

As stated, the rationale behind the development and implementation of the Programme Evaluation Project is to provide a comprehensive plan for the evaluation and accreditation of courses offered by the College as part of the self-accreditation process.

The evaluation model adopted for this Project addresses both summative and formative evaluation of courses. The emphasis that should be placed on either or both of these fundamental aspects of the evaluation process has been debated at length in recent years. Cronbach (1982), for example, has made a case for the emphasis to be placed on formative evaluations while Scriven (1983), on the other hand, has advocated that the summative approach is to be preferred. By adopting the role of self appointed arbitrator in this respect, Stufflebeam (1983) has declared that evaluation models should serve the needs for summative as well as formative evaluation.

The summative evaluation for this Project is linked directly to the accreditation requirements of the College Council. An integral feature of the accreditation process involves a judgment of courses which leads to decision making outcomes related to the merits or otherwise of a course in general or to specific aspects influencing the future effectiveness of that course. Personnel involved with accreditation of courses are encouraged to take advantage of the summative evaluation aspects of the plan in judging the worth of a course.

The formative evaluation of courses offers a greater challenge to the implementation of the evaluation plan. As this form of evaluation is designed to improve the quality of a course, any judgments made are always of an interim nature. For this process to

become effective, more and more people will need to become involved in the evaluation process and so acquire evaluation skills.

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An increased awareness and involvement by students in the evaluation of courses will also have important implications for the Project. Unsolicited comments provided by students on the different survey forms have been encouraging. Students have welcomed the survey as an opportunity to consider and reflect upon their goals at the time of entry to a course and to comment upon aspects of a course in a spirit of openness without the threat, perceived or otherwise, of retribution made against them. This encouragement of a spirit of co-operation amongst the student body is expected to lead to high response rates which in turn will result in data whose reliability and validity can be accepted with a high degree of confidence. A similar spirit of co-operation between community members involved with advisory committees and staff involved with course planning is another example of the benefits to be gained by involving members of the different interests groups with the evaluation process.

The increased involvement by College staff in evaluation is critical. Historically, academic staff have tended to view the whole evaluation process with a certain amount of distrust. However, there is a growing number of staff new to the College who tend to welcome the opportunity to become involved in the evaluation process. The problem with the former group is that evaluation of courses is generally viewed as a defacto evaluation of staff performance and competencies, which can have a biased and adverse effect on the opportunities for promotion or even continued employment within the institution. The adoption of a collegiate approach to course management and evaluation, based upon a willingness from staff to become involved in these processes, is an important outcome for this Project.

An early outcome of the implementation of the Model has been the opportunity to appraise the effectiveness of the student record system as a data source. While the system has been generally successful in identifying some of the major groups of students required for mail surveys, problems have arisen with other groups. The graduate listings by courses is working well as the success of the 1989 GCCA survey will attest. However, some problems were encountered with the selection of students designated as course withdrawals and in identifying students for Stage 4 of the Project with the end-of-course survey.

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The pretesting of the former students survey highlighted some inconsistencies with both nomenclature and classification of student status for this aspect of the student record system. No rapid procedure was then available to distinguish students who transferred to another course within the College from students who withdraw completely from the College. This has since been rectified. However, students who complete a subset of units only within a course, to satisfy a specific need (such as Taxation Department requirements in business qualifications, teaching requirements for religious instruction, or to satisfy course requirements for studies at another institution), are still designated as withdrawals from their respective courses.

It is undesirable to have surveys sent to any student who has been classified incorrectly as this can have an adverse effect upon the validity of the data collected. By not distinguishing between students who transfer to a new course from those who withdraw from the College, problems were created for the former group as these students become anxious due to doubts raised about their enrolment status in their new course. The most disturbing aspect of this situation is the effect it must have, as addressed earlier in this section, on attempts to create a climate of student co-operation and belief in the merit of this evaluation plan.

Another aspect of this problem involved some uncertainty associated with terminology and definition of terms in common usage. Apart from the points already raised, it is important that the term "withdrawal" be defined clearly and unambiguously, and that clear guidelines be established to indicate at what stage of a student's enrolment does that student qualify, when withdrawing from a course, to be included in the attrition statistics for the institution. While this aspect of course statistics has now been addressed as part of the development of performance indicators, it does indicate the value of a sound evaluation programme for tertiary education institutions in the present volatile environment in Australia.

A special feature of this Project is the development of research studies associated with the student population of the institution and the implications these have for integration with national projects such as the GCCA surveys. Parallel developments of

integrated data-bases between institutions could provide the basis for future developments of co-operative, comparative research studies across institutions. An obvious first step in this regard already exists with the facility available with the GCCA surveys.

In a related manner, the opportunity exists within this Project for staff members and postgraduate students to become involved with

evaluation studies, especially with the data base available. The pretesting of the attitude measure for self-esteem is one such example as three members of staff are contributing different areas of expertise to this aspect of the Project. One advantage of this approach is to facilitate the development of the evaluation skills amongst the staff of the College. At the same time, care must be observed in meeting the propriety requirements if the credibility of the Project is to be maintained.

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