

# **RESOURCE- BASED LEARNING FOR HIGHER AND CONTINUING EDUCATION**

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John Clarke

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Volume 3

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JOHN CLARKE

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# **Resource-Based Learning for Higher and Continuing Education**

JOHN CLARKE

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# CONTENTS

## Acknowledgements

## Preface

### 1. A Rationale for Resource-based Learning 15

*The Present Position 15; The Use of Teaching Resources in Higher Education 17; The Resistance to Resource-based Learning 19; The Use of Television as an Educational Resource 22; The Evolution of Educational Technology 23; What Are the Benefits to be Gained from Resource-based Learning? 27*

### 2. The Provision of Resources 37

*The General Implications for an Institution 37; The Implications for the Academic Staff 39; Knowledge of Teaching/Learning Techniques and Methodology 43; Awareness of the Attributes of Good Teaching/Learning Materials 44; Abilities Required to Develop Curricula 45; Access to Facilities 47; The Need for Consultants 48; Qualifications for Consultants 52*

### 3. Resource-based Learning: In-house Procedures for the Preparation of Learning Materials 55

*The Background 55; The Feasibility Study 57; The Academic Consultancy Service 57; The Author's Rights 64; The Production of a Trial Package 65; The Potential for Television 68*

### 4. The Production Services 70

*The Question of Centralisation 70; Criteria for the Selection of Equipment 71; Reprographics 75; Printing 76; Image-forming Processes 76; Copying Processes 78; Master-making 79; Duplicating and Printing 83; Finishing 85; Graphics 88; Photography 89; Audio Recording 94; Motion Picture Making 97; Monochrome or Colour? 97; Single or Multi-camera Unit? 98; Which Format 100; The Need for a Television Studio 101; Lighting 101; Tele-cine 102.*

### 5. The Retrieval and Presentation Processes 103

*Characteristics of the Retrieval Processes 103; Reliability 103; Ready Availability 106; Speedy Servicing 107; High-quality Presentation 107; Carrel Design 108; Resource Centre Management 115; Continuing Education by Distance Learning 120; Facilities for Small and Large Group Activities 122; Fixed Equipment 122; Mobile Equipment 125*

**6. The Management of Production and Retrieval Services 127**

*Production Control — Editorial 127; Production Control — Technical 132; The Problem of Copyright 133; The Provision of Accommodation for Production Services and Resource Storage and Retrieval 136; The Reprographics Production Unit 137; The Print Unit 137; The Photographic Area 140; The Television Suite 142; The Library Resource Centre 144; Accommodation for Lecturing Staff 147; Equipment Stations 147; The Maintenance Service 148; Handbook of Services 150*

**7. Staffing and Finance 153**

*A Staffing Structure 153; Contracts and Job Specifications 161; Financial Provision 163; Types of Costs 164; Capital (Non-recurrent) Expenditure 164; Revenue (Recurrent) Expenditure 165; Distribution of Costs 167; Job Estimates 170; The Presentation of a Proposal for a Resource-based Learning Project 170*

**8. Micro-electronics — the Potential for Future Resource-based Learning 172**

*Computers in Education 172; Teletext and Viewdata 179*

**9. Conclusion — Considerations for Innovators Developing Resource-based Learning 185**

*The Background to a Project 185; Aspects Concerning the Academic Staff 186; Aspects Concerning Decisions Related to Academic Elements of Courses 187; Aspects Related to Production Processes 189; General 189; If Printing is to Make a Contribution 189; If Photography is to Make a Contribution 190; If Audio Commentaries are Required 190; If Television Material is Required 190; Aspects Related to the Management of Production Services 191; Aspects Related to Resource Centre Management 191; Aspects Related to Retrieval Procedures 192; Aspects Related to Staffing 193; Aspects Related to Finance 194; General Aspects 195*

**Glossary of Terms 197**

**Bibliography 202**

**Index 207**

## **NEW PATTERNS OF LEARNING**

### **The Purpose of this Series**

This series of books is intended to provide readable introductions to trends and areas of current thinking in education. Each book will be of interest to all educators, trainers and administrators responsible for the implementation of educational policies and programmes in higher, further and continuing education.

The books are designed for easy access of information and contain bibliographies of key works to enable the reader to pursue selected areas in more depth should he or she so wish.

This book was written by John Clarke, who has recently retired as Head of the Learning Resource Department of the Dundee College of Education. This book, which gives much practical help and advice, is based on the author's experience in developing the highly successful resource centre in conjunction with the Library at the Dundee College of Education.

**P.J. Hills**



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This book is a consequence of some twenty years' involvement with educational innovation, much of it related to the exploitation of programmed learning and educational technology. This has been especially true of the last nine years, during which I have had the opportunity to co-ordinate the academic and technical services for a project designed to apply the principles of educational technology to courses for the preparation of teachers at the Dundee College of Education.

In the continued evolution of their courses, I would like to wish the College well. It was my very good fortune to see through the initial stages of an exciting experiment and I take this opportunity to record my gratitude to a number of people without whose encouragement and support this book certainly could never have been written — first, to Mr D.E. Stimpson, CBE, the Principal of the College, who, having given me the opportunity to make a case for the Project, never ceased to back the action that seemed necessary to bring about a successful evolution — then, to Mr J.G. Morris, HMCI and Director of the Research and Intelligence Unit of the Scottish Education Department, who, over many years, was my mentor and on whose advice I could always rely knowing that he too was prepared to provide staunch and constant support to a venture that he believed to be worthy of a prolonged trial — next, to colleagues, both academic and non-academic, without whose tolerance, diligence, application and plain hard work, the undoubted high quality of materials produced and courses organised could never have been offered — and, finally, to Thelma, my wife, without whose forbearance over the years as I burned away the midnight oil the work would never have been completed and without whose help with the typing, reading and emendation, this manuscript would never have seen the light of day.

### **Note**

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## PREFACE

The years following the Second World War have seen a great expansion in the need and demand for education throughout the world. This has been especially marked in the fields of further and higher education in Europe, the USA and Australasia with the consequence that traditional educational provision has been unable to meet the need. To fulfil the aspirations of society, post-school education has been vastly increased in the last 30 years, but, whilst in general the increase has been of traditional facilities, the origin and nature of the demand brought about a search for other means whereby expectations might be met. The expansion of knowledge, increasing numbers of students with greater ranges of ability and interests, new theories of learning, the demand for continuing education beyond the age of compulsory school attendance, are examples of the forces which promoted educational developments. One consequence was the increased use of resource-based learning through the use of resources to meet specified educational targets. Many forms of human, material and environmental resources have always been used in education, but it is with the use of resources especially designed or selected to meet expressed aims that this book is concerned.

In the recent past, resource-based learning has had a chequered history. Associated educational theories have been subjected to intensive research which often produced evidence more supportive of the sceptics than the protagonists. The proliferation of technological devices produced to present information, many of which were incredibly difficult to use or unreliable, also tended to discourage both the designers and users of learning materials. However, the situation today holds great promise for a much-increased use of resource-based learning. The internationally acclaimed success of the Open University, the extensive and highly successful use throughout the world of aids to learning ranging from sophisticated means of communication facilitated by satellites to simple printed and photographic materials, the perfection of cheap video recorders and players with widespread appeal and availability, the rapid rate of development of micro-computers with their educational programs and the increasingly available viewdata systems, have all contributed to the creation of a climate in which resource-based learning can flourish both within

educational institutions and in the home. One aspect nevertheless remains as a major problem to the wider distribution and implementation of resource-based learning. Most of the features just noted were related to the technical means of presenting learning materials, but it is the creation of the materials themselves which generally continues to hinder progress. Special skills and facilities are required for the production and, occasionally, the use of such materials. In addition, teachers involved with students learning at some distance from their immediate control need a full understanding of the particular difficulties under which such students work and the means whereby they might be continuously motivated to continue their studies.

Whilst not all of the problems faced by innovators wishing to exploit resource-based learning to meet their educational aims will be common, meeting the needs of teachers for assistance in the preparation of effective materials which will gain respect from their users will undoubtedly be the most significant factor in any major success arising from the implementation of this mode of learning.

Considerations relating to this aspect of support for teachers have been given special prominence throughout this book because of its importance wherever resource-based learning is to be implemented. One factor that it is hoped the reader will bear in mind whilst reading the book is that, solely to avoid pedantry, the masculine form of pronouns has been used exclusively. There is no intention whatsoever to imply that men are more inclined than women to use resources in their educational activities. Similarly, students and teachers are used as inclusive terms to cover all learners and their tutors in the educational fields to which this book relates.



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# 1 A RATIONALE FOR RESOURCE-BASED LEARNING

## **The Present Position**

This book is concerned with the development and use of resource-based learning to achieve specific educational aims in further and higher education. However, to understand the context of current thinking on resource-based learning, a number of wider issues must be considered. Chief among these has been the dramatic expansion of further and higher education in the West after the Second World War. This development was of course spurred on by the challenge of the first Russian sputnik in October 1957.

There were also a number of technical advances both in teaching methodology and equipment with clear potential for use in education which made the development and exploitation of resources seem appropriate. Their use was stimulated by the expansion of knowledge and the needs of students with significantly wider ranges of ability and interests than in former times. Important examples of resources which received special attention were educational television, programmed learning and various other forms of individualised learning.

However, the majority of teachers in post-school education were ill-equipped to deal with either the construction of new curricula or the new methods, and they tended to look for solutions to the new problems amongst the traditional educational theories, practices and assumptions. Paul Hirst highlighted this problem in 1976: 'within any university, certainly one of long standing, there is a tradition as to what counts as a degree and there is established within the institution some general framework into which any new degree must somehow fit. The exercise of planning is somehow to work within an existing framework, to squeeze it where you can get away with that, and to build the best thing you can by way of a new degree within the existing framework' (Hirst, 1976). Commenting on this statement, David Teather (1977), Academic Director of the Audio-Visual Learning Centre of the University of Otago, suggested:

The administration of our universities, like the administration of justice, depends largely on precedent. This is not to say that universities are static — clearly they do change and adapt to new

circumstances. But they typically adapt in ways which cause least internal friction. Thus when pressures grew in the University of Otago for the development of new methods of teaching and learning, the response was — as has been the case in many other conventional universities — not systematically to examine the teaching of departments or of faculties, but to create teaching support services available to those staff who wished to avail themselves of the services offered.

The report of the Carnegie Commission on Higher Education (1972) in the USA made similar comment nearly ten years ago. 'The Fourth Revolution — Instructional Technology in Higher Education' described the potential impact on higher education of the new electronics in these terms:

New technology has already transformed (a) research techniques in many fields and (b) administrative methods on many campuses. It is now (c) affecting large libraries and (d) is entering into the instructional process. . . The experience thus far with the new technology (applied to instruction), however, as compared with the hopes of its early supporters, indicates that it is (a) coming along more slowly, (b) costing more money, and (c) adding to rather than replacing older approaches — as the teacher once added to what the family could offer, as writing then added to oral instruction, as the book later added to the handwritten manuscript.

Wilbur Schramm (1973) of the Institute for Communication Research at Stanford University, reviewing the effectiveness of different forms of media, notes that 'of 421 television-classroom comparative studies . . . 308 showed no significant difference, 63 came out in favor of television, 50 in favor of classroom teaching. Dubin and Hedley examined 381 such studies . . . and found 191 showed no difference, 102 in favor of television, 89 in favor of classroom instruction.' Schramm concludes from this evidence that 'we have no basis in the research for saying that students learn more or less from television than from classroom teaching.' Other media proved to be equally or even more effective than television, and Schramm summarises his review by saying that

on the basis of this evidence, students can learn from any medium . . . there is ample reason for confidence that what the instructional

media can do, they can do well. This includes taking over the bulk of teaching of many subjects in the absence of direct teaching, supplementing classroom teaching with additional learning experience, providing directed and interactive practice, and in certain cases offering new opportunities to individualise learning and instruction.

However, despite the recognition of a need for the adoption of new teaching methods, the availability of reliable resources to assist with the task and evidence of their effectiveness, little progress has been made in integrating what has come to be called educational technology, which relies heavily on resource-based learning, into the educational scene. Still, there are now encouraging signs that government is somewhat belatedly recognising at least the potential of computer-based learning and, even at a time of extreme financial stringency, is providing support for increased training in the use of computers for teachers and for the supply of micro-computers to schools.

### **The Use of Teaching Resources in Higher Education**

Interest in the more effective use of technological resources for teaching purposes in higher education in the UK goes back at least 15 years. Prior to 1965 when the Brynmor Jones Committee Report on the Use of Audio-Visual Aids in Higher Scientific Education was published, such aids were considered to be 'aids to communication. In the context of higher education they are aids to learning, to teaching, and in some cases to research' (Brynmor Jones, 1965). The terms of reference for the committee had asked them 'to assess their potential usefulness and possible lines of development in Great Britain and to report'.

One of the Brynmor Jones recommendations related to central service units. The report noted that pressures arising from increased student numbers and advances in science and technology could be eased by 'new communication media' but that many members of academic staffs were either unaware of their potential or, realising their possibilities, lacked the knowledge or the technical assistance to use them properly. Also noted was the 'valuable pioneer work done in some medical schools' which had been followed in a number of universities and colleges but that there continued to be 'a widespread need for the provision of a coordinated service in most academic

institutions. We believe that, given a proper “ideal of service” and adequate facilities, central service units can improve teaching and strengthen communication throughout the field of education.’ This recommendation was re-emphasised and expanded when, in 1972, the Hudson Committee reported on Central Arrangements for Promoting Educational Technology in the United Kingdom. This committee accepted that educational technology comprehended ‘the use of technical devices to support the processes of teaching and learning’, but it noted that ‘the use of technical aids is not self sufficient. They are devices for conveying learning material which has to be supplied either by the individual teacher or by some other teacher or author on his behalf. Other aspects of educational technology relate therefore to the production of this material . . . Thus the teacher constantly requires facilities to make resource material for himself or to adapt to his own needs material supplied from other sources.’ It continues ‘The more obvious material aspects of educational technology cannot sensibly be dissociated from consideration of organisation and management, or curriculum content, innovation and development. It is an important aim in educational technology to promote an educationally constructive interaction between the new facilities it can offer and other elements in educational theory and practice.’

The topic of educational technology, in particular its origins, will be briefly discussed later in this chapter, suffice it to say at this point that it signifies a systematic approach to the educational process. Unfortunately, almost from the conception of the idea, it has been an emotive term and the subject of much disparaging comment for a variety of reasons. To give one example which is typical of the attitude of many, Dr William Hall (1975), Director of the Advisory Centre for University Education at the University of Adelaide, in an article describing the centre significantly entitled, ‘Pretending not to be an Educational Technologist’, writes:

Staff in tertiary institutions, but particularly those in universities, are often suspicious of educational technologists. The word ‘education’ brings memories of the esoteric nonsense which is all too prevalent in some educational journals, where the writer is seeking to impress his peers rather than to bring about necessary changes; ‘technology’ is interpreted as expensive gadgetry which breaks down. Bring the two terms together and the completely erroneous picture which is formed is hard to destroy. And so at the

University of Adelaide we never use the term: the recently-formed teaching unit has been called the Advisory Centre for University Education (ACUE).

The Group for Research and Innovation in Higher Education, studying the problem of the use of the kind of support services advocated by Brynmor Jones and Hudson, noted in its report, 'Supporting Teaching for a Change' (Hewton, 1975):

The notion of support for teaching in universities seems sound enough. Any activity, educational or otherwise, should benefit if its prime purpose can be identified and promoted by a supportive framework of some kind. In higher education, however, it has not proved easy to determine what should be the nature and extent of such support. During our visits to 41 universities between 1972-1974 it became clear that the question of encouraging an improvement in the quality of undergraduate teaching was important, and that there was considerable uncertainty about the way the problem should be tackled. Various approaches have been tried, but many of them do not seem to have been notably successful: they are, however, often misunderstood by those they are intended to benefit.

Notwithstanding the fact that it was difficult to determine what the function of the support services should be, what is undoubtedly true is that specifically designed resources can assist in improving the quality of teaching in higher education. However, there are still few success stories. Let us therefore look at the problems of introducing resource-based learning.

### **The Resistance to Resource-based Learning**

The main problem has been that the difficulties involved in introducing new educational techniques and resources have not been properly understood. One aspect of this problem relates to the vocational training of the university academic. In the past, many lecturers in further and higher education have had little if any training in teaching methods, so that they are less familiar with the more innovative and esoteric techniques than their colleagues in other educational and training fields. Even when they do have some knowledge of specialised teaching and learning techniques, the whole topic is viewed with some

suspicion, particularly when the lecturer sees his main function as research and not teaching. However, in spite of a general reluctance to innovate, there has been some improvement both in less developed and developed nations. The following extract from a report (Hedley and Wood, 1974) from the University of Manitoba is typical of many attempts to stimulate change.

The concern of this Committee (Committee on Undergraduate Teaching) to emphasize the importance of teaching in the colleges and universities, and to help foster its improvement, grows from an awareness of great need and great opportunity. The need is acute because our society requires, as never before, a broad infusion of well-educated minds . . . The need is made more acute by the low priority given to teaching at present in too many colleges and universities as compared with other claims upon the professor's time . . . The opportunity to improve teaching is at least as great as the need for it. An impatient expectation of good teaching has spread widely in the present student generation. At the same time, there is more practical recognition in the universities and excellent teaching is essential, not only because it is an intrinsic function of the institution, but also because it is essential to the advancement of knowledge and because there is a reciprocal advantage between good teaching and good research, pure and applied.

The report (Hewton, 1975) referred to earlier, 'Supporting Teaching for a Change', in its summing up included the following conclusions:

The challenge to established patterns of working demands from teachers considerable re-thinking and re-planning, the commitment of extra time and energy, and the possible usurpation of privacy by outside scrutiny. It is scarcely surprising, therefore, to find a battery of defences raised against change, some representing genuine doubts based on experience, others ingenious rationalisations.

There are however signs that the case for leaving things as they are carries less and less conviction. Both teachers and teaching are coming increasingly under pressure. Apart from the ominous demands by government for increased 'productivity' and less favourable staff-student ratios, the very nature of the academic's work is no longer the same as it was. The changes of the last decade have resulted in very large classes in many subjects but dwindling numbers in others. Some departments have had to find ways of

making their courses more popular. At the same time, the range of ability and the diversity of interests of university students have increased: it is no longer the case that the same standard courses and methods of teaching are acceptable to all. Moreover, students are becoming increasingly conscious of quality in teaching — of how well courses are planned, what their content is, and how they are organised and assessed — and are less hesitant than they once were to make their views known to staff. In this new climate, teaching services have a greater chance of being accepted and successful.

Support services can only function properly if they are recognised to be part of the community into which they are introduced: in other words, they also need support . . . They have greater likelihood of succeeding if they emerge and develop in response to a genuine need.

These two extracts express the general concern felt about the need for an improvement in teaching at university level. The first notes the awareness of need and opportunity: both are prompted by the expectations of the 'present student generation'. This factor is stressed in the second but, in addition, this extract emphasises the need for support services for academics.

In explaining why academics have been reluctant to embrace the new technology and new teaching methods one must also consider how the resources were introduced. Too often, equipment was donated because it had become obsolete for its original owners and, as a philanthropic gesture, it was passed on to education. Such equipment was bulky and unwieldy and often in need of tiresome maintenance because it was worn out.

There were also the big experiments when 'high activity' educational television centres were established. Often these were staffed by enthusiastic technologists without an educational background and, consequently, with little understanding of what the teachers wanted. In addition, the persuasiveness of enthusiastic salesmen cannot be ignored. Not surprisingly, they were often the most zealous protagonists for the equipment which, they claimed, would meet the needs of harassed and over-burdened teachers.

These factors tended for a time to give educational television a bad image. To many educationists it was an expensive luxury, exceptionally demanding of their time and unreliable as an aid. Nevertheless, the medium was used with success in some institutions with the result