

HERDSA NEWS

The Higher Education Research and Development Society of Australasia

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SPECIAL INSERTS

- I.I. NEWS July 1985
- ANNUAL REPORT OF THE EXECUTIVE 1984/85

**JULY
1985**

Editorial

In my annual report as editor of HERDSA News I have signalled my intention to relinquish the position as soon as arrangements can be made for the appointment of a successor and the transfer of operations. I have made this decision not for any pressing reason, although pressure of work is always a good excuse, but because I feel a need for a change and I think HERDSA News is in need of a change.

In my first editorial in 1978 I said that, "[HERDSA News] is not a journal in the usual sense, and although there is no journal which currently acts as a forum for higher education research and development in Australasia this is no substitute... First and foremost [HERDSA News] acts as an information exchange between members. To this end we include items of news, reports of developments elsewhere, information on conferences, abstracts of Australasian literature, book reviews and overseas items of interest". There is now a successful journal — Higher Education Research and Development — produced by HERDSA, but the need for a less formal information exchange continues. The description above is an accurate account of the contents of the current issue.

Personally I do not believe that the News should be downgraded, as has been suggested in some quarters, to a newsheet which simply reports what is happening. There is still the need for a forum, which cannot exist in a learned journal, where current issues can be

examined and ideas presented without the formality and need for attention to scholarly detail. While there may be some scope for cost reductions by eliminating typesetting and lowering the quality of paper, I do not think that this is the direction in which I would wish the Society to move. We should be concerned with raising the production standards of the journal in keeping with our higher profile and degree of acceptance in the Australian tertiary education community.

What is needed is an injection of new ideas, someone with new contacts, and someone with a broad range of interests in tertiary education. I hope that the Executive is successful in identifying such a person and persuading them to take on the task of editor. If anyone wishes to find out more about the tasks that are involved I would be pleased to discuss them with them.

As far as the current issue is concerned, we focus again on new technology in tertiary education and look at the applications of teleconferencing. Liz Burge, an expatriate South Australian now resident in Toronto, presents some uses of teleconferencing in teaching and other academic activities. Margot Pearson turns her attention to the question of individualised instruction and why it has become so marginal in tertiary education, and Bill Hall informs us about the activities of the TAFE National Centre for Research and Development.

Dave Boud

Conferences

International Conference on Employment and Training

Place Perth

Dates 23 — 27 September 1985

Information Dr John C. Wood, Department of Employment and Training, 11th floor, 32 St Georges Terrace, Superannuation Building, Perth, W.A., 6000

National Conference: The Changing Context of TAFE

Place Regency Park College of TAFE, Adelaide

Dates 11 — 13 November 1985

Information Ms Charlotte Sandery and Ms Diana Skott, TAFE National Centre for Research and Development, 296 Payneham Road, Payneham, S.A., 5070

Conference on Teaching Engineering Designers for the 21st Century

Place University of New South Wales

Dates 5 — 6 February 1986

Information Dr R.T. Wheway, Conference Secretary, Department of Mechanical Engineering, University of Wollongong, P.O. Box 1144, Wollongong, N.S.W., 2500

Deadlines for future issues:

November issue: Special Issue on The Development of Student Writing Skills

Deadline: 1st August

March issue: 11th February

July issue: 1st June

Better Connections

Some issues in the use of audio-teleconferencing in higher education

In our last issue Michael Parer discussed teleconferencing for planning; here Liz Burge explores its use in teaching. She emphasises that it can be used to enhance interaction if the medium is used creatively and its limitations anticipated.

Although the telephone is often used as an impersonal medium of communication, it can be used to enhance the interpersonal and inter-relational aspects of learning. However, to achieve this end, several issues must be considered before teachers employ audio-teleconferencing.

Audio-teleconferencing here refers to interactions between three or more people at two or more sites using a telephone network and a set of microphones and loudspeaker. Three assumptions support this discussion of the teaching applications of this medium. The first is that audio-teleconferencing provides a viable vehicle for effective learning and teaching. In Canada alone, for example, 20 out of its 65 universities are using telephone-based delivery methods for off-campus activity. Students have reported rapid adjustments to communicating primarily by telephone. Teachers are using audio-teleconferencing in a wide variety of learning situations both on and off-campus. Clearly the success of its use depends on the nature of what is to be learned, the teaching and learning styles of all the participants, and the session planning skills of the staff member. Information-giving, opinion sharing and problem solving are the three broad objectives most often underlying this use of audio-teleconferencing; within those lie a host of more specific objectives found also in face to face work, e.g. clarification, extension, reassurance, provocation, analysis, description, debate, synthesis ...

The second assumption is that telephone-carried interactions are integrated with the use of print and audio and audio-vision (e.g. cassette, video) resource materials. Students have access to multiple information channels of varying strength, differences in cognitive style preferences can be addressed, and class management generally can be handled with some efficiency when resource materials are planned with care.

The third assumption is that the familiarity and availability of the telephone will encourage further applications, especially as the cost of visual technical components decreases. Audio-teleconferencing does not have to be restricted to off-campus use — inventive teaching staff quickly realise that on-campus classes can benefit from telephone conversations with "visiting" scholars or practitioners. Students invariably react positively to being able to talk to people whose work they would otherwise only read.

All this is not to say, however, that audio-teleconferencing ought to replicate a typical classroom situation: the conditions are very different.

Audio-teleconferencing has been described as a "talk-prod" for shy students or for those who want to prove they are actually attending class. But equally as importantly, the use of this technology usually acts as a professional development stimulus for staff, especially those wanting some new experiences in their teaching. (So we can say that audio-teleconferencing helps us extend ourselves metaphorically as well as literally.)

"Students have reported rapid adjustments to communicating primarily by telephone."

"It was more satisfying (than conventional classroom teaching)... it forced the teacher to know his (her) students as individuals... it forced the students to speak about the subject matter of the course... it was challenging (given the different attributes of audio-teleconferencing)... (there was a) need to carefully analyse the teaching process." (staff)

"A great chance to talk with someone I'd only ever read before — exciting, and I didn't feel too scared to ask a question." (student)

"For those who relate eye-ball to eye-ball with their students, tele-teaching is a sobering, demanding, humbling and a surprisingly effective experience." (staff)

Positive results, clearly, in cognitive, affective and financial terms, but how can they be achieved? What benefits or uses of audio-teleconferencing do we most need to be aware of? What operational factors should be considered? What environmental conditions should be planned?

The following points are not exhaustive, and need to be considered in relation to each person's preferred teaching style and personal opinions on the status and roles of students in a formal learning situation: all will affect how perceived benefits are operationalised.

"... on-campus classes can benefit from telephone conversations with "visiting" scholars or practitioners."

Some benefits of audio-teleconferencing:

- attention to topic can be clearly focused.
- the lack of visual cues can reduce dysfunctional differences in status and roles and can give shy students courage that they may not be able to muster in a face-to-face mode.
- listening and articulation skills can be developed.
- students can opt in for high-energy interactions then opt out, safely (unseen), for a reflective moment or during a low-energy period. This ebb and flow of energy and attention to task is important to recognise.

- students can physically walk around and still communicate: variations in physical activity can be a neat complement to variations in cognitive activities.

In essence we are talking about populating and giving energy to an acoustic space. Audio-teleconferencing is demanding because we are not used to working in this space at a group level — we do it mostly at an individual level in one-to-one phone talk, or in listening to the radio. “Moving about” and meeting people in this space demand especial attention to cues, stages of group development, and personal energy levels. Participants have access to many sources of information likely to affect interpersonal interactions and learning processes. For example, body language (when a site has more than one person), prior knowledge of each other, pre-conceived ideas about the benefits of the class session, prior experience of audio-teleconferencing, externally provided information in print materials, environmental discipline, task and behavioural expectations, physical conditions, quality of talking, the personal impact of participants on each other, and the style of management for the session: all can be used as information sources. Some of the key components of talking are: voice (i.e. inflection, tone and tempo), the ratio of fun to serious talk, relevance of discussion, extent of sharing of air-time, number and types of interruptions and the use of controlling strategies by staff and students.

As the first operational factor, cues demand skilled analysis from all participants. Sounds (what is said and how, and background noises) and silences have to be assessed in terms of what is being learned (content) and how it is being learned (process). Some audio-teleconference equipment can cut out all extraneous noise while someone is speaking, but this clean acoustic environment can deny others of important background cues. One point is worth making here: audio-teleconferencing has been rejected by some with the argument that the visual cues missing in voice-to-voice interactions are too important to do without. But we do not know enough about their level of importance over a long period, especially if participants have already met each other, or if the group is functioning well. Nor do we know enough about how people adapt to changed cue loads: do they develop more acute listening skills? Do they adopt more assertive behaviours?

*Audio-teleconferencing may be a
“talk-prod” for shy students . . .*

The second factor is that of stages of group development. When a teacher uses small and large group structured exercises and encourages varying degrees of group self-directedness in learning activities, she/he will be familiar with the sequence of developmental changes which the group invariably works through. A lay description of this process, already well documented in the group dynamics literature (e.g. Bennis & Shepard 1976) is “Forming, Storming, Norming and Performing” i.e. coming together, undergoing stresses, establishing social norms and task procedures and expectations, and finally, achieving objectives happily.

Very little research appears to have been done on group development in an acoustic environment without the normal load of visual cues. The staff member therefore has to be attentive also to evidence of hidden agendas (which could lead to forms of dysfunctional behaviour), and to his/her own needs for power and control.

Finally, techniques for maintaining active participation in use during learning are equally as important in audio-teleconferencing as they are in face-to-face modes. Several teachers experienced in audio-teleconferencing in Toronto recently listed the following techniques as most relevant for retaining interest:

- divide class session into short but connected modules of varying format.
- adjust the pacing and delivery speed of mini-lectures.
- provoke interaction through questions, but avoid stressor questions to individuals.
- use humour, but sparingly.
- introduce drama.
- use visual imagery and metaphors.
- create a pleasant and safe atmosphere in which learners feel free to make mistakes.
- stimulate self motivation, “what’s in it for me?”
- establish some contracting around learning objectives and methods.

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this way at a group level . . .*

In essence we are concerned now with generally applying some humanistic teaching values and practices. The challenge in using audio-teleconferencing for any context of learning lies in planning for the technical equipment to be as transparent as possible — to have a minimal impact as an intervention, and maximum mileage as a vehicle for personal interactions and sustained dialogue. Achieving this goal requires meeting certain environmental conditions and these are outlined below. They are not exhaustive, however, and should be considered in relation to the factors mentioned above.

- **Minimal amounts of dysfunctional stress** — e.g. confront technophobia with a rehearsal before the class starts, have clear objectives, build in some free time as a safety net to avoid pressure, deal openly with group development problems and jointly establish ground rules for working.

- **Maximum amounts of dialogue**, both spontaneous and structured. For example, use personal introductions, and uni-directional talk that is limited to 12 minutes (maximum) at any one time. Brevity may be the soul of wit, but these days it is also the soul of focused attention. Trust, humour, appropriate self-disclosure and risk-taking behaviour, thorough briefings and realistic agendas are also important ways of creating this condition. Staff should assiduously avoid a situation in which class dialogue degenerates into a boring series of one-to-one talks between the student and the tutor. When small groups report back to a plenary session, this boredom factor can be dealt with by assigning an evaluation or synthesis task to the listening group/s.

- **An extensive variety of format and comfortable physical conditions.** The first will be obvious to sensitive and skilled faculty; the second condition will often be created by students themselves. Freed from the direct supervisory eyes of the staff, they can physically and cognitively move in and out of the class — a prospect which alarms only those who don’t trust their students, or who give them little room for manoeuvres. Relating to

(Continued on page 16)

Has Individualised Instruction Become Irrelevant?

The present issue of HERDSA News may be the last to include as an insert II News. For some reason the editor reports that there is little interest from contributors. It is therefore an opportune time to examine the phenomenon of individualised instruction and consider why, despite the promise, it has failed to have the impact that it sought on teaching in tertiary education.

Margot Pearson, who has been involved in evaluating individualised instruction in both the university and the TAFE sectors, offers an answer:

For some years now II News has been a standard though irregular addition to HERDSA News. It has contained various short articles about attempts at variations of Personalised System of Instruction and so on, reviews of articles and books about II and of course lately articles about Computer Assisted Instruction. However, the II news, like II itself has never penetrated the mainstream of educational interest. Although II has been with us for a long time, traditional group-based instruction is still the norm and many educators know little or nothing about individualised alternatives. There are many reasons for this, most particularly the nature of the debate about II as presented in the literature and in II News. There has been a failure by the proponents of II to grasp and present to others the essential characteristics of II and its potential for major educational change.

Most writing on II is either about how to do it, the common distinguishing features or the supposed benefits. I have written at length about some of the issues involved in II in HERD (Pearson 1983), and do not wish to repeat myself but it is important to reiterate here that the first problem with such discussion of II is the confusion of terminology. II is an umbrella term for a range of strategies, some of which are systems of instruction (e.g. PSI), some of which are the means for individualising (e.g. Learning Activity Packages), and some of which are to do with managing individualised instruction (e.g. Computer Managed Instruction). Further confusion can arise when it is not clarified if the unit being organised for II is a lesson, a subject or course or a program of study leading to qualification. Much of the confusion over the term "modular" has arisen out of this latter lack of clarification. Modular course design involves breaking up a program of study into standard units which allow students more choice over content and objectives but which may still allow traditional instruction on a group basis. Modular instruction, in contrast, involves among other things breaking up a subject into standard units which can be studied on an individual basis so that lessons on a group basis disappear.

It might be thought that whatever and however many the variations, the unifying theme would be the intent of II. However this is not the case. Some II is concerned to improve efficiency and effectiveness with a heavy reliance on behavioural objectives, testing and the management of learning. Such strategies can leave the learner with less control over her learning than in traditional education. Other II emphasises promoting the independent learner as in one of the earlier attempts at individualising learning — the Dalton plan.

Certain features of II are seen to be common to all types and distinguish it from traditional education. One of these is "self-pacing" which is often seen as crucial and used as

a term instead of II. Research shows that self-pacing is not an essential feature (Pearson 1983) and indeed the use of the term is quite misleading. II encompasses various forms of individual student study which may involve varying degrees of student and teacher direction. Related to this is the fact that II does not have to mean students studying on their own. Where students do work alone, it is an outcome of individualising which can be a problem as many students do not work well on their own and various management strategies are needed to compensate.

There has been a failure by the proponents of II to grasp and present to others the essential characteristics of II and its potential for major educational change.

II has also been heavily identified with resource-based education. The use of the term "module" reflects this as it can mean both a learning package and a unit of study. Often various types of II are distinguished according to the media used e.g. CAI. However it is possible to individualise instruction without relying on a resource-based approach as for example when students negotiate a learning contract that can include a range of activities — library research, attending lectures, field trips and so on.

The question of why anyone should be sufficiently interested in II to go to the trouble of instituting a major change in their instruction is usually answered by pointing to the benefits of II in terms of student achievement, costs and student access. Particularly in the case of PSI this has led to many studies and articles attempting to prove superior student achievement. However the results are mixed and hardly encouraging. Only PSI has shown consistently superior results and then only for isolated changes to individual subject courses. Where attempts have been made to make such changes system-wide the results are mixed and point to similar problems of quality control as in traditional education.

There have been attempts to advance II as cost-saving but these arguments are not borne out by the scant evidence available. The reverse would appear to be the case where II is heavily resource-based. Savings in private industry training appear to come through reduced training time which effects savings for the company paying trainee wages.

Another argument put forward for various forms of II, particularly in the case of modular instruction, is that student access is improved by removing the constraints of traditional institutionally based education. There is little evidence on this but an evaluation of some such programs in U.S.A. concluded that free entry could mean free exit and the need for peer and social support was emphasised as the "glue" that holds it altogether. This sounds like the experience of distance education. Certainly the support services for students at regional centres are seen as crucial for the success of the Open University in containing attrition.

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The confusions and contradictions presented in the preceding discussion help explain why II as a movement has stayed somewhat marginal. In fact in one sense the whole discussion has been rather meaningless because although for the sake of convenience I have continued to use the term II its meaning is unclear and shifting. There is really no such thing as II. There are instead a whole range of strategies for instruction and course design and what is true for one is not necessarily true for the others. This is why individual articles in II News or other literature may be interesting but they never seem to add up to anything that is conceptually or practically coherent.

A way out of the confusion is to shift the focus away from the techniques of II to the goals and rationale of the innovations loosely labelled as II. If we see the many specific problems that II is trying to cope with as arising from more general problems with the existing educational system we can get nearer to the purpose of individualising instruction by whatever means and this in turn enables us to focus on the essential features for achieving such goals.

First, why does traditional education need major change? Many of the earlier proponents of II gave as the standard set of criticisms those summarised as follows: instruction proceeds at one rate; the teacher spends most of her time imparting information and has not the time to help a student with special difficulties; the quicker students get bored and the slower ones fall behind in frustration; although students have different abilities and prior learning skills they are nevertheless given the same treatment (Pearson 1983 p. 157).

Some recent criticisms of traditional education have come from the further education sector in the U.K. and look beyond instruction to the organisational structures themselves. A study group looking at flexible learning for the Further Education Unit (FEU, 1983) described further education college education as resting on a number of unstated assumptions about how learning should be organised:

A Model of Teacher Activity in the classroom which specifies a relatively low level of learner activity (reception of the teacher's message) in reasonably-sized groups with uniformly-paced learning.

A Controlling Agency, the college, which organises the learning process (through its timetabling and examining procedures, its rules of attendance, and so on) and excludes the participation of other agencies in that process.

A Target population which is specifically defined educationally (by intelligence and academic achievement), physically (by age, sex and health), vocationally (by occupation or intended occupation), and hence socially and economically (by the combination of other factors), and

A Number of Specific Determinants such as geographical location (with its impact upon opportunities), the pattern and size of demand (requiring the enrolment of "viable numbers" at the same time each academic year) and financial restrictions (imposed by the structure of fees and payments, by regulations for student grants, and so on).

In a discussion of the Open Tech program in the U.K. Tolley gives some additional examples of F.E. thinking as: "The student must come to the teacher" and "The academic year shall be sacrosanct".

These criticisms can be summed up as stating that learning and education is dominated by teachers and institutions and available only on their terms. These terms are in effect a set of institutional barriers for students many of whom cannot or do not want to comply. Such criticisms echo earlier ones from writers such as Illich and Goodman.

Another source of dissatisfaction with traditional education is that it seems to be organised in a way that is increasingly at variance with what we know from research about learning. This point is discussed in a recent article by White (1984). He states that schools are organised the way they are on the basis of a "simplistic, nineteenth century view of learning, that the mind is a bucket which can be filled by dropping facts into it". The organisation of schools, he continues, defeats attempts of teachers to work according to the principles derived from new research that shows students as learners must be active and responsible for their own progress.

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Similarly, traditional education is seen as wanting by those in the field of adult education who are interested particularly in encouraging learner independence and autonomy. Practitioners such as Knowles have popularised ideas and techniques such as learning contracts and self-assessment of learning needs and outcomes. Along with such approaches usually goes an interest in learning how to learn because if it is the learner who does the learning, then it makes sense to invest effort in improving learning skills.

The common theme of these criticisms is that learning and education is not currently organised in the interests of the individual student and may in fact actively impede

learning. But what to do instead? This is where I think we should start to consider the potential of II. For the intent is not to do more efficiently or effectively what existing institutional education does, but to do something different. If we start with the problems outlined above, then what is needed is a way to make education more student or client centered — not just by offering audio-visuals as well as the teacher, or a few electives here and there, but a quite different institutional situation where students negotiate with a teacher/institution an individual learning program to suit their own learning needs and characteristics in appropriate learning conditions.

The potential of II is it offers many options for such changes in education and the key features would allow major change in the organisation of education to be feasible on a large scale. These key features are:

- If subjects, courses or programs of study are broken down into bits which are standardised (modules) then individuals can put together customised packages. Commercial applications of this idea are common in travel, furniture and toys like Lego. A point that has been lost sight of in some discussions of II is that it is the student that is unique, not the instruction.

... the goals of II are to personalise education, giving choice to the consumer, making education about helping people learn rather than teaching and so about empowering learners.

- If the transmission of information is then offered in a variety of media, it is no longer necessary for the teacher to be present all the time for instruction to go on, which means that it is no longer essential on a cost basis

for all instruction to be group based and progression to be restricted by group progress; that is, the conditions of learning can vary greatly. Furthermore, once the teacher is no longer the sole or even major imparter of information then the teacher can take on other roles such as co-ordinator, tutor, or counsellor to assist the learner as she engages in various learning experiences. Because not all students are doing the same thing at the same time or in the same location, this assistance can be on an individual, small group or large group basis as appropriate.

Thus the goals of II are to personalise education, giving choice to the consumer, making education about helping people learn rather than teaching and so about empowering learners. When attempting to further these goals, II, or rather the diverse strategies for individualising, become a recognisable part of current developments in education which are being accelerated by technological change. For this brings us to a further reason why II has remained so marginal as a movement. II proponents have presented themselves as offering something very different from other approaches in education, traditional and innovative. The heavy emphasis on the techniques of II, on the "special" features such as self-pacing, on the presenting of II as a "system" have had the effect of separating it from the mainstream and therefore marginalising ideas and strategies which are in fact complementary to many other innovative developments, particularly in distance and adult education.

Margot Pearson,
University of New South Wales,
(formerly NSW Dept. of TAFE).

References

- Further Education Unit (1983) *Flexible Learning Opportunities*, London, Department of Education and Science.
Pearson, M. (1983) Approaches to Individualising Instruction — A Review, *HERD*, 2, 2, pp. 155-181.
Tolley, G. (1983) *The Open Tech: Why What and How*. Sheffield, Manpower Services Commission.
White, R. (1984) Research and the End of Schools as we Know Them, *The Australian Journal of Education*, 28, 1, pp. 3-16.

Conferences

World Congress on Education and Technology

Place Vancouver, British Columbia

Dates 22 — 25 May 1986

Information Coordinator, World Congress on Education and Technology, 1155 West 8th Avenue, Vancouver, B.C., Canada, V6H 1C5

24th Biennial Conference: Library Association of Australia

Theme Lifestyles and Libraries

Place Darwin

Dates 30 June — 4 July 1986

Information LAA Biennial Conference Committee, Darwin 1986, P.O. Box 1080, Darwin, N.T., 5794

17th Annual International Conference: International Simulation and Gaming Association

Theme Simulation and Communication

Place University of Toulon, French Riviera

Dates Main conference: 1 — 4 July 1986 Pre-conference workshop: 28 — 30 June 1986

Information David Crookall, ISAGA 86, Université de Toulon, Ave de l'Université, 83130 La Garde, France

TAFE National Centre for Research and Development

The activities of TAFE teachers and the increasing volume of work on educational development being undertaken by the TAFE sector are little known to those in the rest of tertiary education. Perhaps the major development in TAFE research and development is the establishment of a National Centre. Dr Bill Hall, the recently appointed Executive Director, describes the Centre and points to some of its activities:

The Technical and Further Education (TAFE) National Centre for Research and Development is unique to Australia in three main respects. Firstly, it is the only national educational R&D organisation committed to working in one sector of tertiary education. Secondly, although it is a national educational organisation, it is located in Adelaide. And, thirdly, it is a company limited by guarantee, its shareholders being the eight Ministers for Education. This third characteristic is so very different from the usual way of managing educational organisations that it is explained below.

The need for the Centre was first stated in the (Kangan) Report on Technical and Further Education in Australia (Commonwealth of Australia, 1974):

"(17) An Australian TAFE Technology Centre should be established as a company limited by guarantee for the purposes of adapting technology to vocational education, and of researching, developing and producing learning and other educational aids by itself or through others. The Centre should also serve as the clearing house for relevant research, disseminate information from abroad, commission relevant research, publish a journal, arrange when appropriate for the publication of text books, admit for periods of training administrators and other persons with experience in technical and further education, and arrange such other matters as may be desirable from time to time. Finance should be provided through the Australian Minister for Education in such a way as to make the Centre financially accountable to him, but otherwise the company should operate on business-like lines and attempt to break even on production activities." (page 149)

This need was taken up by the (Williams) Committee of Inquiry into Education, Training and Employment (Commonwealth of Australia, 1979):

"The Committee recommends a National Centre for Research and Development in TAFE to be funded jointly by the Commonwealth and States. The Council of the Centre could be appointed by the Australian Education Council. The National Centre would be engaged on projects such as

- (a) the planning and production of teaching materials to be available to all States,
 - (b) the analysis of skills required for various occupations, not only in the middle-level and apprentice fields, and the related educational courses needed to train for them, taking into account the time needed to reach appropriate skill levels,
 - (c) accreditation,
 - (d) classification of courses and nomenclature of awards,
 - (e) the use of technological aids in teaching, and
 - (f) the development of self-paced learning programs".
- (p. 332)

When I opened my copy of the Williams Report to find

this quotation, out dropped a paper I gave six years ago at a National Seminar at the A.N.U. which was organised to discuss the Williams Report. In that paper I said:

"The committee recommends that there should be a National Research and Development Centre in TAFE to analyse skills required for various occupations. If it does its job properly, the Centre will be a powerful influence."

Disappointingly, as the recent Report of the (Kirby) Committee of Inquiry into Labour Market Programs (Commonwealth of Australia, 1985) pointed out: "Skill analysis has been the most neglected of the many worthwhile activities undertaken by the Centre". (p. 141)

The Centre was finally established in June, 1980 after the Conference of TAFE Directors and the Chairman of the Technical and Further Education Council (TAFEC) prepared a proposal for the October, 1979, Australian Education Council (AEC) meeting. At that meeting a draft charter was accepted which made provision for the review of the Centre after three years. The Centre was created as a company limited by guarantee on September 2, 1981 and it started operations on November 2, 1981.

The vision, enterprise and persistence of TAFE Directors must be applauded. It had taken them seven years (since the release of the Kangan Report) to get the Centre established.

The Centre illustrates some important features of the whole TAFE sector: its freshness, its willingness to experiment, its strong feeling of relevance to the country's needs, and the dedication of its staff.

The Centre's full name is the TAFE National Centre for Research and Development Ltd. It is a South Australian registered company limited by guarantee (what this means is that there is a written agreement between the members of the company, and the company, guaranteeing limited payment by the members where a deficit occurs of liabilities over assets upon winding up of the company).

Therefore, the Centre must comply with all of the regulations of the South Australian Companies Act. The Company shareholders are the State and Territory Ministers for Education, plus the Federal Minister. The Centre's Executive Director acts as Company Secretary at Company Meetings which are held during every A.E.C. Meeting.

Funding is provided by the Commonwealth Government (50%) and the States/Territories (on a per capita basis). Additional funds can also be raised, or earned (e.g. from the sale of materials); and research grants can be obtained, in just the same way as any other educational organisation.

The Centre is managed by a Board which consists of not less than eleven nor more than twelve Directors as follows:

- (a) three of the Directors must be persons who are eligible for membership of the Conference of Directors of Technical and Further Education;
- (b) four of the Directors must be persons who are actively engaged in commerce, industry or training, one of whom having been nominated by the said National Training Council or, in the event of the National Training Council ceasing to exist, then by such body (if any) as shall from time to time be appointed by the Commonwealth Minister of Employment and Industrial Relations to advise the said Minister on matters relating to manpower and training, one of whom shall hold office as the Chief Executive Officer of a government training authority, one of whom shall be an employer, and one of whom is nominated by the trade union movement;
- (c) two of the Directors must be persons who are knowledgeable about and have experience in matters concerning Technical and Further Education, one of whom shall hold office as the principal of a college of TAFE within the Commonwealth, and one of whom shall hold office as a TAFE teacher within the Commonwealth;
- (d) the Executive Director of the Centre;
- (e) the Chairman of TAFEC.

There is a small number of sub-committees, including the important Strategic Planning Committee.

Internally, the Centre's management organisation is shown in the following figure:

The Articles of Association lists the Company's aims:

- (2) To carry out research and development programs to satisfy the needs of persons and authorities responsible for the provision of technical and further education in Australia.
- (3) Without limiting the generality of paragraph (2) of this clause, carry out, co-ordinate and stimulate:
 - (a) research aimed at:
 - (i) analysing the skills required for various occupations;

- (ii) designing, reviewing and evaluating technical and further education curricula and programs particularly those with national significance;
- (iii) investigating and preparing reports and recommendations on such topics related to technical and further education as the Company may from time to time direct;

- (b) the planning and development of learning materials relevant for the needs of technical and further education;
- (c) the evaluation, development and promotion of technological aids in education;
- (d) the development of an informed national awareness of technical and further education research and development;
- (e) liaison with authorities responsible for education and training within Australia and elsewhere for the purpose of collecting, assessing and disseminating material relating to technical and further education curricula and educational materials;
- (f) the development of officers employed by Technical and Further Education Authorities within Australia in matters where the Company has particular expertise.

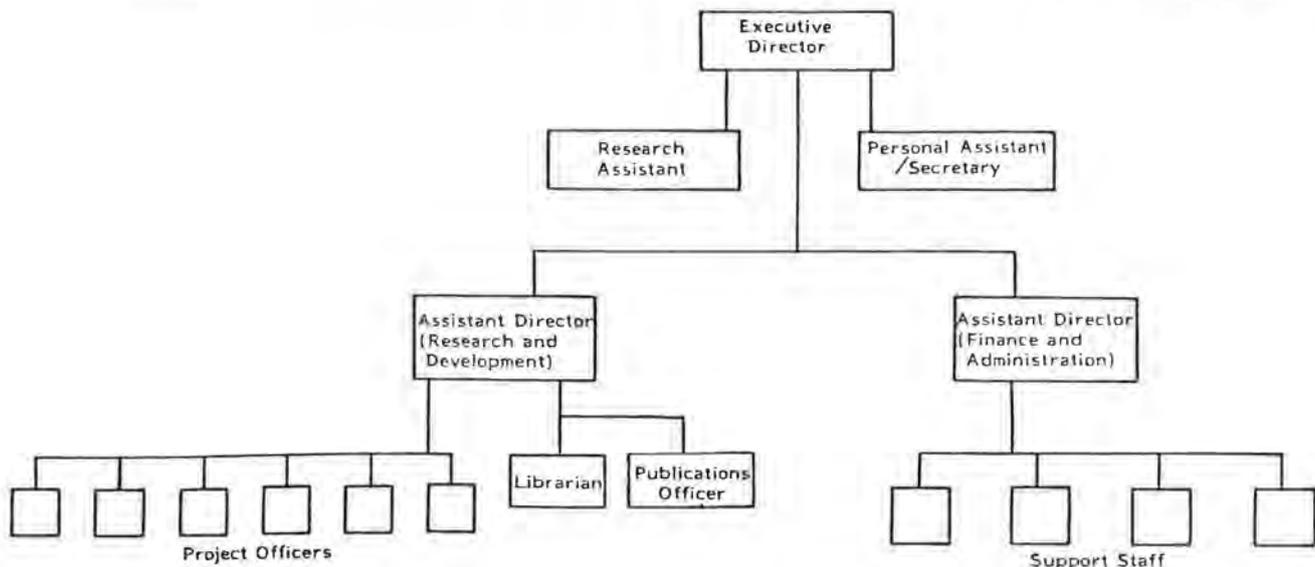
- (4) To operate the facility known as "the National TAFE Clearinghouse".

Some of these aims have been achieved and the Centre's publications which can be seen in all TAFE libraries bear witness to this. Other aims have yet to be attempted. These include 3(b) and 3(c). Also aims 3(d) and 3(f) have barely been touched upon. There will be a much greater emphasis on the achievement of these aims in future years.

Aim 4 deals with the National TAFE Clearinghouse, which had been established before the Centre was formed and which is separately funded. The twice-yearly Clearinghouse Report, compiled in close liaison with State Clearinghouse Officers, is one of the Centre's successes. Another success has been the Centre's involvement with the work of the National Core Curriculum (NCC) committees.

National Core Curriculum refers to a TAFE course provided for a single area across Australia. A core of knowledge and skills is identified for all States and then a local component is added. The first project was started some years ago in Queensland and now there are examples across the whole range of TAFE curricula, including real estate, electrical trades, library technicians, plastics and

(Continued on page 16)



REVIEWS

Teaching Nursing: A Self Instructional Handbook, Ewan, Christine, and White, Ruth, (1984), Croom Helm Australia \$A17.95.

This realistic and learner-oriented text is packed with valuable insights for the application of contemporary adult learning theory to the practice of teaching nursing. While it is not made explicit the book appears to be largely oriented to teaching at pre-registration level. Its thrust is toward creating optimal student learning for effective application as quality nursing practice in the field. The authors' goal is to promote enlightened educational practice, which aims to develop self-reliant, questioning students with a commitment to continuing education. The realities and dilemmas of educational and nursing practice as we move into the twenty-first century are clearly uppermost in the minds of the authors.

One major contradiction colours all my thinking about the book. This is the contradiction between the content of the book as a self-instructional handbook and the presentation of the material to the reader. Despite the pleasant experience of recognising many of my own biases under the names of authors I respect I found the reading a chore. I think this experience was related more to presentation than to style. The book appears to have been produced on a word processor. The type is closely spaced and utilises lightly printed upper case headings, underlined sub-headings and bold type emphasis in the text. I found the bold type pedantic and distracting although or perhaps because it emphasised points I also would have selected. There are some irritating typographical errors such as "non-referenced assessment" in a sub-heading in Table 7.1 which is headed Norm and Criterion Referenced Assessment. Some sections of the type in my copy simply fade away although they are still just legible. Long sections of closely typed work are broken only by sub-headings and bold type emphasis. Even the tables have taken on the characteristics of the text. I found it hard to extract the structure of the work during the first reading largely for these cosmetic reasons. The book is printed on good quality paper and the binding appears sturdy.

I think Chapter 5 is wrongly titled "Contemporary Practices in Teaching and Learning", since it is very specifically addressed to ethics, values clarification and human rights. While the authors use these topics to demonstrate their ideas for teaching practice I think the chapter title should more accurately reflect its content.

The referencing throughout the book is superb. The reader with the time and inclination is given every opportunity to pursue any aspect of the book in greater depth by following up the references. I did have a problem with one of these. The reference was to a previous citation which I couldn't find. Nevertheless I consider this to be a minor hiccup in fifteen pages of references to a wide variety of well-selected adult education and nursing books and articles. This alone would make the book well worth its purchase price of \$A17.95.

Although I often felt that I was reading a draft for a larger work, the value of this handbook lies in its concrete and down-to-earth mix of learning theory leavened by teaching experience in the nursing field. The book actually addresses frequently avoided knotty questions such as those involved with assessing learning. Its summaries and check lists will be useful, quick-reminder references

for the busy educator. Many of the activities will stimulate the reader to experiment and change current practice.

While I am not yet fully convinced of the need for books which apply adult learning theory to teaching specific groups I will use the book as a reference, have recommended it for our library and would recommend it to others. I hope that the authors develop the work further and that future editions pay greater attention to the mode of presentation of the material and the needs of the reader/learner using the book.

Judy Wotherspoon,
Darwin Institute of Technology.

Video in Higher Education, Ortrun Zuber-Skerritt (ed.), Kogan Page, London, 1984, \$42.50.

In the early days of University "Closed Circuit Television" (as it used to be known) there issued a veritable stream of books on the subject — mostly from North America where enthusiasm was high. In more recent years there have been but few (Robin Moss's "Video, the Educational Challenge", Croom Helm, 1983, is the only one that comes immediately to mind). "Video in Higher Education", edited by Dr Ortrun Zuber-Skerritt of Griffith University, is therefore all the more welcome.

What happened was that after the initial glow educational television in tertiary institutions fell into something of a decline. Like any new technology it had its problems. As Deane Hutton describes it, there were many "unfulfilled promises". More recently there have been signs of change and this book confirms the new, more positive attitude to educational video. Of course, as Dr Zuber-Skerritt remarks in her introduction, "video (is) a medium which has frequently been misused, or ignored altogether, but which has great potential for influencing the learning process". The various articles well illustrate that potential.

The range of applications for video in Higher Education is vast. I am not the first to remark that to describe them all would be like trying to describe the uses of *print* in Higher Education. Video is a unique and interesting medium. It can manipulate time, it can control our viewpoint and it can give us immediate feedback on our own behaviour. (For more on this, see Chapter 1, "State of the Art", by Dr Deane Hutton, which is one of the clearest descriptions I have read on the nature of video.) It could not have been easy to arrange the various chapters in a logical order but it has been managed quite well considering the tremendous variety. "Interactive Video", "When Professors Confront Themselves", "Video as an Educational Research Tool", or "The Use of Video in Distance Education as Applied to Economics" are just a few of the topics.

For me, as a producer, Ian Hart's chapter on "Video and the Control of Knowledge" was particularly illuminating. He skilfully dissects that delicate relationship between Academic and Producer — a matter of central concern to those of us who work in Educational Media Centres.

In general this book has much to recommend it — even if it only provides a few ideas on how video can be used. There must surely be a demand for at least a further volume of the same kind.

I have just a few minor criticisms. The authors are not mentioned in the contents list and there is no index. This makes it hard to find "that article by the person at Stanford". There is also no contribution from my own university — but perhaps that can go into the next volume.

Andrew Greig,
Director, University of Sydney Television Service.

ABSTRACTS

HERDSA Abstracts are based on a regular survey of relevant literature. They are intended for use by tertiary teachers, research workers, students, administrators and librarians. The abstracts are classified into the same groups used by the Society for Research into Higher Education in their quarterly publication *Research into higher education abstracts*.

The Abstracts attempt a coverage of current English language publications in Australia, New Zealand, Papua New Guinea and Indonesia. Publications describing research, teaching, administration, staff and students in higher education are abstracted.

Educational or other non-profit organisations may reproduce a limited number of these abstracts in their own publications provided that HERDSA receives suitable acknowledgment.

HERDSA is most grateful to its abstractors and the co-operation of the editors of a number of journals abstracted in this issue. The Abstracts are edited by Hugh Guthrie, Educational Research Officer, Curriculum Development Group, Education Unit, The Royal Melbourne Institute of Technology, P.O. Box 2476V, Melbourne, 3001, Victoria, Australia.

Note: Authors or editors who would like abstracts of articles, books or monographs to be included are invited to send a copy of their work, together with an abstract, to the Abstracts editor.

A GENERAL

Fraser, S.E., **Australia and International Education: The Goldring and Jackson Reports — Mutual Aid or Uncommon Advantage.** *Vestes*, 27, 2, 1984: 15-29.

The paper discusses two foreign policy reports (the Goldring and Jackson reports) which focus on the important place that overseas students play in Australia's international-educational exchanges and in regional economic aid and development programs.

(HG)

B SYSTEMS AND INSTITUTIONS

Bracher, M. and Santow, G., **Past Growth and its Implications for the Future Development of the Australian National University.** *Vestes*, 27, 1, 1984: 8-13.

Australian Universities face a common problem today, brought about by the end of growth. The shrinkage in new appointments means that positions will generally only become vacant through retirement or resignation. A demographic study of tenured staff at the Australian National University was commissioned in 1982. The paper reports the principal findings relating to the faculties which comprise the undergraduate teaching half of the university. It is found that, after the rapid growth in available positions until the 1970s, there has been a levelling off in the numbers of tenured staff and a decrease in the number of non-tenured staff. More appointees to tenured positions now come from within the University. There has been

a decline in the number of young staff holding tenured appointments. Average age at appointment to various academic levels (Lecturer — Professor) has increased and opportunities for promotion are decreasing. Future trends are examined. The authors believe intervention is necessary to re-distribute tenured posts amongst staff of different age groups to prevent the ill-effects of an ageing and less mobile academic population.

(HG)

Clarke, R.M. **Organizing an Institution to Deliver Educational Programmes Designed to Achieve Capability.** *Programmed Learning and Educational Technology*, 21, 4, 1984: 301-306.

This paper reviews the educational implications of capability, and examines the extent to which traditional academic organisational structures frustrate the achievement of those educational goals. The progress of one institution's attempts to develop a more appropriate organisational structure for undergraduate medical education is described, and a subjective evaluation of its strengths and weaknesses is presented.

(Journal abstract)

Crick, M., **The Rationalisation of Off-Campus Studies in Australia: Implications for FAUSA.** *Vestes*, 27, 2, 1984: 30-38.

Australia is one of the few countries where responsibility for provision of distance education at the tertiary level has not been given to one central provider. Over the years, observers of the Australian system have railed at the wastage of resources and duplication of effort that result from the fragmented approach that Australia has adopted.

This paper traces the history of external studies in Australia, from the early 1960s to the present time. Particular attention is given to the efforts that have been made during that period to achieve rationalisation and to the reasons why these efforts have so seldom succeeded. The developments in distance education are considered against the backdrop of moves towards greater rationalisation in higher education in general.

The author takes the view that some degree of rationalisation is inevitable in the present climate and that if academic staff do not actively work towards this then it may be forced upon them. Several possibilities of inter-institutional collaboration which could contribute towards improving provision and decreasing cost are suggested.

(AI)

Harman, G., **Australian Experience with Co-ordinating Agencies for Tertiary Education.** *Higher Education*, 13, 5, 1984: 501-515.

This article reviews Australian experience since the late 1950s with "UGC-type" co-ordinating agencies for tertiary education. It focuses particularly on factors which have influenced the development and adaptation of co-ordinating agencies, the establishment and transformation over time of the Australian Universities Commission, and recent developments in coordinating mechanisms at both Commonwealth and state levels. An attempt is made to evaluate the suitability of current arrangements and to consider likely changes.

(Journal abstract)

Jackson, G.W., **Tertiary Education Funding in Times of Contraction.** *Vestes*, 27, 1, 1984: 42-47.

The paper seeks to identify ways in which tertiary institutions should deal with the current funding situation. Various ways of maximising income and controlling expenditure are noted and discussed.

The paper suggests it is necessary to approach the problem of funding on a broad front and consider all available options, even those which, at first, seem impractical. The paper also suggests the need for institutions to study themselves to determine how resources can best be obtained and used to fulfil their mission, their goals and their objectives.

(HG)

LeGrew, D., **Pursuing Productivity, Excellence and Other Research Snarks: A Critique of Current Attitudes**. *Vestes*, 27, 2, 1984: 39-43.

At present research policy formulation in Australian universities seems to revolve around a number of factors with precious little policy development. A contextual view that includes an understanding of the rich and varied nature of research is required. Researchers are being exhorted to produce more and more, but there is a danger that the real purpose of research may be lost. Creativity and discovery are not necessarily linked to higher rates of productivity. Considerable interludes may separate creative periods. The notion that a creative peak is reached between 35 and 40 years of age is challenged, Pelz and Andrews indicating that a second peak between 50 and 60 years is common. Whereas problem or mission-oriented research may often produce short-term results, pure research tends to be longer-term. Numbers of significant publications and citation rates may also be misleading in the "publish or perish" syndrome. Highly successful research events cannot be separated from unsuccessful events which may be an integral and vital part of the process. Failure often creates an imperative for success: the "physics of despair" referred to by Planck. University administrations must reject any downhill slide into the simplistic world of other public and private sector bureaucratic models and must be sensitive to the need for diversity and autonomy of researchers.

(AD)

Noble, C., **Planning: A Strategy for Chisholm**. *Education News*, 19, 2, 1984: 44-45.

The article describes a 3-phase strategic planning process for Chisholm Institute of Technology, Victoria. Phase 1 has addressed issues including the mission (philosophy) of the institution, the target groups to be served by the Institute and the goals and objectives for the Institute as a whole. Phase 2 will involve implementing and adapting the Institute plan developed in phase 1 at the school and departmental levels. Phase 3 entails evaluation and review. The planning cycle is more or less continuous with each phase building on earlier ones. Chisholm's experiences indicate that the planning process used must be adaptable to reflect institutional needs and sensitivities.

(HG)

Reeve, R.C., Harris, G.T. and Weinard, H.C., **The Cost/Benefit Analysis of a Proposal to Charge for Academic Computing at the University of New England**. *Vestes*, 27, 1, 1984: 14-20.

At the University of New England academic computing is completely separated from administrative computing. The paper centres on the proposal to charge for the use of the academic computing facility by academic staff and both post- and undergraduate students for externally funded research and teaching. Alternative charging methods are presented and discussed, including real and notional money charging. It was concluded that in a relatively small, single campus institution, there was close personal contact between the Computer Centre and its major users. Therefore a real-money charging system was not justified as a means of ensuring the optimum utilisation of the computer facility.

(HG)

St John, E.P. and McCaig, R., **Management Development in Australian Colleges and Universities**. *Higher Education*, 13, 16, 1984: 619-634.

Management development is a relatively recent concern in Australian higher education. Historically, management of colleges was deemphasised; instead, a gentlemen's approach to academic governance has predominated. Recently, as a result of an emerging administrative crisis, colleges and universities have started experimenting with new approaches to management. This article explores the applicability of a general management development model to the Australian context. The model, which identifies a dynamic relationship between the structural characteristics of an institution and its management needs, was developed from research on American colleges and universities. Based on the analysis of three case studies the model appears applicable to the Australian setting, especially

for large and complex institutions which confront simultaneous pressures to develop the planning and management capability in basic units, and to increase coordination and planning at the institutional level.

(Journal abstract)

C TEACHING AND LEARNING

Barrett, J., **Student-Tutor Communication in Radio Tutorials**. *Programmed Learning and Educational Technology*, 21, 4, 1984: 333-335.

This paper describes the verbal transactions that took place during simultaneous monophonic tutorials with a view to determining how the use of the medium affected the nature of the tutorial process. The results from this study show that radio tutorials increase both the amount of tutor talk (mean value 68%) and the opportunity for students to contribute (mean value 30%). Silence is reduced to an almost insignificant amount. It is also noted that students tended to talk for longer periods than might be expected during on-campus tutorials. It is the author's view that the aim of the tutorial method is to provide students with the opportunity to participate in discussions, and radio tutorials were successful in achieving this goal.

(PB)

Bawden, R. and Valentine, I., **Learning to be a Capable Systems Agriculturalist**. *Programmed Learning and Educational Technology*, 21, 4, 1984: 273-287.

This article outlines some of the innovations associated with the development of a learning environment for systems agriculture at one of Australia's oldest agricultural colleges. The coincidence of events that led to the major overhaul in curricula is presented in a manner consistent with an experiential approach to learning. Thus, the situation description is followed by observations, reflections and conceptualisations before the activities for change are outlined. The programme which is used to exemplify these developments has, as its focus, the autonomous learner attempting to make sense out of changing (agricultural) realities. The learning environment is designed around problem-solving/situation-improving strategies in farming and other agricultural systems.

Rather than attempt to "teach disciplinary content" as a basis for an education suitable for a wide spectrum of vocations in agriculture, Hawkesbury Agricultural College places emphasis on the process of learning and the development of the learner. Systems thinking and practices have proved so pervasive that they have resulted not just in the design of innovative curricula but in indications for universal competencies for professional agriculturalists.

(Journal abstract)

Duignan, P.A. and Teather, D.C.B., **Teaching Educational Administration externally at post-graduate level at the University of New England**. *Distance Education*, 6, 1, 1985: 34-55.

The North American origins and the subsequent development in Australia of educational administration as a field of study are described briefly. The close links between the development of the field itself and the development of the external mode of study are explored with particular reference to the key role in both developments played by the University of New England. The external teaching of the University's Master of Educational Administration degree, which requires both coursework and research, is considered in detail. The views of academic staff on the process and problems of supervising research and thesis writing by external students are reported and discussed. An extended version of the paper abstracted here is available from the authors.

(Modified journal abstract)

Galbraith, P.L., **Attitudes to Mathematics of Beginning Undergraduates and Prospective Teachers: Some Implications for Education.** *Higher Education*, 13, 6, 1984: 675-685.

An acute shortage of mathematics teachers has emerged in the Western world. This article describes a study of the influence of tertiary education experiences on the attitudes of potential mathematics teachers towards their subject.

Parallel questionnaires were given to groups of students who were respectively entering university mathematics courses as new undergraduates, and entering postgraduate teacher training courses. Both groups of students answered items pertaining to their experiences within secondary mathematics courses.

The undergraduate students were also asked a series of questions about their expectations of tertiary mathematics courses. For the postgraduates a parallel set of questions was provided that required them to rate their actual tertiary experiences.

An analysis of responses indicated that the postgraduate students were more positive about their recollection of secondary mathematics than were the undergraduate students with their more recent experience of it. They were also less positive about the reality of their tertiary courses than were the undergraduates about their expectations. Responses of the postgraduates suggested that tertiary mathematics is not merely an extension of secondary mathematics, but a subject with which distinctive and, in general, more negative reactions are associated.

Mathematics emerges as a subject which progressively loses its appeal with further study and implications are drawn for both tertiary education and teacher supply.

(Journal abstract)

Garcia-Webb, P., **Teaching Clinical Biochemistry to Medical Students: Facts or Concepts?** *Biochemical Education*, 13, 1, 1985: 23-24.

The paper is concerned with the status of clinical biochemistry as a discipline in the training of medical students. Aspects of clinical biochemistry are covered throughout a student's medical training. However, the author contends that students have not acquired the ability to discriminate biochemical tests of true relevance to the clinical problem from those that are largely superfluous. The true objective of a formal clinical biochemistry course is to teach an understanding of the role of the clinical biochemistry laboratory in logically deducing how best to investigate a patient. In the author's view such a course should not be examined and requires the teaching of attitudes and concepts, not facts.

(HG)

Guiton, P., **Use of an FM Radio Subcarrier for University Distance Education.** *Programmed Learning and Education Technology*, 21, 4, 1984: 310-313.

This article outlines an innovative plan by Murdoch University External Studies Unit and radio station 6UVS (FM) to use supplementary monophonic transmission (SMT), also known as "Narrow cast". Using ten decoder receivers in individual students' homes, trials are planned to deliver three sets of tutorials to students who reside in the metropolitan region surrounding the University, but who are unable to attend for face-to-face tutorials. The author explains that the trials are designed to explore issues of cost effectiveness and to assess the extent to which students taking distance education courses can benefit from a series of discussions with tutors and hearing contributions from other students.

(PB)

Noble, C., **Negotiation Strategies in Curriculum Development.** *Unicorn*, 11, 2, 1985: 127-134.

Curriculum development is a political as well as an educational process. Before a curriculum proposal is accepted, negotiation strategies will have to be adopted to assist in surmounting constraints. No single strategy can guarantee implementation, but a combination of strategies as outlined in the article may be successful. A pragmatic approach is recommended in which curriculum planners are prepared to compromise and accept small changes. Planning is desirable if comprehensive reforms are to be achieved. Protracted negotiations may be necessary

before curriculum planners realise their goals.

(Journal abstract)

Parslow, G., **Microcomputers and Other Educational Hardware: A Department's Experience.** *Biochemical Education*, 12, 4, 1984: 157-161.

The Department of Biochemistry at the University of Adelaide have used video, tape/slide and microcomputers to supplement conventional teaching. While video is not presently used extensively in teaching, the relatively low cost of domestic video recorders and video disk technology represent promising developments. Tape/slide tutorials are used extensively and are effective instructional tools. Teaching methods and guidelines are described. Microcomputers have been used for word-processing (preparation of class notes, etc) and keeping student records as well as for teaching and testing. Some of the programs in use are described.

(HG)

Powell, J.P. and Andresen, L.W., **Humour and Teaching in Higher Education.** *Studies in Higher Education*, 10, 1, 1985: 79-90.

It is often claimed that humour is a desirable characteristic of teaching and learning. Justifications for the use of humour include the promotion of understanding, holding the attention of students, managing disruptive behaviour, creating a positive attitude to the subject matter, and reducing anxiety. Empirical studies of the connections between humour and learning are reviewed. These indicate that humour, provided it is not used to excess, can increase attention and interest and help to illustrate and reinforce what is being taught. It is suggested that the presentation of humorous material involves skills which can be learnt through practice and that staff development programmes should provide opportunities for academics to acquire such skills.

(Journal abstract)

Radcliffe, D.F. and Holt, J.E., **A review of design education methods and the future role of CAD.** *International Journal of Mechanical Engineering Education*, 12, 4, 1984: 275-280.

This paper begins with a review of trends in design education over the last 30 years. It examines the design process from a fundamental viewpoint and defines the essential activities involved. Developments in CAD and its application in design education are then considered in terms of the essential elements of the design process. The over-emphasis on the computer in CAD, in particular on graphics, is a cause for concern to design educators. Conversely new techniques in man-computer communication, database structures and artificial intelligence promise CAD systems in the future based upon the essential design process.

(Journal abstract)

Rasmussen, M., **Computer-Assisted Learning in Chemistry: the ANU-CALChem Project.** *Programmed Learning and Educational Technology*, 21, 4, 1984: 336-339.

The ANU-CALChem Project has been developed to counter difficulties encountered in running tutorials which aim to develop problem-solving skills in first-year chemistry classes. Both the hardware used and software which has been developed and modified for the CALChem program are described. A list of ideal features for CAL-based tutorials is presented. An evaluation of the program revealed general student support for the scheme, although there was no unambiguous statistical evidence that use of the CALChem program enhanced examination performance. The scheme has achieved an improved attendance record and can function adequately as a first-line tutorial system. However it needs the support of a traditional tutorial back-up to assist students with specific problems and to cope with students disaffected with the CAL approach.

(HG)

Robbins, G.E. and Pottinger, S.M., **The Video-Computer Link: Teaching Photography with a New Instructional Resource**. Programmed Learning and Educational Technology, 21, 4, 1984: 340-341.

The paper describes the use of a laser videodisk player linked to a microcomputer as an aid to teaching a new optional course at Darling Downs IAE, "Introduction to photography". Students were able to program the videodisk to locate quickly certain difficult points or areas of interest. The videodisk provides valuable teacher support and is a resource which students can use to seek more detailed information on points of interest to them. Its use involves students in their own learning and also enhances their research skills.

(HG)

Unwin, D., **The Cyclical Nature of Educational Technology**. Programmed Learning and Educational Technology, 22, 1, 1985: 65-67.

There is a long history of educational innovation deliberately designed to address a perceived problem, viz. inadequate learning. A basic assumption is that the mechanics of media and method are of paramount concern, and we relegate to a minor role considerations of curricula and, in particular, the needs and wishes of the learner. This paper seeks to suggest that newer educational technologies, such as microcomputer-assisted learning, will fare no better than those of the past, for the simple reason that technique is not a major element in the success or failure of a course of instruction.

(Journal abstract)

D INFORMATION NETWORKS

E STUDENTS: GENERAL

Fraser, S.E., **Overseas Students and Tertiary Education: Notes on the Australian-Malaysian Link**. Vestes, 27, 1, 1984: 48-55.

The paper discusses issues relating to the growing numbers of private overseas students in Australian Universities — particularly those from the SouthEast Asia who are, predominantly, Chinese from Malaysia. The paper deals with the variety of sensitive socio-cultural, social-ethnic as well as developmental factors involved.

(HG)

Rolfe, I., **Graduating through Education for Capability**. Programmed Learning and Educational Technology, 21, 4, 1984: 268-272.

A graduate of the second class of students of a new medical school outlines the implementation of a course which is explicitly designed to assist its students to achieve capability — capability for the assumption of the responsibilities expected of a new member of the profession and capability for lifelong learning.

The author adds her own perceptions and reactions from the point of view of a student in this education for capability. She emphasises the development of personal qualities which are so frequently neglected in academic courses and which tend to concentrate on knowledge rather than application.

(Journal abstract)

Totimeh, E.C. and Harris, G.T., **Expected Rates of Return to Overseas Student Postgraduate Study in Australia**. Vestes, 27, 1, 1984: 38-41.

The article reports a study of a sample of 200 of the 266 overseas undergraduate and postgraduate students at the University of New England in 1983. The respondents came from 26 countries; almost half (47%) were undertaking Masters

degrees, 28% first degrees, 13% postgraduate diplomas and 10% doctoral studies. Approximately half were employed by their respective governments, a quarter were teachers and a quarter had no previous job. Half were financed by the Australian Development Assistance Bureau (ADAB), a third by private sources and the remainder from other sources. There was considerable variation of expected rate of return when geographic regions were compared. Rate of return also varied considerably according to the age of the student, the nature of qualifications sought and source of student funding.

(HG)

Tremaine, M. and Owen, J., **The Female Majority: Women Who Study Extramurally**. Teaching at a Distance, 25, Autumn, 1984: 45-50.

In the two decades of its existence at Massey University, extramural study (here used in the New Zealand sense of distance education for credit courses towards university degrees or diplomas) has expanded from serving the needs of a few hundred students, most of whom were teachers, to an enrolment of almost 10,000 men and women from widely diverse occupations and lifestyles. Proportionately more women than men apply for provisional admission because they have not gained university entrance at school. This paper examines the reasons for this and looks at what extramural study has to offer women.

(Modified journal abstract)

York, B., **Sources of Student Dissent: La Trobe University 1967-72**. Vestes, 17, 1, 1984: 21-31.

Student unrest on university campuses in the late 1960s caught social theorists by surprise. A number of theorists attempted to explain the phenomenon including Arendt, Feuer, Koestler, Roszak and Keniston, Bettelheim and Van Maanen. In the post-war era, tertiary education was encouraged to expand rapidly. In Australia the Murray and Martin committees predicated their recommendations on the assumption that universities were not and should not be fundamentally any more than servants of national economic growth. Simultaneously was the growth of the autonomous youth culture and its association with rock music and the folk protest tradition. In Australia, conscription made the Vietnam war an unavoidable issue for thousands of young people. La Trobe University was literally born into the period when the protest movement was gaining momentum. At La Trobe, a handful of the university students established a socialist club which opposed the war and conscription. Protest became evident during 1970. The movement reached its peak in April 1971 when more than one thousand students launched a campaign for the resignation of the chancellor, seen as a symbol of the university's role in the capitalist society. As a result of demonstrations, seven students were excluded from the university and three were eventually gaoled in Pentridge prison. Analysis of the particular situation at La Trobe University indicated that a predominant number of students came from working class suburbs. Further, La Trobe was primarily an Arts based university and was also the newest and fastest built institution with consequently little sense of purpose and tradition. Meanwhile, the Council of the university, in many students' minds, epitomised Establishment, origins, occupations, social class and residence. The protestors were reinforced by extreme responses from local police and the university authorities. A repression-resistance cycle developed. During 1971-72, the Vice Chancellor adopted an intransigent attitude and did not take a number of opportunities for negotiation. By June 1971, with the arrest and imprisonment of the author, student participation in campus protests had entered a dramatic decline and the protest period virtually ended.

(AD)

F STUDENTS: SELECTION AND PERFORMANCE

Feletti, G.I., **Assessment for Capability**. Programmed Learning and Educational Technology, 21, 4, 1984: 294-300.

Educational programmes within the profession need a new approach if graduates are to be adequately prepared for their roles in the twenty-first century. This approach should emphasise two broad capabilities for professional practice — one related to immediate performance after graduation, and the other recognising the need for further education. Graduates can develop these capabilities if a set of essential competencies is defined, and if their assessment is treated as an integral part of the educational programme. This paper describes new instruments and procedures together with guidelines for ensuring their reliability and validity.

(Journal abstract)

Gay, J.E., **An Analysis of Aptitude as a Predictor of Achievement in an Individualized Mode of Health Instruction.** *British Journal of Educational Technology*, 15, 2, 1984: 150-155.

This author questions the traditional relationship between aptitude and achievement in an individualised mode of health instruction. Measures were taken on time in instruction, gain scores from pre- and post-tests and score on the American College Test Battery on 120 students in an open learning centre. An individualised mode of instruction was used with printed and mediated materials. An analysis of these data indicated that time was a more significant predictor of gain than aptitude. As students spent more time in this programme, their gain scores increased. This seems to be typical of the learning theory.

(Journal abstract)

G STUDENTS: CAREERS AND EMPLOYMENT

H STAFF

Andresen, L., Barrett, E., Powell, J. and Wieneke, C., **Planning and Monitoring Courses: University Teachers Reflect on their Teaching.** *Instructional Science*, 13, 1985: 305-328.

Seven university lecturers were interviewed about the progress of one of their courses each week during one semester. The interview invited them to reflect on their planning and monitoring concerns as the course proceeded. Interviews were transcribed and content analysed using an emergent category system. Three topics recurred throughout the interviews: communication with students, ongoing course planning activities, and processes in class. The distribution of material in the other nine categories tended to be more idiosyncratic. This article provides a descriptive account of how and what these teachers thought, as a group, about the progress of a course, and it identifies the major issue on which their attention was focused. The results are discussed in terms of how the teaching role of academics is primarily concerned with the communication of theoretical material to students. It is suggested that the debriefing interview technique is a useful tool for gathering data which can throw light on the educational beliefs and principles that underlie the practice of university teaching.

(Journal abstract)

Hay, R. and Maxwell, P., **Staff Exchanges: A Flexible Approach.** *Vestis*, 27, 1, 1984: 34-37.

The 1982-84 report of the Tertiary Education Commission favoured the use of staff exchanges and asked universities to explore them more actively. FAUSA policy has also supported academic exchanges. At Deakin University, a staff exchange scheme has now become well established, and the authors of the paper were two of the earliest participants. A number of staff exchange arrangements are possible; the first being the bilateral variety, i.e. between two universities; the second possibility is a multi-lateral arrangement, involving several institutions. The simplest exchange would be the "carbon copy" variety with academics in the same discipline being exchanged. A multi-lateral scheme operating over a number of years is illustrated. From time to time, there would be a need for a "balancing of the books". From an institutional viewpoint, the advantages

include the staff being given the opportunity to operate in a new environment which may enhance their expertise to the advantage of the institution on their return. For staff members, exchange may offer the opportunity for rejuvenation and to shed administrative responsibilities acquired over the years. Costs of exchanges are usually relatively small, often being limited to the costs of air travel. Exchanges are more likely to succeed if costs of living are similar in participating locations and personnel involved are willing to exchange housing and motor vehicles. In 1982, the two authors undertook staff exchanges, one with a colleague in the University of Tennessee and one with a colleague in the Scottish Regional Office of The Open University.

(AD)

Moses, I., **Academic Development Units and the Improvement of Teaching.** *Higher Education*, 14, 1985: 75-100.

A survey of those educational development practices which directors of educational (academic) development units in Australia found most effective in their institutions for the improvement of teaching was conducted in late 1983. The responses are presented and discussed. A series of interviews with 100 academic staff of the University of Queensland at about the same time confirmed that the approaches taken by units for improving teaching are approved of by staff. In particular staff recognised and valued the connection between evaluation and development.

The staff development programme at the University of Queensland responded to the expressed needs of staff for specific developmental activities. It is described as one example of a systematic approach to staff development with emphasis on formal workshops/seminar sessions and evaluation of teaching. Practicalities and problems are discussed.

(Journal abstract)

I CONTINUING EDUCATION

Duncan, R.M., **Education for Capability: A Professional Model for Practical Legal Education.** *Programmed Learning and Educational Technology*, 21, 4, 1984: 288-293.

Practical legal training for admission as a solicitor in New South Wales changed in 1975 when articles of clerkship (apprenticeship) were abolished and replaced by a period of institutionalised practical legal training at the College of Law, Sydney. For the first time the aims of practical training were identified. As with articles, however, the aim was education for capability. Originally, this aim was reflected in a training programme in the tasks and skills of practice. This narrow view of both practice and the training nature of the curriculum was found to be inadequate in some respects. Some students found difficulty in coping with the intricate problems which are interwoven with the performance of the tasks and skills of practice.

With the development of a co-operative (sandwich) course in 1981, an experimental curriculum was developed which had as its core the social context of practice. Rather than carry out tasks and practice skills, there was a concentration on the development of problem-solving skills and the exercise of judgement. The main curriculum document was, and is, a professional model. This model requires a student to meet the needs of client, firm, profession, society and personal needs in any legal transaction. Judgement is required both within individual needs areas and when conflicts arise between or among needs areas. The primary teaching strategy is simulation. Although there have been some minor problems, the use of a professional model based on needs to educate for capability appears to be more than a viable alternative to a task-based curriculum.

(Journal abstract)

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variety in format: a two-hour meeting, for example, could include an introductory mini-lecture, small group critical application exercises with structured reporting back, and a plenary session to clarify, analyse and integrate learnings. The tutor can "arrive" at a pre-determined time and negotiate her/his next arrival during the actual class. Experiential learning methods can also be used to balance the expository approach outlined above; but they would, of course, demand careful preparation and changed learning task sequences.

If all these issues, conditions and factors seem too daunting and outweigh the uses and benefits of audio-teleconferencing — take heart: it is a challenging medium and it can create very rewarding experiences. Built into a course that includes at least one or two face-to-face workshops, even the simplest technical form of audio-teleconferencing can encourage us to re-examine our present attitudes and skills and to give students greater options for learning. Not all learning happens under the direct gaze of an instructor; not all students

have access to classrooms; and not all students welcome the conditions of traditional classrooms.

Elizabeth J. Burge,
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Studies in Education.

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adult literacy. The TAFE National Centre acts as a focal point for these curriculum development activities and duplication of effort is reduced.

Centre research can be conducted by the Centre's own research and development officers, or it can be commissioned. Each year, major grants are awarded to researchers and it is planned to increase the proportion of total expenditure devoted to commissioned work. This increase will include "seed money" for pilot projects.

An example of commissioned research recently completed is by the National Institute of Labour Studies at Flinders University entitled "Labour Force Forecasting for Technicians/Technical Officers", Current in-house projects include the production of material for evaluating TAFE colleges, job profiles of the engineering technical workforce in Australia, and a handbook on TAFE teaching. (A publications list is available free of charge from the Centre.)

Early in 1984, the Directors commissioned a review of the Centre. There was strong feeling that the organisation should continue beyond its preliminary three years. The

review confirmed this and the shareholders accepted that recommendation. A permanent Executive Director was therefore installed.

The Centre illustrates some important features of the whole TAFE sector: its freshness, its willingness to experiment, its strong feeling of relevance to the country's needs, and the dedication of its staff. Alas, these have generally gone from higher education, with its seige mentality and staff dreams of retirement. Hopefully, the Centre will play its part in retaining them in TAFE.

William Hall,
Executive Director,
TAFE National Centre for
Research and Development.

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JOURNALS

A new publication:

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