

DOCUMENT RESUME

ED 384 696

CE 067 740

AUTHOR Boud, David; Walker, David
 TITLE Experience and Learning: Reflection at Work. EAE600
 Adults Learning in the Workplace: Part A.
 INSTITUTION Deakin Univ., Victoria (Australia).
 SPONS AGENCY Victorian Education Foundation.
 REPORT NO ISBN-0-7300-1248-4
 PJB DATE 91
 NOTE 114p.; Some type may not reproduce well.
 AVAILABLE FROM Adult and Workplace Education, Faculty of Education,
 Deakin University, Geelong, Victoria, Australia 3217
 (\$20 Australian).
 PUB TYPE Guides - Classroom Use - Instructional Materials (For
 Learner) (051)

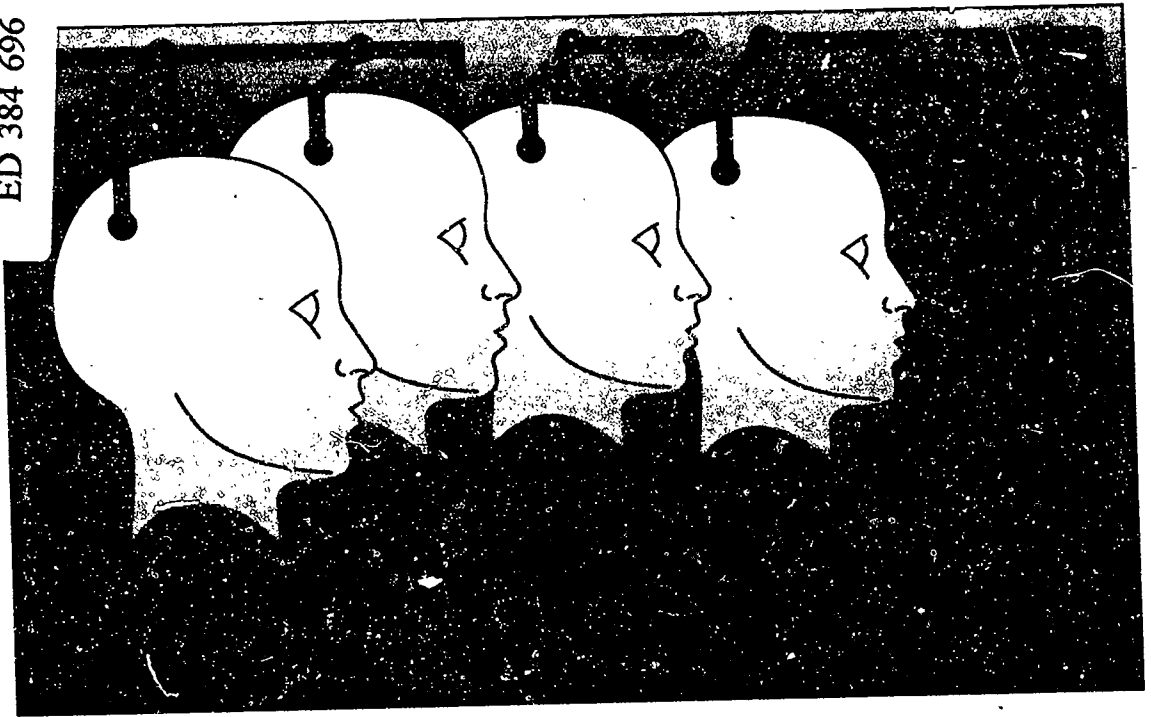
EDRS PRICE MF01/PC05 Plus Postage.
 DESCRIPTORS *Adult Education; *Adult Learning; Annotated
 Bibliographies; Educational Theories; *Education Work
 Relationship; *Experiential Learning; Foreign
 Countries; Industrial Training; Learning Strategies;
 *Learning Theories; *On the Job Training; Training
 Objectives
 IDENTIFIERS *Australia

ABSTRACT

This publication is part of the study materials for the distance education course, Adults Learning in the Workplace: Part A, in the Open Campus Program at Deakin University. The first part of the document examines the process of learning from experience within the context of on-the-job-training and learning in the workplace. The following topics are discussed: the learner and the learning milieu (personal foundation of experience, intent, and the learning milieu); the learning experience (the reflective process, noticing, and intervening); preparation for the experience (focus on the personal, the context, and learning strategies); and reflection after the experience (strategies for returning to the experience, attending to feelings, and reevaluating the experience). The bibliography contains 50 references. The following papers constitute approximately 60% of the document: "Theories of Action that Inhibit Individual Learning" (C. Argyris); "A Critical Theory of Adult Learning and Education" (J. Mezirow); "Learning in the Workplace: The Case for Reflectivity and Critical Reflectivity" (V. J. Marsick); and "Beyond the Anecdotal: Adult Learning and the Use of Experience" (R. Usher). Each paper contains references. Concluding the document is a 13-item annotated bibliography. (MN)

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EXPERIENCE AND LEARNING : REFLECTION AT WORK

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EAE600 ADULTS LEARNING IN THE WORKPLACE: PART A

**EXPERIENCE AND LEARNING:
REFLECTION AT WORK**

DAVID BOUD AND DAVID WALKER

Deakin University

This book forms part of EAE600 *Adults Learning in the Workplace: Part A* which is one of the units offered by the School of Education in Deakin University's Open-Campus Program. It has been prepared for the *Adults Learning in the Workplace* team, whose members are:

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Further titles may be added to this list from time to time.

These books are available from the Faculty of Education, Deakin University, Geelong, Victoria 3217

Enrolled students are supplied with a guide to the unit and supplementary material.

First published 1991

Reprinted 1994

© Deakin University 1991

Edited, designed and typeset by Deakin University Book Production Unit

Printed by Deakin University

National Library of Australia

Cataloguing-in-Publication data

Boud, D.J. (David J.)

. Experience and learning : reflection at work.

Bibliography.

ISBN 0 7300 1248 4.

1. Adult education. 2. Employees—Training of. 3. Learning, Psychology of.

I. Walker, David, 1938-. II. Deakin University, School of Education. Open Campus Program. III. Title.

374.013

This course was produced in part with developmental funding from the Victorian Education Foundation.

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SERIES INTRODUCTION

The nature and purpose of education in the workplace has been the subject of much debate in Australia in recent years. While the vagaries of local and international competition have led many firms to reconsider the role of their workforce and the training requirements this entails, governments have been equally keen to adapt existing education systems to the perceived needs of industry. Leading union bodies have been distinguished in this debate by their pro-active role, outlining the path by which a reconstructed industrial climate can win the nation a new place in the world economy.

The series of monographs of which this volume is a part explores the approaches to learning currently modeled within industry. In the process the question inevitably arises as to whether existing orientations and practices are in the best interests of the various stakeholders in the workplace.

The arguments developed in these monographs address themselves to a range of contemporary issues in industrial education. To date, prevailing approaches have rested upon narrow, instrumentalist notions of learning; in their different ways, the writers have set out to challenge this orthodoxy. In doing so, they highlight the silences—on questions of gender, class or ethnicity—that underpin the behaviourist outlook still dominant in the world of training.

In preparing this series of monographs, the course team has sought to address issues that are of fundamental concern to those involved in the complex and demanding field of workplace learning. It is hoped that, in its own modest way, the pedagogy we have developed can serve to exemplify a different notion of what industrial education might become.

EXPERIENCE AND LEARNING: REFLECTION AT WORK

INTRODUCTION

No matter how much formal education and training people receive, they will not really be equipped for a position of responsibility unless they have the ability to learn from their experience. Some formal education and training can help this learning process but, in the main, the issue of how people learn after they have completed their formal training has not been well researched. On-the-job training is left to the commonsense of either the individual, the supervisor or the manager who are expected to deal with situations as they arise.

Learning from experience is a complex matter. How it happens depends on learners, on the task and on the learning context. Little is generally controlled or readily controllable. We know a great deal about learning in highly controlled settings where there is task analysis, a curriculum, a trainer and support resources, but relatively little about learning in the messy reality of the workplace.

There are a number of quite diverse responses which can be made to this situation. One is to say that we should attempt to impose some order on this messy reality and establish some goals, tasks and strategies; another is that of Schön who distinguishes, within the world of practice, the high ground of technical rationality and the swamp of daily human concerns (Schön 1987, p. 3). Formal courses can contribute to learning about matters dealt with on the hard high ground, but for the people who are caught up in day-to-day practice, other approaches may be required.

In recent years, there has been increasing recognition of the fact that the world of education and training needs to acknowledge the realities of practice and that it is not always appropriate to analyse and dissect problems in order to make them solvable by instructional technology. Donald Schön (1983 & 1987) has been one of the most articulate advocates of this position and has coined the term 'reflective practitioner' to describe people who are trying to make sense of their messy reality: to learn through reflecting upon it and by constructing schemas which help to guide them through learning from their work. The idea of reflection on experience as a key idea in learning is not new. It can be traced back at least as far as the Ancient Greeks and, in more modern times, John Dewey contributed much

to our appreciation of the importance of experience and the place of reflection in learning. In the modern organisation we find approaches such as action learning that involve people in learning by attempting to change organisational structures, for example, by tackling hitherto intractable problems in the company of others (Pedler 1983, p. 2). In educational settings, we find action research, in which people learn, through working together, to tackle issues that they have identified in their practice (Carr & Kemmis 1986; Smyth 1986; Winter 1989).

Learning from experience is not just the province of the professional or, indeed, of any particular type of person. It is commonplace in our lives and we each have a fund of instances which we can draw upon to illustrate this process in our own development. The challenge for those involved in education and training is to find ways in which they can conceptualise the process of learning from experience and use it to guide themselves and others through life and work.

There are many ways of going about this task and there are many models that can assist. We have been working on one approach that aims to provide a model to guide practice. It is an approach based upon our own experience as learners and facilitators of learning for others and, more widely, has drawn on the experience of colleagues in the Australian Consortium on Experiential Education (ACEE). It is based on the systematisation of what we have assessed as good professional work. While it takes account of ideas and concepts from the literature, it is essentially pragmatic and open to testing.

The approach emphasises deliberate learning—that is, situations in which learners have formed an intention to learn from their experience (Tough 1979). It is also limited to learning which is intended to be applied in a way that has meaning to learners (cf. Usher's 1985 *thematized* approach). In other words, we are excluding consideration of learning which is incidental to experience and which is undertaken simply to satisfy some institutional requirement.¹

The approach we are taking arose originally from a project of the ACEE that aimed to make sense of the role of reflection in experience-based learning. Members of the Consortium had identified the key role which reflective activities played in learning from experience and wanted to explore strategies to promote reflection in the courses and workshops that they facilitated. These covered a wide range of settings: education, the public service, the community and business. The outcome of the project was

1 This is a conception of learning based upon a perspective-dependent view of knowledge and a deep approach to using experience. Usher (1985) contrasts this with a reproductive conception of learning in which knowledge is seen in dualistic terms and a surface approach to using experience is adopted.

a book, *Reflection: Turning Experience into Learning*, which described the methods that had been used to promote reflection in learning. These methods included the use of writing for reflective purposes (Walker 1985), listening and learners working one-to-one (Knights 1985), briefing and debriefing of group activities (Pearson & Smith 1985) and the use of computer packages to encourage reflection (Boxer 1985; Candy, Harri-Augstein & Thomas 1985). Reflection in the context of learning was defined as:

a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations. It may take place in isolation or in association with others. (Boud, Keogh & Walker 1985, p. 19)

Having assembled these examples of reflective activities, a framework was required which would place them in a broader learning context. This was done and the first version of a model of promoting reflection in learning was produced (Boud, Keogh & Walker 1985). This focused primarily on reflective activities that occur after an event. The model served well for this aspect of reflection and, with some minor refinements to take account of misunderstandings and elements which needed elaboration (Boud 1988), remained relatively unchanged.

In 1989 our involvement in organising the Second International Conference on Experiential Learning prompted us to examine what had been happening since our earlier book had been published and to take account of both our own subsequent experience and that of others. In this case, the experience we were considering was the participants' experience of the conference. This time, we were not just focusing on what occurs on reflection after the event, but what needs to be done to promote reflection throughout the experience. Arising from our understanding of the Conference, we produced a paper which focused particularly on the direct role of experience itself in the process of learning and the role of learners in influencing both their experience and the learning which flows from it.

In this monograph, we draw extensively on this paper (Boud & Walker in press). However, we have developed it further to include an overview of the process of learning from experience and have considered the role of preparation for experience and reflection within and after it.

¶ Throughout the monograph a cumulative example is given. This is designed to illustrate some of the main concepts of our model and how they may apply in the workplace. Readers might like to think of further examples to exemplify and extend the framework that is presented.

§ Chris is a married woman, born in a non-English speaking country, who has been working within her organisation for about five years. Though not very confident about taking on extra responsibility, she has just been promoted because of her job skills and abilities to a supervisory position. She is now responsible for a unit of six people, among them two women from other non-English speaking backgrounds, a man who has difficulty working for a woman and an older woman who has been with the organisation for three years more than Chris and who believes that it is she who should have been promoted. Chris reports to a manager, Tom, who is located on another floor and who has a reputation of being critical of the staff in the unit.

SECTION 1

THE LEARNER AND THE LEARNING MILIEU

One way to look at experience is to consider it as an interaction between learners and a social, psychological and material environment or milieu. It is learners interacting with this milieu that constitutes experience. While facilitators, and others, can help create the milieu, it is learners who have the experience. Reflection on experience, understood in this way, will focus on understanding learners and the learning environment or milieu, and on the interaction that takes place between the two. We will consider briefly learners and the learning milieu, and then look at the learning experience that they constitute. It can be helpful to distinguish between the event (the situation which learners enter) and the experience (the interaction with the milieu). The event is a public description (the apprentice had to deal with three jobs); the experience is the personal (how did she relate to these jobs: what did she, as learner, feel, think and do with respect to them?).

The learner

Personal foundation of experience

What learners bring to the situation has an important influence on what is experienced and how it is experienced. Learners possess a personal foundation of experience, a way of being present in the world, which profoundly influences the way in which that world is experienced and which particularly influences the intellectual and emotional content of the experience and the meanings that are attributed to it:

... although it is the individual who learns, this individual is one who has a language, a culture, and a history ... (Usher 1989, p.32)

An individual's personal foundation of knowledge can be manifest, for example, by: confidence or lack of confidence stemming from past suc-

cesses or failures; ability to work with others; and reaction of a member of a majority group in responding to a member of a minority group in an organisation

This personal foundation of experience is derived from the previous experiences of learners. It is partly acquired from the social and cultural environment, and partly forged by the learners' own awareness and effort. It contains the presuppositions and assumptions which learners have developed in the past and predisposes learners to any future experience. It is not something about which a learner can readily (if at all) give an account. The example of socialisation is different, for instance, for men and women, however, no-one can readily identify how this will affect their perceptions and expectations in any given situation and how this will in turn influence what and how they learn. The different views which people have of the same event often have their origins in the personal and cultural past of the individuals and, for this reason, no event is such that everyone will experience it in the same way.

Because of this personal foundation of experience, people approach a learning milieu in many different ways, some conscious others not. Learners can be sensitised or attuned to certain things within the event, or can interpret elements of the event in the light of certain presuppositions that have been important in prior experiences. This personal foundation of experience can also affect what is done and how it is done: it can affect the confidence of learners, their ability to act in the presence of others and how far they can be committed to involvement within the milieu. The cultural norms and mores which have been assimilated act as powerful constraints and form perceptual lenses through which learners view the world and act within it. Reflection on the actions, thoughts and feelings, which have arisen in a learning event, can often provide an insight into a learner's personal foundation of experience and into his or her ability to learn from the particular situation.

Sometimes, arising from this personal foundation of experience, learners are affected by the milieu in a way in which they may be unaware. This can lead to thoughts, feelings and actions, the motives of which learners may not fully appreciate. Reflection on these may bring an awareness of something that happened, of which a learner was not aware, or only partially aware, during the event itself. For example, in looking back on a business meeting in which his work was criticised, a learner may be reminded of early school experiences in which he was intimidated into silence.

- ¶ Chris brings to the job a unique combination of personal and job experience. She has the skills and abilities which she has developed in the workplace (her experience of being supervised and observing

others in a supervisory position); she has a personal history of being a migrant woman (of coping with different customs and habits in Australia and the assumptions which her coworkers and supervisors make about her). What she sees as proper behaviour—the respect which is due to those in positions of authority—she now feels may be lack of assertiveness.

Intent

The other important element which learners brings to the situation is intent. Intent is a personal determination which provides a particular orientation within a given situation—that is, a reason why learners come to the particular learning event. It involves a particular focus of consciousness: the direction of our perception along particular lines. The particular intent can only be determined by reference to learners themselves. For example, in an industrial placement, as part of a course, a student's purpose may be simply to practise certain skills, or it may be to find out what life is like in that company before she makes a career commitment. Intent can often be linked to core values and ideals. This is particularly so with more general life intents such as the desire for success and personal advancement, or personal, religious or social commitments. However, it may also be an entirely pragmatic response to a situation over which learners have little control. Sometimes, learners may not be aware of a particular intent, but it is operating and its existence may be inferred by others. It can only be recognised by the actions, thoughts or feelings that result from it. Often, but not always, this can only take place during reflection on the event.

Our intent, then, influences the way we experience events. It acts to focus and intensify our perception in relationship to certain parts of an experience, and at the same time play down, or eliminate, others. The photographer with a zoom lens sees certain things more clearly, but in the process of doing so, eliminates other things from the frame. Intent can act as a filter, or a magnifier. It can impose limits on an experience and, at times, this may need to be done. It offers a frame of reference or a perspective from which the event is viewed. It can influence what we notice, how we record, determine how much we do, how far we go, how much we invest in the situation and the specific outcomes sought from it. Intent can lead learners to pursue certain observations in greater depth and help link together otherwise unconnected observations. However, the nature of learning from experience is such that intent never acts as the sole arbiter of outcomes: learners have but partial control of events and, while they may become more adept in dealing with them, the world continually provides its own provocative and stimulating challenges.

In some formal learning events, learners arrive with little conscious intent or even commitment to being present. Unless the trainer can help learners form an intent, the opportunities for learning may not be well utilised. Learners may take a superficial approach to the given tasks, feeding back to the trainer only that which is immediately required (Usher 1985). It is not for us to condemn such an approach as it may be forced by the circumstances. It does, however, point to the need for intent to be considered at a very early stage in the planning of events.

The more clearly we understand learners' intents, the more we will appreciate their experience, and be able to work with it. Lack of intent can sometimes lead to a superficial experience which results in missed opportunities, and lack of a clear understanding of intent can lead to a loss of focus. A particular intent can be changed by a situation: it can become focused or diffused, even transformed altogether, according to what is experienced. Often the situation has a greater influence on the strategies brought into play by a particular intent, rather than by the intent itself. For example, learners, on discovering that their contributions are valued by their coworkers, can invest renewed energy into the event. Trainers or supervisors can play an important role in helping learners to clarify their intent and in developing strategies appropriate to it. However, as we have suggested, trainers or supervisors need to be careful that their intentions do not swamp or subjugate any possible intent of learners. Unexplored and unresolved discrepancies in intent between supervisor and learner can often lead to disorganised and unproductive experiences and to considerable frustration on the part of both parties.

- ¶ The intent of the organisation in promoting Chris was to have someone who was suitably skilled ensure that the flow of work in the unit is improved. She is aware of this expectation and her intents are influenced by it. However, she also brings other intents, both general and particular. She wants to show herself to be capable of doing the job and of working well with others—to justify the trust put in her. She wants her family to think well of her and justify the support they have given her. These other intents may contribute to other learning goals that she wishes to pursue. She also, without clearly recognising it, has the intent to get on in the organisation, which can affect what she notices and does, and even how and when she does it.

The learning milieu

The learning milieu can be defined as the social-psychological and material environment in which learners and those contributing to their learning

work together. The learning milieu represents a network or nexus of cultural, social, institutional and psychological variables. These interact in complicated ways to produce, in each context, a unique pattern of circumstances, pressures, customs, opinions and work styles which suffuse the instruction and supervision and learning that occur there (Parlett & Hamilton 1972).

This definition captures the complexity of the learning milieu which is reflected in every work situation. The milieu is much more than the physical environment: it embraces the formal requirements, the culture, procedures, practices and standards of particular organisations and societies, the immediate goals and expectations of any facilitator or supervisor, as well as the personal characteristics of individuals who are part of it. The interaction of all these factors can create a situation where the milieu is constantly changing, and the potential for learning which it provides is related to an awareness and appreciation of the change that is taking place.

Clearly, the overall milieu of organisations, and departments and units within them, influences the particular learning experience of individuals (Parlett 1977). The focus in this monograph is more on the interaction between learners and the milieu than on the milieu itself, and is an effort to take a systematic look at how learners interact with the milieu. We are not trying to redefine the milieu, but to single out several important aspects of the interaction that take place within it. We take the learning milieu to be all those entities, human and material, which provide the context and events within which learners operate. These consist of far more than the immediate players who may be present. They include the history, values and ideologies of the culture as well as the manifestations of these in particular events. Learning is a function of the relationship between learners and the milieu and is never something determined by one of these elements alone (Marton, Hounsell & Entwistle 1984). A learner's plans can be thwarted by an unsympathetic milieu, and a particular milieu can foster particular kinds of learning. For example, a workplace may be thought of by the workers there only as a place of production and attempts by trainees to develop skills may be treated with scorn; in other workplaces learning on the job may be thought of as the sine qua non of employment as workers decide how they can help each other.

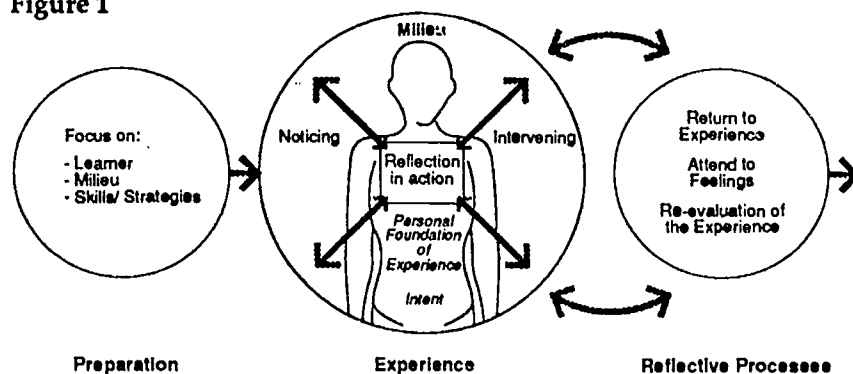
- § Chris's work milieu is complex: it includes, as well as the staff in her unit and the manager, Tom, other people who relate to her unit. They all have expectations and presuppositions about the work, the organisation, the procedures of her work area and the greater organisation within which she works—its values and the way it is perceived within local society. This is the environment within which she is constantly interacting, and which contributes to her experience. Within this context, she has to find opportunities for learning.

SECTION 2

THE LEARNING EXPERIENCE

It is learners' engagement with the milieu and their construction of what happens to them that constitutes the particular learning experience. The milieu exists in part prior to them coming to it, but it is activated as a context for learning by a learner's entry into it. The activity of the workplace, for example, continues, but the presence of a trainee changes this milieu into one which can be more explicitly oriented to learning. Each learner forms part of the milieu, enriching it with his or her personal contribution and creating an interaction which becomes the individual as well as the shared learning experience. However, learners are also part of the milieu, as reflective people able to stand back or withdraw within the event in order to become aware of what is taking place, and to think about it. It is this interaction which lies at the heart of the ongoing experience. Experience can be seen as a continuing, complex series of interactions between learners and the learning milieu, unified by a reflective process which assimilates and processes the learning potential of the environment, and can move learners to take appropriate action within the experience (see Figure 1).

Figure 1



Many learners are not aware, or are only minimally aware, of the full extent of the interaction that is taking place and of the influences being brought to bear upon them. We believe that a greater awareness of what is

happening in, and a more deliberate interaction with, the learning milieu will provide greater opportunities for a more fruitful learning experience. This does not of course guarantee learning, but it does make it more likely. Such awareness can help equip learners with tools (i.e. a conceptual framework) which can help them gain a purchase on the often complex dynamics of the situations with which they are confronted.

In the following subsections we focus on three aspects of the learning experience which we believe are important for learners (and facilitators) to consider if they are to maximise the opportunities for learning that become apparent. First, the process of reflection, in which learners examine their experience of events, second, noticing and third, intervening, both features of learning from experience which are important in providing the information on which a learner can reflect.

The reflective process: Reflection-in-action

In any situation there is always reflective activity in which what is perceived is processed by learners and becomes the basis of new knowledge and further action. Reflection is a normal ongoing process which can, if desired, be made more explicit and more ordered. It is something that can only be done by learners, even though others can assist in it. In the context of our present discussion, it is an activity which is pursued with intent, a purposive action directed towards a goal. It is a complex process in which both feelings and cognition are closely interrelated and interactive. It is an active process of exploration and discovery that often leads to unexpected outcomes.

While we have written more extensively on these aspects of reflection elsewhere (Boud, Keogh & Walker 1985), our previous work was focused on reflection after the experience. However, some of the characteristics of reflection which we outlined in our earlier model also capture something of what is happening in reflection during the experience. There we singled out three important elements of reflection: returning to the experience, attending to feelings and re-evaluating the experience. It is our view that these elements are just as much part of reflection during the experience as they are of reflection after it. We will now examine these elements within the context of the experience.

What is happening?

In emphasising recapturing an experience, we were anxious to stress that reflection on experience needs to be linked to the events which gave rise to

the experience. We wrote about replaying the event in the mind's eye, to notice exactly what occurred and one's reactions to it as fully as possible. It is the process of reconstituting what took place that is the key issue here. Within the experience, this issue is also important. The reflective process needs to be linked to the event which is unfolding, and the more involved learners are with the texture and features of the event, the more creative and effective the experience can be.

This shows the importance of the two elements of noticing (which includes perceiving what is going on in both the situation and the learners) and intervening (which involves learners reaching out to explore the milieu actively, to test the data which has been processed and to express the learning acquired). These two elements will be developed further.

As with reflection after the event, learners are influenced by their personal foundation of experience and their intent. It is normal for learners to impose their own perspective on what they notice and common for them to ignore information that challenges their perspective. It is important, then, for learners to respond within the learning milieu so that the data which stems from it can be tested. As well as observing, the processing of data received will also be affected by the intent of learners. Learners' intent will influence the data drawn into the reflective process, and the amount noticed will be directed by this intent.

What is taking place within learners is an integral part of the experience. The interaction between learners and learning milieu will affect them. It is particularly important for them to be aware of the feelings that are being generated, the thoughts that events give rise to and the actions that may be prompted. Capturing the experience simply means being in continuing touch with it, being aware of all that is happening and trying to grasp the situation as it is, including the feelings that are generated.

How do I feel?

Whether reflecting during or after the experience, it is often helpful to attend to our feelings. Feelings significantly affect experience. On occasions our emotional reactions can override our rationality to such an extent that we react unthinkingly and with blurred perceptions or limit ourselves to the fringe of the event. At other times they may foster the development of confidence and a sense of self-worth that can lead us to pursue paths which previously may have been inaccessible, and thus draw us more deeply into the experience. Feelings can limit or enhance what is noticed during the experience, and the interventions that are made in it. By being aware of the emotional tone of our involvement in the experience, we can acknowledge feelings that will deepen or inhibit our involvement.

What does it mean?

Contact with the event, and attending to feelings, opens the way for learners to evaluate more freely the experience itself. This final element of reflection will proceed more effectively if the previous two steps have been worked through. We have identified four aspects of re-evaluation:

- 1 association—relating of new information to that which is already known;
- 2 integration—seeking relationships among the information;
- 3 validation—determining the authenticity of the ideas and feelings which have resulted; and
- 4 appropriation—making knowledge one's own.

These aspects should not be thought of as stages through which learners pass, but parts of a whole; though some parts tend to precede others. While these processes are taking place, learners may need to refer back to the experience. We will examine separately each of these aspects of re-evaluation.

Association brings together the data of the present and the learning of the past. New learning will be built on the learning that has already been achieved. This linking of new conceptions to our existing cognitive structure is, in the minds of some, one of the central features of the learning process (Ausubel, Novak & Hanesian 1978; Bruner 1966; Lindsay & Norman 1972). The drawing in of the data can influence us both intellectually and affectively. Feelings, of which we become aware, may be related to past occasions when such feelings were experienced. This may give us an insight into ourselves as learners, as well as into the present experience. Ideas, prompted by the event, can be related to relevant pre-existing knowledge that provides a framework within which new ideas can be grappled with. Association refers to the bringing together of the material to be worked with. The greater the diversity of associations that are made, the potentially more creative will be the next step of integrating them. Facilitators working within the event may be able to prompt learners to recognise associations that occur to them at the time.²

Integration is the processing of the material gained from the current experience and from pre-existing knowledge in order to explore its meaningfulness and usefulness. What was simply a mass of data is worked through to establish connections. The aim of this integration is to arrive at a synthesis that can be the foundation of further searching and learning.

² A facilitator can be anyone who helps a learner pursue learning goals. In the workplace this will usually be a manager, supervisor or someone with particular responsibility for training.

While this processing may be drawn out in reflection after the experience, within the experience it may take place more quickly as learners meet the need to respond to the demands around them. This is another area where facilitators can help learners within the experience. They can remind learners of this important function and even provide opportunities for more deliberate reflection.

Validation involves testing the reality of the new learning: its consistency with our past learning and with the data provided by others. This may lead us to explore the experience more fully for data which can further verify the conclusions that we have drawn. It may also mean that we intervene in the event to test the validity of our new perceptions. When reflection takes place within the experience, this validation can sometimes occur immediately and the process of working through this new learning then proceeds more quickly. Through intervening in the situation, some knowledge can be tested during the event. It is the validation of new learning which is the basis for incorporating it into the basic store of the knowledge that forms our past learning.

Appropriation is the final acceptance of this new learning—making it one's own. Not all learning will come to be appropriated. Appropriated knowledge becomes part of our value system, is less amenable to change and we can feel quite proprietorial about it—'this is how this task *must* be tackled'! Within our learning it holds a privileged place, and other learning is often interpreted in the light of it. If the particular experience has involved issues that relate to our personal identity then it could be a profound experience, involving strong emotions and radically altering the way data is processed and appropriated (Tart 1975). When facilitators are helping learners to process the data of the experience, they need to be aware of how important this material can be to learners. Material, which in itself does not seem to have any special importance, may, in the mind of learners, be a significant threat to previously appropriated knowledge. The new learning then is not just an opportunity for growth, but an attack on their personal world, to which they may react strongly.

To develop further the understanding of the reflective process, we would like to draw special attention to the two activities previously mentioned: *noticing* and *intervening*. These are two important aspects of the interaction between learners and the milieu which we believe are necessary for the adequate working of the process. Through noticing, learners become aware of the milieu, of particular things within it, and use this for the focus of reflection. Through intervening, learners take some initiative in the event in an attempt to change it, in a major or minor way, or to check their understanding of what is occurring. Noticing feeds the reflective process and intervening is the expression of it. As Heron has put it another context:

... the complementarity or polarity is between noticing and trying out, between experiential receptivity and active agency. (Heron 1981, p. 160)

There is a continuing cycle of noticing, reflecting, intervening, noticing and reflecting. This expression of it does not capture the idea of reflection as inextricably linked with what takes place throughout, but it does highlight noticing and intervening as two important aspects of the learning experience which are both essential to the ongoing reflective process. If these can be enhanced, then the whole process is enriched. Learning crucially involves both what learners perceive (i.e. what is taken in and what is construed as taking place); and what learners contribute to the situation (i.e. what is done to change the situation in order to understand it better). We will now examine these two aspects in more detail.

- ¶ It is the processing of the information which Chris takes in that is the key to her understanding and handling of the situation. She notices that her staff often make negative remarks about their division of the organisation: they leave work unfinished at any excuse and seldom take initiatives without prompting. In considering this she realises that she needs to devise means for strengthening the commitment of some of the key people in her unit, and hence the larger division, to the task. She feels anxious about the prospect of doing this and worried about what she can do. Will they listen to her, will they take her seriously? Will they ever be able to change? By associating what she observes with similar information from her past experience, she is able to come to conclusions on which to base her interventions. These may be successful or unsuccessful and can lead to further reflection, understanding and intervention.

Noticing

Noticing is an act of becoming aware of what is happening in and around us. It is active and seeking: it involves a continuing effort to be aware of what is happening in ourselves and in the learning event, and to find a way of expressing that to ourselves. It is directed to both the exterior and interior worlds. On the interior, it involves taking note of our own thoughts and feelings. This can offer insights into how we are experiencing the event, and can sometimes bring to the surface unconscious interactions that have taken place, or are taking place, within the experience. By noticing what is taking place within, learners may more effectively appreciate what is taking place in the overall situation. On the exterior, it requires attending to the

nature of the event and its elements: the forms of interaction between participants, the use of language, cultural patterns, documents and objects used, declared intentions, the continuing change within the experience, the presuppositions on which the action of participants are based, the emotional climate of the event and a variety of other things. Noticing acts to feed information from the learning milieu into the continuing reflective process, which is integral to the experience, and enables learners to enter into further reflective interaction with it.

Noticing plays a very important role within the experience. It affects the extent to which learners are involved in the experience. Those who are limited in what they notice may not know enough to be able to enter fully into the experience. The development of the learners' ability to notice is an important step in bringing learners to a greater appreciation of learning from experience. Noticing also helps to provide the basis for entering into an experience, whilst at the same time maintaining sufficient awareness of our own actions and those of others to make effective decisions about the experience and to retain knowledge of it for subsequent reflection. It is a paradox that the extent to which learners are in touch with the learning milieu will radically affect their ability to learn from it while, at the same time, the extent to which they can also distance themselves from the experience similarly contributes to what they can learn from it. The challenge for learners is to create, within the milieu, opportunities both for full engagement and for stepping aside from the immediate press of the tasks in which they are engaged. Sometimes a physical or temporal distance is required, on other occasions a psychological distance may be obtained by learners while they may appear to others to be fully engaged. A similar balance between engagement and distance is also required of facilitators: they must give their full attention to learners, but must also not be trapped in their world.

What learners bring to the experience, the personal foundation of experience and the intent, can significantly affect what is noticed in two ways. First, noticing is a selective process, and the things to which learners are predisposed by previous experience or intent will be more easily noticed than others. The attention of learners can be directed by what is brought to the experience, and this will effect what is noticed. It is important that attention not be totally absorbed by either what is expected or planned by learners or facilitator or by the immediate features of the event itself, but be open to emergent and spontaneous occurrences. Recognition of this possibility is a key step in not allowing it to happen. A person who has been prepared too rigidly for the experience may only notice things mentioned in the briefing, and ignore other things that are equally relevant. Second, not only is what we expect to occur more easily recognised, but it (and other aspects of the event) is often interpreted according to our personal founda-

tion of experience or intent. It is common for us to read our own presuppositions into events, and to interpret the event and its elements in the light of them. This means that the event is experienced as an expression of, and a reinforcement of, our presuppositions. When this happens, we may be fooled by our taken-for-granted assumptions and trapped by, and in, our past ways of knowing. It can be impossible for us to consider other ways of viewing our experience when such strong predispositions determine what and how we notice. A person committed to a particular educational or management theory may well interpret the situation as embodying or supporting that theory. A learner from a particular family background may tend to accept the view of a supervisor as the only legitimate view of a problem and thus be inhibited from even considering alternative approaches which may be more effective—even when the supervisor would welcome such initiatives.

Sometimes a facilitator may be present during the experience to assist the interaction between learners and the learning milieu. The facilitator, as appropriate, can indicate aspects to be noticed, or direct learners in a general way which will lead them to notice things that might have otherwise gone unnoticed. The facilitator can be alert to the learners' feelings and the emotional climate of the event, both of which may either inhibit noticing or promote it, and can assist learners to resolve these feelings. The facilitator may also call 'time out' for reflection or recording within the experience. In some situations, it is possible for the facilitator to change the learning milieu from within, to help learners relate more easily to it (e.g. by limiting the aggression of another person within it, or eliminating certain elements of it which upset or confuse learners). When the experience is unplanned, the role of the facilitator is more opportunistic and may range from learner's companion and partner in learning, or more experienced colearner, to that of personal counsellor (Robinson, Saberton & Griffin 1985; Saberton 1985). While some features of facilitation in a planned environment may be appropriate to draw upon, in this situation the facilitator has not the same relationship to learners and the learning milieu as is the case in a planned experience.

It is not necessary, and in many ways not desirable, to engage in noticing in an exhaustive manner. Awareness of all the factors and influences at work in a situation may be inhibiting especially when one's interventionist skills are limited. Trying to cope with too much information can be a difficulty: sufficient noticing needs to occur to allow meaningful interventions to be made and for learners to conduct themselves with some degree of confidence. If noticing is not taking place, to some extent, however, it is difficult to see how learners can enter fully into the learning experience.

§ Chris observes the staff in her unit, their work practices, their behaviour, their interactions with each other, with her, and with others in the wider organisation with whom they have contact. She monitors the flow of work into and out of her unit, she gets indications, mostly informal, from those members of the organisation who receive the output of her unit. She notices Tom's comments about her staff and attempts to connect these with the work performance that she has observed. She notices that his criticism seems to relate more to his presuppositions and values about the form of work to be completed and the people involved than to the quality of the output. She notices the way in which he speaks in her presence and her irritation with it. She notices that her staff react to more than the friendly instructions which she gives them, and that some respond in ways which are unexpected, particularly the man in her unit.

Intervening

Intervening refers to any action taken by learners within the learning situation affecting the learning milieu or learners. Sometimes, it is a conscious action flowing from and influenced by a reflective process, more often it arises from a partially formulated intent in response to the unique features of the milieu. At other times it can be unconsciously motivated. Our focus is on the deliberate actions of learners—the strategic interventions over which learners can exercise some control. Intervening is usually an overt action taken by learners, which can be noticed by observers of the event, but at times the very act of failing to make an overt intervention can affect the situation in significant ways and can thus be regarded as a particular form of intervention (e.g. when there is an expectation to respond but no response is given).

Learning from experience is an active process which involves learners not only in noticing, but in taking initiatives to extend and test their own knowledge. Learners who intervene are adopting an active approach to the experience and are making the most of the potential for learning which can be generated from the context. These initiatives are a positive intervention in the learning situation and enable learners to be fully engaged and to extend their learning, in Heron's (1981) terms, from propositional to practical and experiential knowledge. These actions can change the situation, create new experiences within the overall experience and determine how the situation will unfold. On the one hand, they can move learners from a passive experience to an active involvement in the situation. On the other, if defensive, they can cut learners off from further or deeper involvement in the learning event.

Reflection within the situation can also lead to a recognition of the feelings and thoughts that accompany intervention. This can be an important factor in appreciating these actions. If learners are aware of the feelings associated with a particular action, they can work with those feelings to enhance the action. This can be done by fostering feelings that promote the action, and by working to address those that impede it. The same is true of awareness of the intellectual activity associated with the action. It may well reflect presuppositions which limit or promote the action. Working with these thoughts can enable learners to act more freely and effectively, and understand themselves as learners.

Interventions are influenced by a number of factors: by the reflective process, by the learners' foundation of experience, by intent, by the skill of learners and by the learning milieu itself. The reflective process which runs through the experience is a very significant influence on the actions of learners within the situation. Learners are always actively working with the data of the situation and this influences the way in which they act. Some actions may be simple responses to the situation. Others may arise out of a combination of the data and the previous intents of learners. Even where some actions have been previously decided, or are being influenced by factors prior to the experience, their timing and the way they are actually performed will be influenced by the learners' reflection within the situation.

Interventions can also be influenced by the learners' personal foundation of experience. Some learners carry assumptions from the past, which can partially or totally paralyse them, so that they are not able to perform well. Strong feelings may arise in a given situation which prevent learners from expressing themselves, and the only way to help them intervene is to attend to the feelings which are blocking their ability to act or to encourage them to act contrary to their common assumptions in order for them to become more involved in the experience (e.g. to be bold and ask a challenging question or reveal their feelings to others). One of the greatest barriers to intervention is a feeling of inadequacy or embarrassment. This can so inhibit clear thinking that interventions are either entirely blocked or enacted so maladroitly that opportunities are lost. Similarly, feelings of confidence and willingness to 'give it a go', regardless of consequence, can generate their own momentum and carry learners through initial periods of discomfort. A facilitator who is present during the experience can help learners work with these feelings.

As mentioned previously, the way learners act within a situation is also influenced by the intent brought to the situation. First, there may be some actions, which learners had already decided on, that are performed at an appropriate time during the event. Second, of the many options for action, which arise from data collected during the event, some will be

chosen that relate to the initial reason for being there. Intent can give rise to interventions which test the knowledge, perceptions, skills and forms of behaviour acquired either before or during the experience. It can cause learners to focus on particular aspects of the learning milieu and to act in a way which explores those aspects more carefully than others. Sometimes, more general life intents, or the learners' interests, can be activated during a learning situation and can prompt learners to act in a way that is in keeping with them, but which seems contrary to particular intents articulated about the situation. General life intentions can be at least as significant as particular intentions in affecting the way learners act within the learning situation. For example, discovering a member of the work team is also a parent facing similar problems to one's own may lead to the exploration of parental issues, away from the ostensible reason for entering the situation.

Interventions will always be affected by the milieu itself. The learning milieu is dynamic: the influence of learners upon it creates an ongoing, developing experience which needs to be constantly monitored. This is particularly true when people are part of the learning milieu. Relationships with coworkers will affect how a person intervenes. Intervention to test or challenge the presuppositions of others can so affect them that the situation can change significantly, and an initial approach can lead to a series of actions which transform the situation and may create a potentially more creative context for learning. This will affect how learners intervene in the situation. A particular action already performed, which brought about a particular effect, may not achieve the same effect in the changed situation. Even actions which are not directly focused on the milieu itself can bring about a change in the learners' relationship to it. For example, learners' desire to record the data being observed can result in them losing contact with the milieu itself and miss other information that is available. A facilitator may suggest interventions and advise on how learners' interventions may be effectively carried out.

- ¶ Chris starts to vary the work she allocates not only because she believes this will improve efficiency, but also to help her understand more about members of her unit. She cautiously experiments with new practices, checking the work being done, trying to build her relationships with the two who are most remote from her; she gives new responsibilities for dealing with particular types of inquiry to individual staff members. Having tried these, she observes their effect carefully and makes further adjustments to get them to work well. She also forms a view about the strategy she should adopt with Tom and prepares herself by collecting the information necessary to assess her views.

SECTION 3

PREPARATION FOR THE EXPERIENCE

The ability of learners to make the most of an event's potential depends greatly on the amount of preparation. It is in the preparation for an event that a skilled and aware facilitator can often be of most benefit. A facilitator can help learners focus on what they bring to the event, introduce them to the context they will be entering and help them develop skills and strategies which will be of use to them when they are immersed in the event itself.

Focus on the personal

Once the general nature of a learning opportunity is known, a good place to start is with the learners: what do learners bring to the event, what do they want to get from the situation and how do they intend to get it?³ Facilitation, which helps learners to a greater appreciation of their personal foundation of experience and intent, and the relationship between them, is important at the preparation stage. This can involve assisting learners to bring to the surface the general and specific presuppositions which are relevant to the present learning event: working with feelings that may dispose them to, or turn them from, features of the event, and reminding them of their resources (special skills or strategies, especially those relating to noticing and intervening) that they may already possess. For example, learners might be asked to focus on what they expect to get out of an event, how it relates to their previous experiences, what they are looking forward to in it, what they fear might arise and what skills they bring that are going to help them. Time spent in preparation can significantly improve the learners' utilisation of the event's opportunities.

3 Of course, there are many situations in which learning opportunities are identified after the needs of learners have been explored. In these cases, there still needs to be consideration of learners once the opportunities are known.

Focus on the context

While learners' general goals may guide the overall strategy, the constraints and opportunities provided by the situation can modify and enhance aspects of these goals. An important element of this is briefing: an analysis of the situation and the making of plans to exploit particular features of the milieu. The questions to ask are: 'what are the opportunities?' and 'how can they be used well?'. This can involve introducing learners to the nature of the event, the characteristics of the culture, the local rules and the procedures. Facilitators can point to particular aspects of the event that they recognise as being particularly relevant to the learning under consideration. However, the perceptions of the facilitator and the learners can be vastly different, and a milieu is always richer and contains greater potential for learning than any one facilitator or learner can perceive. As a result, one cannot always be sure that the interaction of the learners with the milieu will take place along the lines intended by the facilitator. What the learners bring to the milieu may also open up potential and unforeseen opportunities. Part of learning from experience is the need to respond to situations for which preparation is incomplete or not possible and being open to events which one would not have chosen for oneself. It is important for briefing not to be so restricted to planned goals that the possibility of responsiveness is excluded.

Focus on learning strategies

Once the general goals are clear and opportunities identified, one can ask: 'how can learning be effectively directed?' and 'how can learners ensure that they get what they need?'. Means need to be developed to ensure that learning proceeds in the desired direction, taking account of both the milieu and the intentions of learners. The skill demanded by the situation will vary greatly and need to be assessed prior to entry so that there are opportunities for learners to develop what is required.

Developing noticing skills and strategies prior to the event can help learners enter more fully into it, even though they may need to be modified in the light of the demands of the task. These skills and strategies can help ensure that learners do not get so distracted by the dynamics of the event that they forget why they are there.

An example of such skills and strategies is that of maintaining a balance of attention—that is, to be able to take in occurrences which are observed, the processes which are enacted and, most importantly, to be aware of one's own reactions to these and one's internal affective state. Another simpler strategy is to prepare, in advance, means for prompting

the focus of attention on particular aspects of the experience which might otherwise be neglected. These strategies could take the form of observation schedules, checklists or timing devices to remind learners of the need to shift attention at various points in the encounter. Another example is the construction, in advance, of opportunities for stepping out of the event to attempt to make sense of what has been observed and experienced. At the simplest level, this may involve reminders to 'take a break' or make notes. Griffin's (1987) idea of learners naming the learning processes can be a useful focus at such times. A further example is to help learners find mechanisms which, when applicable, could be used to make a tangible record of what is noticed at the time. The flow of events can overlay early experiences and only through making some form of recording at the time can we readily recapture these. A wide range of techniques is available for recording, depending on the situation.

¶ Before starting the job, Chris took the chance to talk with her predecessor and Tom and undertook a short course for supervisors that was organised by the human resources department. She spent time familiarising herself with the work pattern and output goals and has worked out ways of noticing what is happening during the working day—she has prepared some charts to plot workflow and is planning to keep a journal which she will write up before she leaves at the end of each day.

Facilitators may also propose particular interventions which learners could implement, or ways in which learners' own interventions could be put into practice. One example of how they can help is by arranging opportunities for analysis of typical incidents and rehearsal of suitable responses. This may involve the use of case-study material, audio or video recordings of typical incidents, mental rehearsal of interventionist strategies, organisation of role-playing sessions to practice appropriate interventionist sequences and counselling of learners about their anxieties or uncertainties on entering situations that are inherently unpredictable. Preparation for intervention may also involve practice in the use of systematic forms of analysis such as Heron's six-category intervention analysis (Heron 1989). When interaction with people is part of the learning milieu, facilitators can assist with a range of social and communication skills, such as active listening, explaining, questioning, use of verbal and nonverbal communication, assertiveness, group interaction and leadership (see Carkhuff 1983; Egan 1977; Hargie, Saunders & Dickson 1987; Mulligan 1988).

When the situation involves objects and things, the facilitator may need to introduce various technical skills. For any given experience there may be specialist skills which are necessary (e.g. on a geological field trip

learners would be expected to have acquired certain abilities to identify and classify rock samples). There are also practical matters in any situation (e.g. planning, time management and recording). In addition to these two categories of practical skills, there is another which brings together noticing and intervening. This is the group of conceptual skills which is somewhat different in kind to the other two groups. Learners need to develop conceptual frameworks which will enable them to make sense of the experiences they have had and relate them to prior experiences and the world around them. Devices which are extremely useful in helping learners make such links are the concept map and the V heuristic (Novak & Gowin 1984), and the making of metaphors (Deshler 1990).

No matter how much preparation is undertaken, it is neither possible, nor desirable, to cover every eventuality. Part of learning from experience is dealing with the unexpected when it arises. There should be sufficient preparation to ensure that learners are able to remain conscious of their goals and act effectively even when they are confronted with personal challenges to themselves and to their assumptions. In dangerous situations (e.g. in some wilderness or factory process events), special care in preparation is needed to protect learners from physical harm, but events do not need to be physically risky for learners to be negatively affected by them. The psychological trauma of being faced with a personally disturbing situation may be such that learners are significantly set back in the achievement of their goals. This can be just as debilitating, but far less noticeable, as a broken arm.

SECTION 4

REFLECTION AFTER THE EXPERIENCE

Our approach to reflection after experience is already outlined in the preceding comments on reflection. We believe three elements are helpful: returning to the experience, attending to feelings and re-evaluation. The process of reflection can be carried out by the individual, who can work through the various stages alone. However, this places a burden on learners, who need to be able to step outside experiences that are personally very demanding; it is possible that this can lead to self-deception (Habermas 1974). Therefore it is important to recognise that others can play a decisive role in reflection after the experience. Facilitators and colearners can adopt an important listening role and can recommend, or help implement, a variety of appropriate techniques (Knights 1985). However, support can come from other quarters as well: from one's peer group (Cornwall 1979) and from support groups established within a particular profession, institution or location (Kirschenbaum & Glaser 1978). Those who assist need to remember that the learning outcomes of experience will be determined more by learners than by the one who designed the experience or who assisted in reflection on it. There are a variety of techniques, which are appropriate to the various stages of reflection, that can be used by learners or those assisting them.

Strategies for returning to the experience

Returning to the experience offers a clarification of the personal perceptions of learners, provides data for later processing and can bring about a distancing that can allow learners to view events from a variety of perspectives. Learners need to focus on observation here, and not on interpretation or analysis. Facilitators can assist learners by directing their attention to the events which have occurred and away from working with the material and judgments at this stage. They should particularly refrain from any interpretation or analysis of their own. This is a type of debriefing, which enables

deeper contact with the original experience prior to critical examination of it (Pearson & Smith 1985). Learners can return to the experience by running through the whole experience in their mind, by writing an account of it or by describing it to others. Attention to detail is important when this is done. As it is done, learners can make use of recordings made within the experience or check particular aspects with peers who shared it. This process often results in the emergence of new details, and may give new insights into, and a more detached approach to, the experience.

Strategies for attending to feelings

The affective state of learners can be crucial to the reflection that follows. Learners need to be aware of their feelings and be able to work with them. Facilitators can assist learners to raise their awareness of feelings by pointing to elements of their description of the experience: nonverbal signs which betray emotion, elements which are missing and repetitions which occur. They can then help learners work with them by suggesting appropriate strategies.

Positive feelings can lead to self-affirmation, increased confidence, greater clarity in understanding the experience and increased creativity in working with it. Facilitators can help learners to be aware of those aspects of the experience which were positive, creative and stimulating; aspects which are often overshadowed in the learners' minds by those that gave rise to less positive feelings. Bringing learners to a positive affective state is a good foundation for the re-evaluation of the experience that follows.

However, some of the feelings which emerge can distract from the reflection process and from further learning. Unless these are worked with, the experience could have only a negative effect on learners. They must be dealt with sensitively, discharged or transformed. Sometimes one-to-one situations (e.g. cocounselling) can help discharge them, at other times, supportive group work can help and they can be expressed, within the group, by anger, crying, animated speech or even laughter (Heron 1982). Writing feelings down is also a help in expressing and transforming them (Rainer 1980; Walker 1985).

Strategies for re-evaluating the experience

As we have discussed previously, four elements are involved here: association, integration, validation and appropriation. Association involves linking the ideas and feelings of the experience with former learning, to bring

about both an intellectual and affective challenge. An important technique in making associations is that of free association in which rational and analytical judgments are suspended to allow various connections to be made. This can be done by a variety of means: for example, writing, drawing, using audio tapes or by talking. Brainstorming techniques can also be helpful here, whereby associations can be made without criticism, evaluation or comment prior to subsequent appraisal (Osborn 1953; Davies 1971).

Integration involves working with the data provided from the experience and the association to explore the relationships within it, and to draw conclusions about it. Synthesis is the goal of this phase. Facilitators can contribute to this process by suggesting appropriate techniques. When dealing with cognitive material, diagrammatical techniques can be helpful, for example 'mind maps' (Buzan 1982), concept maps (Novak & Gowin 1984) or Venn diagrams (White 1982). These are visual portrayals of the links, interconnections and overlap of ideas, concepts and phases that can clarify and organise knowledge. When dealing with areas, which are not conducive to visualisation, analogies, similes and metaphors may be more appropriate (Deschler 1990). Where interpersonal relationships are involved, repertory grids have been used effectively (Candy, Harri-Augstein & Thomas 1985)

Validation is the testing of the syntheses we have been working with: exploring their consistency with our previous experience and the experience of others. Validation requires the application of the new learning so that it can be tested in practice. This can be done in an appropriate, factual situation in which the learning would normally be applied. However, it may also be worked through in role-plays or simulations, in which the learning involved can be tested in a situation created by a facilitator (e.g. Van Ments 1983) or by a supportive group (e.g. Gibbs 1983). It may also be tested internally by rehearsing it within the minds of learners. Learners visualise the situation required, and works through the steps necessary to validate the new learning. This process can be greatly enhanced with the help of a facilitator who can deepen it by the use of guided imagery. In this way learners are actually led through the steps necessary for validation. This process does not rest solely on the skills of learners, and can open up possibilities which go beyond what learners alone can do.

Appropriation means making the learning one's own, drawing it within in a very personal way. Not all learning is appropriated in this way—only that which is going to be a significant influence in our personal living and in the light of which other learning will be evaluated. This area is the least predictable of the process of reflection, and the one that can probably be least assisted by formal techniques and the actions of facilitators. However, facilitators can make learners aware of this element of reflection,

and alert them to how it may be recognised. This learning becomes part of the world view of learners to the extent that a challenge to it can seem like shaking the very foundations on which all their learning rests.

¶ In Chris's work she finds it difficult to know when one experience has ended and another has begun. However, after the first two weeks she makes a conscious effort to review what has been going on. She looks back through her diary and follows each sequence of events: her interventions with Tom, her initiatives to promote commitment to the task and her conversations with staff members. She takes note of her emotional response at the time and how she feels now. She decides what she has the energy for and what she does not. She decides to draw a map of her strategies, putting each goal in the centre of a separate sheet and arranging her actions and their effects around them. As patterns begin to emerge, new ideas come to mind. She identifies people she can talk to. She met someone on the supervisors' induction program with whom she can share her feelings and someone she thinks has probably been through the same frustrations and may have some good advice. She makes a note of what has worked and thinks that while there is a huge amount more to be done, she has achieved two things which, though modest, give her satisfaction and the desire to persist.

Reflection after the experience can affect the personal foundation of experience of learners, and can help ensure that new perspectives on experience will be present in the future. The new learning which flows from reflection can not only change future approaches to events, but can also affect the behaviour of learners, as well as providing learners with an insight into how they learn. Other possible outcomes of this reflection are a greater readiness to apply what has been learned, and a deeper commitment to action. Some of the benefits of reflection can be lost if they are not linked to action: some understandings can disappear if they are not applied in new situations. Reflection after the experience plays a crucial role: becoming aware of the personal, political and socio-cultural dimension of the learning process. It can shed light on both learners and the learning milieu and reveal that the learning process is not simply individual but also social, and that social and cultural norms and expectations can determine the very nature of the experience itself. It is important to realise how much individuals are socialised by their environment and their past experiences. Even reflection is essentially a social and political event. It is deeply affected by social forces and can indeed should be directed, towards social change (Kemmis 1985).

Conclusion

Usher (1985) and others have pointed to the extraordinarily complex nature of experience. We have tried to shed some light on this complexity by examining experience as an interaction between learners and the learning milieu. This approach has emphasised the importance of learners and of what learners bring to the situation, and has shown that it is the learners' involvement with the event that constitutes the learning experience. Our exploration of the nature of experience has singled out the personal foundation of experience and intent of learners, and two important aspects of the interaction between learners and the learning milieu: noticing and intervening. Central to our understanding is the reflection process (reflection-in-action) which is constantly active within the experience, fed by what is noticed within the milieu and expressed in the interventions of learners. We have endeavoured to provide some practical help to those who wish to work actively with experience-based learning in their own pursuit of knowledge or in their facilitation of the learning of others. We hope as well that we have provided a stimulus to encourage others to explore further the nature of experience and the learning that stems from it.

The approach we have taken focuses on the construction of learning from experience as an intentional act. It is based on the premise that learners are actively pursuing knowledge and will find opportunities for learning in a variety of situations, no matter whether they are formally labelled 'training' or 'education' or not. This is true of much workplace learning, but clearly not all. In many circumstances it is appropriate to use a training approach in which goals are specified for learners and special purpose activities are designed to work towards the most efficient acquisition of knowledge and skills possible. The approaches adopted are dependent on how we view learning and the context in which we operate (Boud 1987; Weil & McGill 1989). There is no *right* approach or even a best approach for a given situation. This may be disturbing for those who have an explicit training role, but a diversity of approaches is merely a reflection of the many stances which can be taken to learning from experience. It is a rich field with much to be generated.

References

- Ausubel, D.P., Novak, J.D. & Hanesian, H. (1978), *Educational Psychology: A Cognitive View*, 2nd edn, Holt, Rinehart & Winston, New York.

- Boud, D.J. (1987), 'A facilitator's view of adult learning', in D.J. Boud & V. Griffin (eds), *Appreciating Adults Learning: From the Learners' Perspective*, Kogan Page, London.
- Boud, D.J. (1988), 'Further reflections on a model of reflection', *A Quarterly Experience* (newsletter of the Australian Consortium on Experiential Education), vol. 19, pp. 13-17.
- Boud, D.J., Keogh, R. & Walker, D. (1985), 'Promoting reflection in learning: A model', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Boud, D.J. & Walker, D. (in press), 'Making the most of [the] experience', *Studies in Continuing Education*, vol. 12, no. 2.
- Boxer, P. (1985), 'Judging the quality of development', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Bruner, J. (1966), *The Process of Education*, Harvard University Press, Cambridge, Mass.
- Buzan, T. (1982), *Use Your Head*, British Broadcasting Corporation, London.
- Candy, P., Harri-Augstein, S. & Thomas, L. (1985), 'Reflection and the self-organized learner: A model of learning conversations', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Carkhuff, R.R. (1983), *The Art of Helping*, 5th edn, Human Resource Development Press, Amherst, Mass.
- Carr, W. & Kemmis, S. (1986), *Becoming Critical: Knowing Through Action Research*, 2nd edn, Falmer Press, Brighton.
- Cornwall, M. (1979), *Students as Teachers: Peer Teaching in Higher Education*, Cowo-Publicatie 7906-01, University of Amsterdam, Amsterdam.
- Davies, I.K. (1981), *The Management of Learning*, McGraw-Hill, London.
- Deshler, D. (1990), 'Metaphor analysis: Exorcising social ghosts', in J. Mezirow & associates, *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*, Jossey-Bass, San Francisco.
- Egan, G. (1977), *You and Me: The Skills of Communicating and Relating to Others*, Brooks Cole, Monterey, Calif.
- Gibbs, G. (1983), 'Using role plays in interpersonal skills training: A peer learning approach', *Simulation/Games for Learning*, vol. 13, no. 4, pp. 147-55.
- Griffin, V. (1987), 'Naming the processes', in D.J. Boud & V. Griffin (eds), *Appreciating Adults Learning: From the Learners' Perspective*, Kogan Page, London.
- Habermas, J. (1974), *Theory and Practice*, Heinemann, London.

- Hargie, O., Saunders, C. & Dickson, D. (1987), *Social Skills in Interpersonal Communication*, 2nd edn, Croom Helm, London.
- Heron, J. (1981), 'Experiential research methodology', in P. Reason & J. Rowan (eds), *Human Inquiry: A Sourcebook of New Paradigm Research*, John Wiley, Chichester.
- Heron, J. (1982), 'Education of the affect: The unexplored domain', in T. Habershaw (ed.), *Three Ways to Learn*, Standing Conference on Educational Development, Birmingham.
- Heron, J. (1989), *The Facilitators' Handbook*, Kogan Page, London.
- Kemmis, S. (1985), 'Action research and the politics of reflection', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Kirschenbaum, H. & Glaser, B. (1978), *Developing Support Groups*, University Associates, La Jolla, Calif.
- Knights, S. (1985), 'Reflection and learning: The importance of a listener', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Lindsay, P.H. & Norman, D.A. (1972), *Human Information Processing*, Academic Press, New York.
- Marton, F., Hounsell, D. & Entwistle, N. (eds) (1984), *The Experience of Learning*, Scottish Academic Press, Edinburgh.
- Mulligan, J. (ed.) (1988), *The Personal Management Handbook*, Sphere, London.
- Novak, J.D. & Gowin, D.B. (1984), *Learning How to Learn*, Cambridge University Press, Cambridge.
- Osborn, A.F. (1953), *Applied Imagination*, Scribner, New York.
- Parlett, M.R. (1977), 'The department as a learning milieu', *Studies in Higher Education*, vol. 2, no. 2, pp. 173-82.
- Parlett, M.R. & Hamilton, D.F. (1972), 'Evaluation as illumination: A new approach to the study of innovatory programs', Centre for Research in the Educational Sciences, Occasional Paper no. 9, University of Edinburgh. Reprinted in Parlett, M.R. & Dearden, G.J. (eds) (1977), *Introduction to Illuminative Evaluation: Studies in Higher Education*, Pacific Soundings Press, Cardiff-by-the-Sea, Calif.
- Pearson, M. & Smith, D. (1985), 'Debriefing in experience-based learning', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Pedler, M. (ed.) (1983), *Action Learning in Practice*, Gower, London.
- Robinson, J., Saberton, S. & Griffin, V. (eds) (1985), *Learning Partnerships: Interdependent Learning in Adult Education*, Department of Adult Education, Ontario Institute for Studies in Education, Toronto.
- Rainer, T. (1980), *The New Diary*, Angus & Robertson, Sydney.

- Saberton, S. (1985), 'Learning partnerships', *HERDSA News*, vol. 7, no. 1, pp. 3-5.
- Säljö, R. (1979), 'Learning in the learners' perspective II: Differences in awareness', *Institute of Education Reports No. 77*, University of Gothenburg, quoted by Usher (1985).
- Schön, D.A. (1983), *The Reflective Practitioner: How Professionals Think in Action*, Temple Smith, London.
- Schön, D. A. (1987), *Educating the Reflective Practitioner*, Jossey-Bass, San Francisco.
- Smyth, W.J. (1986), *Reflection-in-Action*, Deakin University Press, Geelong, Victoria.
- Tart, C.T. (1975), *States of Consciousness*, Dutton, New York.
- Tough, A. (1979), *The Adult's Learning Projects*, 2nd edn, Ontario Institute for Studies in Education, Toronto.
- Usher, R.S. (1985), 'Beyond the anecdotal: Adult learning and the use of experience', *Studies in the Education of Adults*, vol. 17, no. 1, pp. 59-74.
- Usher, R.S. (1989), 'Locating experience in language: Towards a poststructuralist theory of experience', *Adult Education Quarterly*, vol. 40, no. 1, pp. 23-32.
- Van Ments, M. (1983), *The Effective Use of Role-Play*, Kogan Page, London.
- Walker, D. (1985) 'Writing and reflection', in D.J. Boud, R. Keogh & D. Walker (eds), *Reflection: Turning Experience into Learning*, Kogan Page, London.
- Weil, S.W. & McGill, I. (eds) (1989), *Making Sense of Experiential Learning*, Society for Research into Higher Education and the Open University Press, Milton Keynes.
- White, R.T. (1982), 'Two lessons in one: What you taught and what they learned in science', *Set: Research Information for Teachers 1*, item 7.
- Winter, R. (1989), *Learning from Experience: Principles and Practice in Action-Research*, Falmer Press, London.

READINGS

THEORIES OF ACTION THAT INHIBIT INDIVIDUAL LEARNING

C. ARGYRIS

C. Argyris, 'Theories of action that inhibit individual learning', *American Psychologist*, vol. 31, no. 9 1976, pp. 638-54.

ABSTRACT: *A theory of action perspective is applied to adult learning problems, including becoming a more effective leader. Results suggest that adults may not be able to discover-invent-produce the learning that is necessary to behave more effectively; that they may be unaware of this possibility; and that if they try to get help from well-intentioned others, it will tend to make things worse. The results are applied to the adult educational perspectives represented by Fiedler and Vroom and their respective collaborators.*

A thermostat may be said to be capable of learning when the room temperature goes above or below the point at which it is set and of taking corrective action. We may call this *single-loop learning*. The thermostat, however, is not able to ask itself the question of whether it should be set at 68 degrees, or if it should be measuring the temperature, or if there are better ways to measure the temperature. To do so would be to question its design and its purpose and would indicate the capacity for *double-loop learning*.

Double-loop learning is important because without it individuals are not able to reexamine their values and assumptions in order to design and implement a quality of life not constrained by the status quo. Elsewhere it has been suggested that the increasing concern about the capacity of the helping professions (especially in mental health, education, divinity, medicine, and law) to correct some of their acknowledged rigidities requires professionals who are able to double-loop learn while they are practicing (Argyris & Schon, 1974). Double-loop learning perspectives may also be important if rigorous social science methodologies are to be redesigned so that they generate knowledge about human options that go beyond the status quo (Argyris, Note 1).

This article presents some recent findings which suggest (a) that human beings may not only be unable to double-loop learn, but also that (b) they tend to be unaware of this inability; therefore, (c) becoming aware of the unawareness is a crucial first step in reeducation; but, if successful, such a

step (d) tends to be threatening; and (e) this threat can act to inhibit the very learning we are trying to produce. These findings are relevant to the design of reeducation activities at all levels of our society. For example, citizen participation to solve critical questions that require double-loop problem solving will not work without reeducating people in the concepts and skills of double-loop learning. The same should be the case in reeducating mental health practitioners, teachers, social workers, etc. (Argyris & Schon, 1974).

In succeeding sections of this article, these reeducation implications for the field of leadership and leadership education are illustrated. These fields have long been of central concern to social psychology (Hollander & Julian, 1969; Stogdill, 1974), industrial and organizational psychology (Argyris, 1976b), and personality psychology (Hollander & Julian, 1968), as well as to our sister disciplines of organizational sociology (Argyris, 1972) and political science and microeconomics (Argyris, 1973). Indeed, if these findings are confirmed, then our sister disciplines may find it necessary to look to psychological-level knowledge to begin the more macrochanges upon which they focus (Argyris & Schon, Note 2).

Theories of Action Espoused and Theories-in-Use

The psychological-level knowledge to which I refer is related to individual theories of action. People may be said to hold in their heads microtheories of action, which they use to design and carry out their actions (Argyris, 1976b; Argyris & Schon,

I should like to thank Clay Alderfer, Lee Bolman, J. Richard Hackman, William Torbert, Richard Walton, and Sheldon White for their helpful comments.

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1974). "If you want to motivate so and so under such and such conditions with such and such consequences, then behave in the following way" is the kind of proposition contained in such theories, and many hold to such theories with tenacity.

Yet few people are aware that the theories they espouse are not the theories they use. Why should people hold espoused theories that are not their theories-in-use? One reason is because they are blind to the fact that they do not behave according to their espoused theories. They are blind for two reasons: First, most of us are programmed with theories-in-use that do not teach us to reflect accurately on our behavior and its impact, especially while we are interacting with others, and second, most of us are also programmed not to tell others when we experience them behaving incongruently with what they espouse.

It is puzzling to consider that we may hold theories-in-use that prevent us from on-line reflection and encourage others to keep us in the dark about our incongruities. Indeed, it is bewildering because when these two consequences are put together, it means that there is a very low probability that we can ever become aware of our theories-in-use and therefore change them. If we cannot change our theories-in-use, then we are prisoners of these theories. It follows that human beings who have the capacity for free will may create theories-in-use that greatly restrict their free will and be blind to this restriction.

The nature of these theories-in-use has been discussed in detail elsewhere (Argyris, 1976b; Argyris & Schon, 1974) and in this Journal (Argyris, 1975). Briefly, these theories-in-use have two basic components. The first component is the values that the holders attempt to satisfy. We call these the governing variables because all behavior is designed to satisfy as many of the governing variables as possible. The second component is the behavioral strategies that people use. We have identified four major governing variables. Briefly, they are (a) to define unilaterally the purpose of a situation, (b) to win and not to lose, (c) to suppress feelings, and (d) to emphasize intellectual aspects of everyday life. In order to satisfy these governing variables, people tend to use behavioral strategies such as (a) advocating a position and unilaterally controlling others in order to win that position; (b) unilaterally controlling the tasks to be done; and (c) unilaterally deciding how much people are to be told, how much is to be withheld, and how much they are to be deceived about what

is being distorted and withheld.

These two components lead to three consequences. First, the world in which people live and work tends to become more defensive and less open. For example, people become wary of being manipulated and controlled, hostile about being pushed around, and angry toward themselves for remaining in such situations. Second, the learning that is possible under these conditions is, at best, single-loop learning. It is rarely possible to test ideas publicly; hence a lot of the learning tends to be self-sealing. We learn what we predicted we would and/or what others predicted we wanted to learn. Third, under these conditions, problem solving tends to be ineffective for the difficult and threatening issues whose discussion might violate the governing variables (Argyris & Schon, 1974).

If we combine the governing variables and the behavioral strategies with the three sets of consequences, we have a model of how most people are programmed and an explanation of why they inhibit their own and others' double-loop learning. We call this the Model 1 theories-in-use (Argyris & Schon, 1974).

People programmed with Model 1 theories-in-use will therefore naturally inhibit double-loop learning without realizing it. Others may realize the inhibition, but because they too are programmed with Model 1, they will hide that information lest they upset people and thereby generate negative feelings. They may try to communicate indirectly, but the recipients tend to overinterpret the indirection as the actor being defensive. The recipient will in turn keep that interpretation secret and begin to act "carefully." Soon we have self-sealing, nonlearning processes.

The number of people that we found holding Model 1 theories-in-use was so high (over 95% in nearly 1,000 cases of varying age, sex, color, status, etc.) that we immediately wondered if the results were not an artifact of our theory or methodology. We now doubt this, for several theoretical and empirical reasons. At the empirical level, we have been able to use Model 2 to predict accurately the future behavior of our subjects. As the reader can see below, we were able to predict the subjects' behavior accurately, even when it went against the subjects' predictions of their own behavior, and these predictions were made openly and were subsequently validated by the subjects. Also, we have been able to help people move from Model 1 toward Model 2 by designing learning environments based on the diagnosis that they were programmed with

Model 1 theories-in-use. As is indicated later in this article (and in more detail in Argyris, 1976b), moving from Model 1 toward Model 2 is too costly and painful a process for people to undergo willingly unless they can be shown (through their experience) that it will lead to the desired results. Finally, there are many cases on record where people have not been able to produce Model 2 behavior, but we have produced it, and the behavior was acknowledged by the others to be Model 2.

The theoretical explanation that one would predict from our framework is that people programmed with Model 1 theories-in-use will not tend to move toward Model 2, even if they desire to do so. For example, one cannot learn double-loop learning given single-loop competencies; one cannot advocate and inquire if one is programmed to advocate and control others unilaterally; and one cannot value free and informed choice if one values winning, not losing, and defining and controlling the purpose(s) in an encounter or situation (Argyris, 1976b).

Theories-in-Use, Adult Learning, and Leadership

The focus is on how to help people learn to become more effective in their problem-solving activities and in increasing the quality of life in their environment. The interest is to help people to learn how to double-loop learn; how to produce disconfirmable statements; and how to advocate articulately what they deeply believe in, yet simultaneously encourage inquiry, especially about whatever they are advocating. If children are acculturated to Model 1 theories-in-use, then our learning goal for adults may be conceived as unfreezing Model 1 in order to help them learn Model 2, with the ultimate goal of using each model for the conditions under which each is most appropriate (e.g., Model 1 for programmed routine decisions, and Model 2 for the unprogrammed, non-routine decisions).

We focus on learning settings in which much of the learning must come from the other students instead of primarily from the faculty. Also, the problems that our subjects attempt to solve are not puzzles or games, like chess (i.e., where there are known solutions and where there is a predetermined structure). Indeed, what is a problem cannot be determined by the subject alone, and his or her behavior toward others can influence significantly the quality and the quantity of the learning.

Such learning experiments are different from the mainstream of studies on childrens' learning, in which, as White and Fishbein (1971) have shown, the tendency is to focus on problems that are highly structured, relatively simple, and with a short time perspective. One of the reasons that these types of problems have been chosen is that children served as the subjects. Another important reason is the researchers' view of what is required to understand and predict rigorously.

The latter reason generates a dilemma for our work. Rigor is necessary. But the methods presently accepted as meeting the standards of rigor approximate Model 1 (Argyris, 1975). We cannot use a Model 1 technology to help people learn Model 2. The incongruity would soon become apparent to the subjects, and our credibility, as educators, would be questioned.

The research methods used must meet certain criteria. They must not rule out the complexity of real life, or if they do, they must specify how the knowledge learned in the experimental setting can be used in the noncontrived world. They must involve the subjects easily and deeply so that they maintain their interest over long periods of time. They must not require keeping secret the design of the experiment from the subjects; indeed, they should permit their involvement without losing the power of making generalizations about human learning. They must be capable of eliciting behavior, on the part of the subjects, in such a way that they cannot hold the design responsible for their actions (otherwise, they may see no reason to accept personal responsibility for their behavior). They must be so powerful that the intended consequences can be brought about even though the subjects may question initially their applicability and effectiveness (but not their moral validity), even though the subjects are not able initially to behave in ways required by the experiment, even though the group behavior initially will be counterproductive, and finally, even though there will be few societal supports or rewards for learning the new behavior (otherwise we would be educating for the status quo). And all of this must be accomplishable under the conditions of telling the subjects these requirements.

In these studies, learning first includes helping people become aware of their espoused theories, of their theories-in-use, of any inconsistencies within each, and of any discrepancies between the two. Second, learning means helping individuals move toward Model 2 theories-in-use in such a way that

they can use their newly acquired knowledge and skills outside the learning environment, and under conditions of zero to moderate stress.

Three different studies are described in the next three sections of the article. The three studies were designed to help the subjects learn (as defined above), to help us learn more about how adults learn, and to help us learn how to help people in leadership positions learn Model 2 theories-in-use. The focus is on the following three major findings: The first finding is the existence of a consistent and systematic unawareness on the part of our subjects that they were not able to discover, invent, and produce what they said they could discover, invent, and produce. For example, in Study 1, the subjects were behaving counterproductively to their learning goals and were unaware of it. The second finding is the awareness that subjects were unable to discover the causes of their problems, to invent new solutions, and to produce these solutions in the noncontrived world. The third finding was the requirement for subjects to face and to overcome their fears of experimentation as well as their fears of fear if they were to behave competently in the real world.

Study 1: Education in Planning and Architecture

The first study was about a concerned and innovative teacher (A) in a leading school of planning and architecture. A had designed a course to help the students experience the complexity of real-world problems and to help the students realize that one of their crucial learnings that should come from their professional education is to design, for themselves, effective roles in the complex world of planning and architecture practice.

In order to illustrate the findings, five of the most frequent student behavioral strategies are presented in the next section.

EXAMPLES OF WHAT STUDENTS SAID DURING THE COURSE

1. They [the planning organization] damn well knew what they should do, but they got caught up in a process. They really didn't want to be advisors, they wanted to be planners, they wanted to have the power; they were poor bargainers.

2. I think there are things on the East Coast that are just as spectacular, it's just that they've been destroyed. [On the West Coast] they care more than the East Coast.

Instructor: Can you run that over further?

Student: Well, the East Coast had beautiful space and let it go. On the East Coast they don't care.

3. [Architects are going] to have to learn to be more like

lawyers and become politicians. . . . Lawyers are political animals. . . . Architects have never been aware of politics. . . . It's been a gentlemen's profession, and it's just gonna have [to wise up]. . . .

4. I think another difference between the law and politics is that when you go into litigation, you argue and then you're either right or wrong. . . . Law is very much either/or.

Instructor: [Then law] has agreed-upon standards?

Student: I don't know, I guess what I'm trying to say is that it's a win/lose thing. . . . Whereas in politics they can break down into the nitty-gritty.

5. [Speaking about planners] I know where I used to live they were definitely . . . saying, "We're going to develop this area as a resource for the whole city. . . ." And they really didn't care about the community. And about providing housing for people who are already there. And I think that they have to face the community, now, and they still don't like it as far as I can tell.

From these comments, the following behavioral strategies may be inferred:

1. In the first example, the student makes attributions and evaluations about the planning organization and is not asked to provide evidence for the attributions. The instructor could have asked, "What did you read or hear them say that leads you to the conclusion that (a) they were caught up in a process, (b) they didn't want to be advisors, and (c) they wanted power, etc.?"

2. In the second example, the student makes attributions about coast line and motivations of people on both coasts without presenting any data to back up these views nor making explicit how she arrived at her views. The instructor asks a probing question presumably to get the student to reflect on the comments. The student responds by continuing the attributions and evaluations. The instructor does not confront the student about this nonresponse to his question, for example, "How did you arrive at the attribution that people on the East Coast don't care?"

3. In the third example, the student makes an untestable generalization about lawyers whose substance is that architects will have to become like lawyers (yet this student and other students were condemning the political behavior of people who got the cities in the present mess). The instructor might have said, "On the one hand you say that one of the problems with city planning is that there are too many politically minded people in it who care only for their self-interest. On the other hand, you appear to admonish architects to do the same."

4. In the fourth example, the student says law and lawyers are more win or lose, right or wrong than architects. When the instructor attempts to develop the basis for the student's attributions, the

student replies *simultaneously* that (a) he does not know yet, but (b) he is sure that law is win or lose, whereas politics is more bargaining. (If any lawyer had heard the comment, he or she would have commented that many legal problems are handled by bargaining.) The instructor might have said, "Are you saying that you do not know much about the law, yet you can state that most of its activities are win or lose? How do you know?"

5. In the fifth example, students make untestable attributions about motivations of planners then and now. Students provide no data to illustrate their attributions. The instructor could have asked, "What did you experience? What in their behavior led you to conclude that they did not care for the community?"

TO SUMMARIZE

Students make untestable and untested attributions, make untestable evaluations, express their feelings and views in a way that does not invite or encourage confrontation, and act as if as long as they acknowledge that their views are personal, they will not be required to present supportive data. This role behavior is high on advocacy and high on control. The teachers and students manifest similar theories-in-use and similar role behavior.

POINTS TO BE EMPHASIZED

There was an incongruity between the teacher's espoused theory and his theory-in-use. The teacher was apparently blind to the incongruity. The same was true for the students who spoke. The students did not confront the teacher with his incongruities, nor did the teacher confront the students with their incongruities. If the students were aware of the instructor's incongruities, perhaps his blindness to the incongruities plus his warmth and dedication to the student learning combined to inhibit them from surfacing the issue.

It is important to emphasize that we are reporting more than that people do not behave congruently with what they espouse. We are reporting that people are not aware of the theories-in-use that inform their behavior.

The theories-in-use led all parties to develop a Model 1 role relationship with each other. This made it unlikely that the faculty member would accomplish his goals for the course. The students rated the course very highly but were unable to

specify concretely what they learned during the semester. Neither the students nor the faculty member appeared aware that no one was learning to create new roles for professional practice.

One way to explain why learning did not occur under supportive conditions is to focus on the learning process. Learning may be said to involve discovery (of the problem), inventing (conceptual map) a solution, producing (performing in terms of actual behavior) the invention, and generalizing what one has learned to other settings (see Figure 1).

How could the instructor have learned about the problems that we discovered? He could have learned by feedback from the students. But the students did not appear to be aware of the discrepancies that we noted. They cannot help someone discover something that they are not aware of. Another possibility is that the instructor could have invited such feedback. But to do so would be to focus on double-loop learning (i.e., questioning his and others' theories-in-use), a capacity that is not possible with Model 1 theories-in-use. People programmed with Model 1 theories-in-use are unable to discover the problems that we have identified above, *and* they tend to be unaware that they are unaware that they cannot discover dysfunctional aspects of their Model 1 theories-in-use (i.e., they cannot double-loop learn; Argyris, 1976a) Let us explore this generalization further.

Study 2: Knowledge of Model 2 and the Effect of Practice

We have not explored two additional hypotheses that may account for the generalization that Model 1 people are unaware of the fact that they cannot discover. The first possibility is that the instructor was not aware of Model 2. If he knew Model 2,

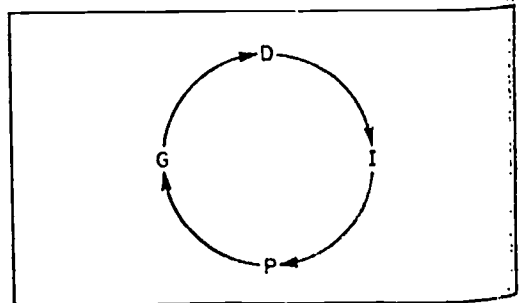


Figure 1. The learning cycle. (D = discover, I = invent, P = produce, G = generalize.)

then he could begin to behave accordingly and begin to discover. The second possibility is that the results occurred because of a lack of practice. If the leader had had more practice with Model 2, he would be able to discover.

Let us explore the hypotheses indicating that awareness of, and practice with Model 2 would help to correct these problems. We have experimented with teaching Model 2 and providing opportunities for practice in a dozen different learning environments. The number of students in each environment ranged from 6 to 125. The results are consistent. Knowing the models and having the opportunities to practice (under supportive conditions) may be a necessary, but not sufficient, condition that people can discover-invent-produce-generalize about the new behavior (Model 2).

For example, let us take a class of 100 students. The majority were people who had 2-10 years of experience as educational administrators, teachers, middle management, governmental officials, middle- and top-level city and state officials, and a few first- and second-level business managers. All read a book that described, in detail, Models 1 and 2. The models were discussed in three 2-hour class sessions. Toward the end of the sessions, oral examinations were held which illustrated that the class members knew the key concepts in both models. Also, the students reported a strong interest in learning to behave in accordance with Model 2.

At the beginning of the fourth session, the students were asked to read a short case. It read as follows:

One of your subordinate. has been performing inadequately for several months now. You've talked to him/her several times, and each time he/she has promised that performance would get better, but you don't see any evidence of this. Since you prefer not to fire him/her, you decide to make one more attempt. He/she walked into your office and asked:

Other: Did you want to see me?

They were asked to discover-invent-produce a solution. The production should contain two parts: a short scenario of what the students as the actors in the case would say and do, plus their feelings and thoughts about their behavior. In one-half hour, all but five students had completed the assignment in class. The others required a few more minutes. The students kept the original copy for a week to think about it and to prepare to discuss the case in class. They gave the carbon copy to a faculty member.

During the period between classes, the faculty

member analyzed the cases to infer the degree to which they approximated Model 1 and Model 2. All of the scorable cases (about 85) were categorized crudely in terms of the behavioral strategies manifested by the actors. The following six behavioral strategies were identified:

1. The respondent (R) attempts to get directly to the point that the subordinate (other = O) is not producing adequately. An illustrative extract follows:

THOUGHTS AND FEELINGS EXPERIENCED BUT NOT COMMUNICATED SCENARIO

Hope this won't hurt his feelings too much.

R: Yes . . . I'm disturbed because I don't see much improvement.

He doesn't really understand that there's a problem. That's a lie about more work.

O: I think [my work] has improved. I've had more work lately so that may be why you think there are more errors.

This is aggravating. I ought to just fire him, but actually he's kind of nice and comfortable to have around.

R: I don't agree that you've had more work to do. In any case, I simply can't go on seeing this kind of work. What do you think we ought to do?

2. The respondent believes that other is wrong, but he wishes to start out indirectly and hopefully on a positive note.

Instead of telling him my thoughts, I'll let him tell me his.

R: Yes, I wanted to ask you how you thought things were going. How do you feel about your work?

O: I think I've improved somewhat.

We have a different view of things. Something must really be wrong. Maybe if I can try to show him that I really am not being attacking and don't want to fire him, he might feel that he can talk about it.

R: Could you tell me exactly what you mean? I feel things have not improved and I'd like to try to get your feelings of where the problem is. I want you to really tell me honestly what's been bothering you. You've always done well in the past and I think you can do well in the future.

3. The respondent couches the issue by asking if he (the respondent) is a problem ("Yes, come in, I want to talk about a problem that I have.").

4. The respondent begins by describing his feelings of discomfort, by attempting to place other at ease, and then by describing the problem with other's performance.

5. The respondent asserts that other has a prob-

lem, that the respondent is there to help and not to punish (not to fire).

6. The respondent asserts that both have problems and perhaps both can be of help to each other.

All of these behavioral strategies approximate Model 1. No matter how direct or indirect, how warmly or coolly the interviews began, the respondents tended to approximate Model 1 theories-in-use. To illustrate how this judgment was reached, let us examine one of the scenarios:

1. The respondent began by telling other that he was disturbed because there had not been any improvement in his work (illustrates making judgments without publicly testing them).

2. The respondent's first feelings (see left-hand side of the column) illustrate an attempt to satisfy the Model 1 governing variables of minimizing the expression of negative feelings.

3. The respondent's second comment (on the left-hand side) was an assessment made of other, stated in such a way that it was not testable. Moreover, no attempt was made to test it publicly.

4. The covert assertion that other was lying was not tested publicly, partially so as not to arouse hostility.

5. The feelings of aggravation were suppressed (again minimizing the expression of negative feelings).

6. The respondent asserted that organization could not be used to fulfill other's needs; other must perform. Yet the respondent, by being willing to keep other when he believed that other should be fired, was fulfilling his personal needs in a way that may be inimicable to the organization.

7. The first two sentences in the final intervention illustrated the respondent taking unilateral control. The last sentence appeared incongruent with unilateral control. Other probably experienced it as the crucial question, that is, What was the actor going to do?

How consistent are these responses? If we examine scenarios that are 5-10 times longer than these, the patterns remain the same. That is, if the individuals begin with a Model 1 theory-in-use, they continue using the same theory-in-use. The changes that may be noted are that the dialogues become even more entrenched in Model 1, and the inconsistencies become more pronounced and glaring. The self-sealing processes become compounded, and the level of holding back and/or deception increases (Argyris, 1976b; Argyris & Schon, 1974). Moreover, these results continue when

people use different modalities to express themselves (e.g., going from writing to speaking to tape recording). Such data also help to strengthen the validity of the diagnosis because Model 1 theories-in-use are obtained with the use of different modalities.

The class was given a three-page paper that contained the six cases described at the outset. The students were asked to break down into small groups and to study the first case. (The first case was chosen because it represented the most frequent strategy used by the students.) They were asked to become consultants to the writer of the case. Their task was to design an intervention to help the writer of the case cope with the problem in ways that approximated Model 2. They were asked to invent a strategy and to appoint someone to produce the strategy.

After one-half hour of small-group discussion, the class reassembled. The faculty member said that he would take the role of the writer. Each group representative would describe the intervention that they invented, and then he or she would produce it through role playing.

The faculty member asked that the class monitor his behavior to make certain that he was not making it difficult for each group representative. The dialogues were all tape recorded, and samples are presented below.

Eleven small groups invented solutions to help the writer of the cases (acted by the faculty member) behave in a more Model 2 manner. All of the inventions represented a mixture of Model 1 and Model 2 theories-in-use, as these examples illustrate:

(a) "He [the superior in the first case] should create an atmosphere where both can be open and share their feelings." (b) "He should clarify for her the concrete expectations of work performance and the area that prevented him from firing her in spite of the inadequate performance." (c) "He should help create a climate where the solution can be reached through a mutual definition of the causes of the problem and then agree mutually on a solution."

It appears that the students were learning Model 2 because they were inventing strategies that approximated Model 2 conditions. But the learning was at the conceptual level, at the level of inferred categories or espoused theory. What happened when the students attempted to transform the interventions (espoused theory) to theory-in-use?

We were able to obtain data to answer this ques-

tion when the representatives from each group attempted to produce the inventions in the role playing with the instructor. All of the productions were judged by the class, the faculty members, and the representatives who produced the inventions (the latter after reflection), as approximating Model 1. Moreover, an analysis of the transcript of the class discussion showed that when the productions were analyzed and discussed by the class members, these discussions also adhered to Model 1.

Thus, we have people who had read Argyris and Schon's (1974) *Theory in Practice*, who had discussed it with one of the authors for three 2-hour sessions, who had met for a half hour to design the beginning of a Model 2 intervention, who had invented Model 1 and Model 2 interventions, but who had produced only Model 1 interventions. Moreover, it was the members of the class who had identified the inventions and productions as approximating Model 1. Also, the class agreed that the faculty member had been a cooperative role player; that is, analysis of the members' behavior while they were commenting on the production of each group showed that these responses also approximated Model 1.

It is important to keep in mind that no representatives were aware that when they produced their group's solution, they had produced a Model 1 intervention. Nor were the students aware that they did the same thing when they tried to help the representatives become aware that they were not producing Model 2 interventions. Thus, the class members could invent Model 2 solutions but were unaware that they could not produce them.

An example follows of the role playing between the faculty member (F) behaving as the person who had written Scenario 1, and the respective student representatives of each group.

ROLE PLAYING

F (as the client): Well, it is good to see you this morning, and I certainly appreciate your willingness to help me to become more aware of my own behavior and to help me to become more effective.

A (student representative of a subgroup producing an intervention): Well, I would like to ask you what specific information you are using to make the judgments you made about your employee.

F: Well, I will tell you that I have watched the employee, and I have kept notes. I have also showed the notes to her. She agrees, yet she continues to behave the same way. She doesn't seem to understand that there is a problem.

A: You say that she really doesn't understand that there's a problem. What evidence do you have that she doesn't understand that there's a problem?

F: Well, look at the response that she gave [pointing to the case scenario].

A: It is possible that she may have been very, very worried, anxious, and nervous before talking to you. . . .

F: That may be possible, but I have worked with her for 5 years, and I think that she was nervous because she was being called into the boss's office, and who wouldn't be? But it's not because she's uncomfortable with the production standards.

A: Why did you feel that she was lying about her work? What evidence did you have for her lying about her work [referring to the thoughts in the left-hand column]?

F: Well, when she said, "I think my work has improved"; now, she knows—she and I have talked about it once, and there isn't any difference between what's been happening the last few weeks and what's been happening the previous months.

The faculty member stopped the role-playing behavior and asked A, "What are you feeling right now, what are your reactions?"

A: I feel that you are very defensive.

F: That I am being defensive?

A: Yes, very defensive.

F: Any other feelings?

A: You are really completely unwilling to look at your own role in the situation; you are really just responding to the consultant exactly the same way that you reacted to your employee.

F: Okay, let me now . . . let me open it up to the class: What comments do you have about what you have just observed?

S (student): I think you [F] gave directly observable data, and I don't think A used it in a manner to show you a solution. It sounded to me as if A had prejudged you. As if he had decided that you really weren't very good with other people and he had just better ask you these questions, behind which is all his knowledge of how he really ought to ask, all of which was unspoken. He never made any suggestions. All he did was ask the questions. He never gave you information as to where he was so that you could come back at him.

S (another student): A did not establish just what it was that needs improvement, or what hasn't been improved.

We see that A said that he invented a solution that was to create an atmosphere of mutual inquiry, yet F (as the client) and the class judged the production to be the opposite. Attributions and evaluations that were never tested were made about F's behavior. The attributions and evaluations were hidden by the use of questions. The camouflage apparently worked only for the producer. Everyone else recognized the covert meanings. In another case, the student advised the client to use behavior strategies of mutual inquiry by using a behavioral strategy judged by the class to be unilateral control. And still another student advised the client to be more concrete in his communications, yet she was unable to be concrete herself.

In the first case, A suggested that one reason his scenario did not approximate Model 2 was the lack of time. There are data to question whether time is the central issue. Individuals (with Model 1 theories-in-use) who have had much more time for

the role playing had not been able to produce Model 2 theories-in-use (Argyris, 1976b; Argyris & Schon, 1974). An additional piece of data to support these observations is the fact that the third case was produced after two hours of discussion of the first two cases, and this did not show any movement toward Model 2. Finally, there was another two-hour discussion one week later. The producers had the intervening time to think about and practice their productions. The results were the same.

TO CONCLUDE

Returning to the learning phases, we have now illustrated that at the level of theory-in-use, people may not be aware that they cannot discover, cannot invent, cannot produce, and cannot generalize from learning of the Model 2 variety. Education that has as its objective helping individuals (leaders) move from Model 1 toward Model 2 requires a model of learning that is much more complex than discovery-invention-production-generalization.

One hypothesis is that individuals who wish to learn Model 2 theories-in-use must reeducate themselves in each phase. They need to learn to discover-invent-produce-generalize about how to discover, about how to invent, about how to produce, and about how to generalize. Learning to learn may be defined as the use of the learning process for each phase of the learning process (Argyris, 1976b). Figure 2 depicts the discovery-invention-production-generalization subphases for each phase.

In this demonstration we had nearly 100 individuals who aspired toward Model 2 theories-in-use; who understood the concepts (i.e., they could reproduce them at the espoused level); who discussed their designs with several others; who listened while each group representative produced Model 1 interventions where the intent was to produce Model 2 interventions; and who attempted to help each move toward Model 2 yet used Model 1 theories-in-use. And finally, these individuals *when writing their scenarios and when acting, in class, were unaware that they were unaware of these inconsistencies.*

Yet after becoming aware that they were unaware, those who continued to experiment with producing Model 2 behavior were unable to do so. Theories-in-use may indeed be very close to programs in that they inform the individual of the appropriate behavior, appear to discourage genuine change, and appear to make the individuals behave

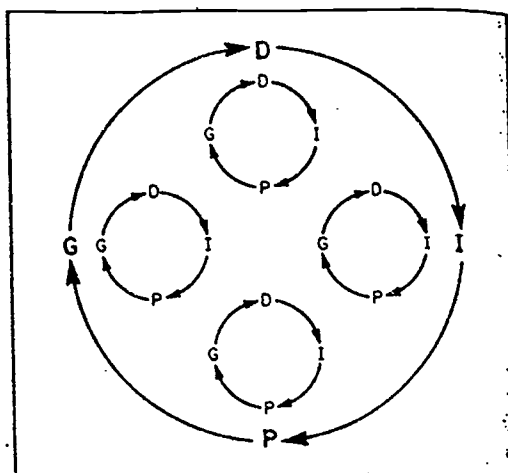


Figure 2. Learning to learn. (D = discover, I = invent, P = produce, G = generalize.)

in compulsively repetitive ways. People may indeed program themselves as computers do, and their programs may result in behavioral rigidities.

Moreover, as we saw in the transcripts, when people attempted to help each other, they behaved in Model 1 ways that in turn compounded the problem. Individuals attempted to help each other to overcome Model 1 theories-in-use by using Model 1 theories-in-use. These results have been replicated when the classes were smaller and the individual was faced with 6-10 helpers, rather than a large class.

However, people are human and something additional happens to them that, as far as we know, does not happen to computers. Computers expect to be locked into their programs. People, on the other hand, become increasingly frustrated, angry, and tense as the evidence piles up of their apparent inability to help themselves or others to gain the competence that they seek. It is these reactions that lead people to become defensive. Defensive-ness, in turn, may lead people to use learning cycles that are protective. These cycles, in turn, may increase the difficulties that create the frustration and anger in the first place; hence, we have self-sealing processes that create cumulative defensive-ness in the actors involved.

In the hands of competent faculty, these cumulative, self-sealing, and defensive reactions can provide the bases for a breakthrough to learning to learn Model 2.

Study 3: Fear of Fear and Cures That Make the Illness Worse

A group of six entrepreneurs and presidents of their respective companies have been moving from Model 1 toward Model 2. They have attended six sessions (ranging from two days to a week) during a period of three years (Argyris, 1976b). They have gone through the phases of becoming aware that they were not aware that they could not discover-invent-produce-generalize; they have explored and decreased the counterproductive help they tended to give each other; they have identified and decreased the destructive group dynamics; they have developed cognitive maps of their respective theories-in-use; and they have begun to discover-invent-produce acceptable Model 2 solutions to key problems back at home.

We pick them up as they are planning to take their solutions and experiment with implementing them in their back-home company settings. Two problems take front stage in the experiments they have been designing: The first problem (and one to which they alluded throughout their sessions) was the concern about the reaction of the subordinates when they, as superiors, began to attempt their new leadership behavior. The second problem was the discomfort about behaving incompetently and, as one man put it, "making asses of ourselves in front of our people."

With respect to the first problem, the presidents had serious doubts that their subordinates would understand or see Model 2 behavior as relevant or practical. They feared therefore that they would be seen as ranging from "nuts" to "unbelievable" to "foolish" to "undiplomatic." The fact that they had expressed the same reactions toward Model 2 early in their education gave credibility to their fears. Another source of fear, and probably more powerful, was that the presidents knew that in their relationships with their vice-presidents they had made many covert attributions, had expressed many deceptions, and had suppressed many doubts, all in the name of acting constructively toward their subordinates. For the presidents to begin now to behave in ways that they had previously rejected could arouse concern, if not disbelief and bewilderment, on the part of the subordinates. If this did happen, the subordinates would probably withhold these feelings. This, in turn, would mean an increase in suppressed tension and/or an increase in overt discomfort on the part of the subordinates. All of these conditions would

make the introduction of Model 2 theories-in-use even more difficult.

To compound the problem, the presidents did not feel that they had mastered the new theory-in-use. Indeed, part of the process of mastering it required that they use it effectively in the "real" world. This gave the presidents much concern because their view of an effective president was one who was "strong." To be strong included behaving with confidence and approximating perfection. They knew that they could achieve neither criterion if they attempted Model 2 interventions at this time in their back-home settings.

The presidents began to experience several new dilemmas. On the one hand, after two years of hard work within the seminars they had begun to discover-invent-produce new behavior and meanings that they valued. On the other hand, they feared experimenting with the new behavior back at home because of the negative reactions of their subordinates.

They had also learned in the seminars to deal with such dilemmas by testing publicly the attributions embedded in them. For example, their fears about negative subordinate reactions required surfacing and testing. Also, if they did not feel fully competent in behaving in accordance with Model 2, they had learned to say so publicly. They could also assert openly that what they were going to do was an experiment and that it might not be as successful as they had hoped.

But both of these cures made the illness worse. If they feared going public with their attributions, to test those fears publicly would compound their fears. If they felt unsure about their new behavior, then saying so candidly would make them appear weak in the eyes of the subordinates. To test this publicly would be embarrassing and bring to the surface their feelings of weakness, feelings that in their minds, presidents of companies should not express.

The presidents realized that they were in a double bind. If they chose to experiment, they believed that they could be embarrassed, as well as harm the top group's functioning. If they decided to withdraw, they would have to admit to themselves that they were controlled by fear and feelings of weakness. To be controlled by such fears would be a sign of weakness.

This was a key moment in the learning progress of the group. Examining the transcript indicates that although the diagnosis was painful, the choice to move ahead appeared natural and relatively

simple. They decided that they had to be masters of their own fate and, therefore, if the next step were to experiment, then they would do so.

The learning seminar became the base for the new operation. Each president chose a key issue, for example, the confrontation of an ineffective senior executive, the development of an effective top management problem-solving process, and the reduction of an operating budget by 20%. They discussed it in detail and, with the help of the others, invented a range of solutions. Each solution was produced by the president, with the others acting as hard-nosed, disbelieving, confused, concerned subordinates. After continual practice that served to help them discover-invent-produce-generalize new interventions, the presidents began to feel confident enough to try their respective experiments in their organizations. Several had designed experiments involving one or two persons. Several were interested in exploring Model 2 theories-in-use with their entire top group. Some experimented alone; others invited a faculty member. All tape-recorded their experiments or wrote detailed scenarios that became a rich source of data for further learning. In all cases, the men had experiences of both success and failure. What was most interesting was to see how easily they took the failure experiences as episodes from which to learn, and how willing they were to say so publicly. This, in turn, unfroze the subordinates and opened them up to explore their relationships not only with their superiors but also with each other and with their subordinates.

Not all subordinates liked Model 2 interventions (rare or well done). They preferred the old ways of behaving and said so. In reading the transcripts, it was apparent that the presidents were attacked for behaving in ways that were perceived as weird, impolite, and potentially destructive of group cohesiveness. The fears that the presidents had expressed were confirmed. However, the presidents did not become angry or punitive. They encouraged these expressions and, drawing from their seminar experience, used them to explore their impact as well as the foundations of cohesiveness within their groups (Argyris, 1976b). Perhaps one reason that the presidents could begin to deal effectively with others' fears was that they had learned to no longer fear their own fears. They had begun to learn how to manage their own fears, and they could use these skills in helping others to express and manage their fears.

POINTS TO BE EMPHASIZED

Model 1 theories-in-use do not encourage learning that questions the existing status quo of ideas, relationships and policies, etc. Consequently, people do not develop skills that lead to inquiry into the hitherto unquestionable. Strong leaders in a Model 1 world may well be those who are effective enough to control the world adequately to achieve the organization's goals. Leaders whose strength is based on high advocacy and unilateral control over others tend also to hold attitudes that their subordinates "need" to be controlled, that they fear confronting people with power, that the competition among themselves is great, and that if left to themselves, the group would fall apart. These attributions are self-sealing because they are caused by the leadership style in the first place (or if the subordinates had these predispositions before the leader arrived, this style reconfirms and reinforces their usefulness).

One result of attributing fears and brittleness to one's subordinates is to make such attributions undiscussable, because such a discussion would be a cure that makes the illness worse. But introducing Model 2 theories-in-use in organizations is fraught with potential failure and fear. Under Model 2 conditions, these possibilities must become discussable.

Causes of the Unawareness

What were the mechanisms that led to the unawareness that people could not discover-invent-produce-generalize Model 2 learning? One hypothesis was that people received little accurate feedback about their behavior, so that learning was not possible. But experiments were conducted in which people did receive accurate feedback that they reported as being helpful, yet that did not eliminate the unawareness. A second hypothesis was that they did not know Model 2. Yet, the unawareness phenomenon continued after people thoroughly learned Model 2. A third hypothesis was that people were not learning at the emotional level. Yet, in both the large classroom settings and the executive seminar, the unawareness phenomenon continued after people reported highly emotional learning.

Next, nearly 200 people in three different settings were asked to develop a case describing an intervention (slightly more complete but similar to the one described in Experiment 2). During the

session immediately after they completed the case, they were taught Model 1 and Model 2. They were then asked to take their original case and, by themselves, analyze it in terms of the degree to which it approximated Model 1 and Model 2. Almost all of the respondents performed the diagnosis very well. They analyzed their cases thoroughly, pointing out the Model 1 aspects and expressing surprise regarding the blindness they experienced while writing the original case. During the following sessions, they were asked to invent and produce some Model 2 behavior to replace the Model 1 behavior that they had identified in their original case. The overwhelming majority who tried to invent and produce Model 2 behavior were unable to do so and were blind while they were trying.

Our initial hypothesis to explain these perplexing findings is that people may manifest the unawareness when they are acting, that is, when they are taking a proactive stance. Under these conditions, they come under the influence of their Model 1 theories-in-use. When analyzing their cases as a result of a request from the faculty, they are not taking proactive action for which they are responsible. When their personal causality is low and their commitment to learning is high, they may be more open to double-loop inquiry, because they are in a posture described as the opposite to Model 1 (which is a reactive posture).

Can Structural Changes Produce Learning?

Must people first learn to learn Model 2 theories-in-use? Or can they learn Model 2 theories-in-use by being immersed in structures that "require" and encourage Model 2 behavior?

If our experiences to date are upheld, then the answers are yes and no, respectively. The presidents who had all the power they needed in their organizations could not behave according to Model 2 even after they learned the model and felt committed to it. Moreover, the learning environment approximated a Model 2 structure, and the presidents fought that for several sessions. There is, I believe, no way that people can be induced to behave according to Model 2 if they do not hold such theories-in-use.

Cognitive Approaches Include Emotions

The adult learning processes with which we have experimented have turned out to be primarily

cognitive. This does not mean that feelings did not surface. Indeed, the fears of fear, of embarrassment, of hostility, of failure, etc., were continually experienced. However, they were dealt with as components of theory-in-use. Instead of asking, for example, why do I fear failure (and seek some kind of historical-clinical answer), the participants learned to ask, How can I test my fears? How can I behave in ways that make my fears manageable or even obsolete?

For example, the presidents, following Model 2 theories-in-use, did not choose to explore their personal histories to discover the roots of their fear of fear. A theory-of-action perspective informed them that the way to deal with the fear of fear was to create learning conditions with those *presently* involved. As we may recall, that strategy created some problems. But facing these problems led to progress.

I am not claiming that all counterproductive emotional problems can be overcome by coping with them from a theory-in-use perspective. Indeed, one can predict from the framework that it will not be helpful if valid information cannot be generated, if problems are not stated in ways that make the subject open to public disconfirmation. Theory-in-use models assume a certain minimum of openness to learning. If the individual is aware of a problem but cannot describe the mechanisms that cause it, then perhaps the exploration of historical events that are in the unconscious becomes necessary. All that is being suggested at this point is that many emotional problems can be dealt with through a more cognitive theory-in-use perspective.

Implications for Leadership Education

The implications for leadership education are presented here by means of a comparison of our results with the results of two leading education approaches to leadership: those of Victor Vroom and Phillip Yetton (Vroom & Yetton, 1973), and those of Fred Fiedler and Martin Chemers (Fiedler & Chemers, 1974; Fiedler, Chemers, & Makar, Note 3).

To begin the comparison, neither group differentiates between espoused theories and theories-in-use. Moreover, the majority of their research and of their educational processes remains at the levels of discovery and invention of *espoused* knowledge. Neither focuses on theory-in-use. It is not surprising, therefore, to find that neither reports any of the difficulties that we reported, such

as the following: the discrepancies between espoused theory and theory-in-use and the inconsistencies within the respective theories; the unawareness that people do not know how to discover-invent-produce-generalize about issues that they are relatively certain they know how to discover-invent-produce-generalize; the enormous learning problems involved in going from discovery of problems to inventing solutions, and especially from invention to producing the invention under zero to moderate stress; and the defenses that apparently become aroused when people are faced initially with their inability to behave according to a new theory-in-use (after they reported that they understood and accepted it), as well as those defenses that surface when they attempted to experiment with double-loop learning (e.g., the fear of fear).

Why do these differences exist? One reason is that the work of Vroom and of Fiedler is based on the assumption that the purpose of science is to build descriptive theories for understanding and prediction. Under these conditions, describing, understanding, and predicting what people espouse is a legitimate objective. This does not mean that neither is interested in application. It means that their strategy is first to conduct research that leads to understanding and prediction, and *then* to "derive" the applications from such research. The issues that are involved in implementing the knowledge that they produce are delayed until after "enough" knowledge is obtained. Moreover, if they, as researchers, postpone problems of implementation, it is congruent for them not to conduct research on such problems.

A second reason is related to the presently accepted concepts and rules of rigor. These rules state that it is best to decompose a problem and study the subproblem thoroughly rather than to attempt to study more of the whole with a lesser degree of rigor. The underlying assumption is that complex action can be decomposed into less complex units and studied serially.

There are two difficulties with this assumption. The first difficulty is the implication that what practitioners need is more complete knowledge. Assuming that Vroom and Yetton and Fiedler and his colleagues continued their research and added more knowledge, there is still the second question of how the practitioner can use it. It may be that serially developed knowledge (even if integrated) represents too much information for the practitioners to use (especially since they have technical information and time pressures to cope with).

Note what has happened. Given the technology of research and the fact that the social scientist as a human actor is also a finite information processor, the rational strategy is to decompose and study the problems serially. But the finite information-processing limitations will not go away once the information is developed. The actor will eventually have to simplify or decompose that knowledge.

It may be that the most rigorous and helpful knowledge for the practitioner is knowledge that was produced with this problem in mind at the outset (examples will follow). As social scientists, we have only begun to think about how knowledge must be organized if it is to be applicable. Our operation's research colleagues, who for years used similar assumptions and produced models that were more rigorous than those typically developed in social sciences, have now begun to question the applicability of their concept of rigor when implementation is made a central issue (Keen, 1975; Wagner, 1974).

The second difficulty is illustrated by Vroom and Fiedler. Although they take pains to make explicit the limited focus of their research, they choose to ignore these limits by developing educational environments and packages for leadership education. One must assume that they believe that the limits of their descriptive research are not so narrow as to preclude educating practitioners.

But there are problems that require inquiry. Let us begin with an item from the work of Fiedler et al. (Note 3):

It is therefore not essential that you know exactly what your leadership style and approach might be. It is absolutely essential, however, that you learn how to recognize the types of situations in which you tend to be most effective as a leader, and how to change leadership situations so that they match your particular personality and style of leadership. (p. 114)

Fiedler et al. emphasize continuously that they have focused their research on performance. But the moment they attempt to implement their findings, they find, quite appropriately, that diagnostic skills are critical to leadership effectiveness. Yet they have conducted no research on leadership diagnostic skills. Moreover, if such research conducted on these skills with the same depth as performance, then will there be another theory of diagnostic activities? If so, how will it be related to the present contingency theory?

Without such research, we are forced to conclude that at the moment, Fiedler and his colleagues make three assumptions in the preceding paragraphs:

1. They assume that whatever factors make it difficult for persons to diagnose and recognize their own leadership style (a difficulty that is found frequently according to Fiedler and Chemers, 1974), these factors will have no influence on their abilities to recognize types of situations or on their abilities to change situations.

2. The skills of recognizing situations are either already available to people, or they are not something people need to be taught. The latter is the case because Fiedler et al. (Note 3) develop instruments that do the diagnostic job for the user.

3. The skills needed to get superiors to change one's situation are straightforward and already known by people. For example, ask your boss to give you tasks that are more structured or that are more nebulous and vague, depending on your leadership style. There is also the assumption that superiors, by and large, will respond rationally to these requests.

Item: Your control and influence obviously will be greater if you have the support and trust of your group members than if the group rejects you or gives you only half-hearted support. (Fiedler et al., Note 3, p. 3-1)

Query: What is the role of the skills to gain and maintain support and trust? If they are so central, why have they not been studied? If this is true for all gradations of least preferred co-worker (and Fiedler and Chemers assert that it is), then are there not some factor that are not contingent?

Item: The reader is told that the leader-member relations are the most important single aspect of situational favorableness. Then they are told that they should diagnose their relations with their co-workers and subordinates. In order to help them in this task, they are given several questions to answer. They include: Do your group members try to keep you out of trouble? Do they warn you about potential difficulties? Do they do their job in a way that shows you they want to do it right? Do they include you in their small talk? Do they seem genuinely friendly and eager to please you?

The first assumption made by Fiedler et al. (Note 3) that must be questioned is that knowing the questions is the major requirement in getting the answers. I have observed many settings in which there was low trust and support in the leader-member relations, yet the subordinates tried to keep the superior out of trouble, partially out of kindness, but largely out of fear of what the superior might do to them if he got into trouble.

Also, observations in these settings suggested that the key problem was not if the subordinates attempted to warn the leader of potential difficulties, but how they did it. There are now many

examples of leaders having been warned of trouble, but in such an oblique and indirect manner that they did not recognize it. Indeed, this may be one of the skills of effective followership. In order to see through these games, superiors require diagnostic skills that Fiedler and his co-workers have, to date, ignored.

In *Leadership and Effective Management*, Fiedler and Chemers (1974) warn the reader that the scale they have developed (to diagnose leader-member relations) "provide you [reader] with accurate information only to the extent to which you really know and can accurately evaluate the group you are describing" (p. 3-4). But where is the research that informs us about this crucial variable of sensitivity, and what is the predictive validity of the sensitivity of those with a low or high rating on the least preferred co-worker scale?

Item: In order to increase your leader-member relations, make sure that you have a clear understanding of your subordinates' problems and try to alleviate them.

But being clear about what are the subordinates' problems, as well as developing a high degree of openness and trust on the part of the subordinates, requires skills not studied by Fiedler and his co-workers.

Finally, the work of Fiedler and Chemers (1974) may be rooted in a Model 1 theory of leadership. The issue is not that this is so; it is that it is never made explicit. How do we arrive at this conclusion? First, attributions are made that are never tested, yet are asserted as valid. Fiedler and Chemers state, for example, that (a) a leader like General Patton could not change to become an effective leader of a sensitivity group (although there are many such cases on record); (b) that it is best to recognize the situations in which the person is successful and unsuccessful and strive to avoid the latter while seeking the former (the individual cannot change); and (c) the underlying reason for the leader to become more effective is so that he can get his subordinates to do what he wants them to do.

Fiedler et al. (Note 3) also recommend deception and secrecy, as well as the manipulation of their anxiety, in order to lead subordinates. For example, they describe approvingly an air force commander who had "close" personal relationships with his men. The latter's performance began to deteriorate. He self-diagnosed the cause as being that he had been "too familiar." As a result, he stopped socializing with the men. This, the authors

assert, created anxieties in the subordinates:

These anxieties soon became translated into more careful work and greater efforts to perform good maintenance. . . . When a boss withdraws from social contact, he makes it difficult for the subordinate to assure himself of his boss's approval in any way except by good performance. (p. 8-2).

Vroom and Yetton also may have a stronger focus on Model 1 than is presently suggested in their writing. For example, the leader is given a set of key questions to answer. Given the answers, then their model presents the best alternative solutions. If I have understood the educational activities correctly, the leaders are taught to ask and answer these questions by themselves. The implicit assumption is that the leader can and should act on the basis of his diagnosis. Thus, whatever testing occurs tends to be private.

Hoffman (1974), in a thoughtful review, points to another danger implicit in the scheme. The model and its accompanying operating rules have a tight internal logic that translates the manager's assessments of his situation into recommended actions. But the model ignores the "psycho-logic," by which the managers who could benefit most may be deceived. An autocratic leader will answer yes to the model's question, "If I were to make the decision myself, is it reasonably certain that it would be accepted by the subordinate?" The model would tell him to make the decision unilaterally, which may lead to more difficulties (Hoffman, 1974, p. 595).

The Vroom and Yetton (1973) model also makes the implicit assumption that if the leaders know the right questions to ask, they will get valid answers, and having these answers, the rest is simple. For example, there is the implication that once the leaders know their problems are Type 5 or 7, then they can act.

There is a much more troublesome problem, and it is related to the model of motivation embedded in the Vroom and Yetton work. The model states that the force toward some action is determined by the valence of each outcome and the expectancy that the action will lead to each of the outcomes. The force toward the chosen action is a function of the algebraic sum of the valence of each outcome multiplied by the expectancy that the action will lead to the expected outcome.

The Vroom and Yetton model argues that the motivation of an action may be understood by identifying all of its consequences, assigning each a valence it has for the individual, and multiplying that valence times the probability of the conse-

quence. The model is attributed to actors as an actual theory of their behavior. Apparently Vroom and Yetton claim that actors usually go through such analysis (Deci, 1975, pp. 111-113).

To those working to develop theories-in-use, such modeling presents several questions. First, and perhaps least important, is the request for evidence that people go through such analysis. It appears that going through the decision analytic processes would take so much time that action would rarely be possible in the real world. "Not so" may be the response. People, as a result of learning, can retrieve from their memory appropriate information that permits them to make these calculations with extreme rapidity. But, on the other hand, we know that the human mind is finite in its information-processing capacity and much slower than computers (Simon, 1969). If this information is retrieved and used with such millisecond speed, it must have been organized and packaged (in the form of a map) ready for use. But if it is organized, then it must have some pattern or form that informs human action. In our terminology such a map would be called a *microtheory-in-use*. But so far, theories-in-use are not the concern of scholars such as Vroom and Yetton.

One reason that theories-in-use are not of concern to these scholars may be related to the purposes of the models that they invent. Models may be created to focus on how to calculate the outcomes. Models may also be created to represent the processes that lead to the outcomes. The expectancy theory model focuses on the processes of calculating the outcomes. The processes involved in these models are those that describe how people calculate outcomes, but not how they create or generate the meaning of the factors that are used to calculate the outcomes. The latter processes are those in which the theories-in-use are embedded.

In order to illustrate the point, let us take the concept of *valence* in the Vroom and Yetton model.¹ "Valences" of outcomes, or "costs and benefits of actions" (to use the welfare economist's language), can be ascertained only within the context of value-laden *theories* built for the situation. Valences depend upon theories. "Getting a job" has a valence that it has because of the meaning constructed for getting a job within a certain situation, which flows in turn from the normative/descriptive theory con-

¹ The material presented in this portion of the article was developed as a joint formulation by Donald Schon and the present author.

structured for the situation. Atomic events in isolation are neither "positive" nor "negative."

There is no way to calculate costs and benefits except within the context of such a theory. But the assumption that events carry valences or costs and benefits on their face appears to exempt us from the need to formulate such a theory. What it actually does is to allow the theory to remain tacit. Hence, theory building and meaning creation, rather than mere calculation, are at issue in decisions to act.

How is it plausible to the decision analysts such as Vroom and Yetton (and to the welfare economists), who use similar models, that actions or consequences, considered as behavioral atoms, carry their valence or their costs and benefits as inherent properties?

The metaphors of physics and economics provide larger frameworks that appear to make this possible. In physics, valence is a property of each atom determined by the number of electrons in the outer ring. Valences can be quantitatively compared, and attractions and repulsions among atoms precisely described. Chemistry consists in the formulation of the rules governing combinations of atoms, by precise quantitative ratio, on the basis of valence. Hence, within physics or chemistry, if you know that x is an atom, you can also know what its valence is.

Within economics, every decision is considered as an investment (an allocation of a resource), the consequences of which have costs and benefits determined by the utility functions of the actor (or whatever body is taken as the subject of costs and benefits). The economist does not care much about the process by which costs and benefits are assigned to actions so long as they are generated in a way that is reliable and precise within the requirements of the calculation. It is possible to compare consequences and to calculate about them because values are reduced to a common currency—cost and benefit in, for example, dollars.

But in actual decision situations, actions and consequences are valued contextually in terms of the meanings created for them within some theory projected onto the situation. "Consequence" does not have a valence independent of its meaning within such a theory-laden context, nor is its value within that context necessarily subject to arithmetic calculation. Nor does a consequence have costs and benefits independent of these things. The combined metaphors (in this case) of physics and economics may be the sources of this strange belief

in the inherent values of atomic consequences.

In the case of Vroom and Yetton, the result is the ignoring of the processes by which meanings are created and valences developed. But these are the processes that are informed by theories-in-use. These processes cannot be relegated to the status of black boxes. We have no objections to relegating the processes of calculating outcomes to black boxes. Indeed, the suggestions of some scholars have the effect of relegating these processes to the status of black boxes.

Vroom and Yetton argue that people do not use the decision models with the degree of completeness required by such models (see Simon, 1969). People, they suggest, decompose their problems; they attempt to solve the subproblems; they use heuristics or rules for action that cut across many of the calculations required by decision analysis. But again, the questions arise: What knowledge is used to define a problem? What meanings are created that inform decomposition? How are heuristics or rules organized, stored, and retrieved? If these functions are accomplished by creating constructs interrelated into theories-in-use, then what are these theories?

To conclude, Vroom and Yetton and Fiedler and his colleagues developed their theories of instruction from research designed to understand and to predict (not to make events come about). The consequences that follow in the design of learning environments are profound. In their studies, they developed diagnostic instruments that discover for the subjects what is their probable leadership style, what are the kinds of situations in which they are enmeshed, and what is the probable match or mismatch between the two. All the knowledge that their methods produce remains at the level of espoused theory of invention. In remaining at the level of espoused theory, Fiedler and his colleagues and Vroom and Yetton use educational strategies that are completely consonant with those used in most schools. Education is, at best, a quest for discovery of the problems and concepts to help the students understand and predict them. Professional education in general (Argyris & Schon, 1974), and leadership education specifically, has ignored the problems of developing skills, with one outstanding example that I could find, namely, N. R. F. Maier (1970).

Leadership education will have to distinguish between espoused theories and theories-in-use. To date, the primary focus in leadership education is at the espoused level. Consequently, there is the

risk that leaders are being educated in settings that help them to miss (a) the incongruities between espoused theory and theories-in-use, (b) the blindness to these incongruities, and (c) the unawareness of the unawareness that people have about their capacity to discover-invent-produce-generalize to theories of action that challenge the unchallengeable, that question the unquestionable. If leadership education is to get at core issues, these factors cannot be ignored.

To the extent that leadership education fails to distinguish between espoused theories and theories-in-use, it unrealistically champions contingency models at the espoused level but educates leaders to produce primarily Model 1 theories-in-use. Under these conditions, leadership education may become education for the status quo, education that may, at best, transform the world of espoused theories of action but have little or no impact upon theories-in-use.

REFERENCE NOTES

1. Argyris, C. *Decision-making research and the status quo*. Unpublished manuscript, 1975. (Available from the author, Graduate School of Education, Monroe C. Gutman Library, Harvard University, 6 Appian Way, Cambridge, Massachusetts 02138.)
2. Argyris, C., & Schon, D. *Organizational learning*. Book in preparation, 1976.
3. Fiedler, F. E., Chemers, M. M., & Makar, L. *Leader match* (second experimental version). Unpublished manuscript, University of Washington, Department of Psychology, 1975. (Mimeograph, pp. 429-452)

REFERENCES

- Argyris, C. *The applicability of organizational sociology*. Cambridge, England: Cambridge University Press, 1972.
- Argyris, C. Some limits of rational man organization theory. *Public Administration Review*, 1973, 33, 253-267.
- Argyris, C. Dangers in applying results from experimental social psychology. *American Psychologist*, 1975, 30, 469-485.
- Argyris, C. Problems and new directions for industrial psychology. In M. Dunnette (Ed.), *Handbook of industrial psychology*. Chicago, Ill.: Rand McNally, 1976. (a)
- Argyris, C. *Six presidents: Increasing leadership effectiveness*. New York: Wiley, 1976. (b)
- Argyris, C., & Schon, D. *Theory in practice*. San Francisco, Calif: Jossey-Bass, 1974.
- Deci, E. L. *Intrinsic motivation*. New York: Plenum Press, 1975.
- Fiedler, F. E., & Chemers, M. M. *Leadership and effective management*. Glenview, Ill.: Scott, Foresman, 1974.
- Hoffman, R. Review of leadership and decision-making. *Journal of Business*, 1974, 47, 593-598.
- Hollander, E. P., & Julian, J. W. Leadership. In E. F. Borgatta & W. W. Lambert (Eds.), *Handbook of personality theory and research*. Chicago, Ill.: Rand McNally, 1968.
- Hollander, E. P., & Julian, J. W. Contemporary trends in the analysis of leadership processes. *Psychological Bulletin*, 1969, 71, 387-397.
- Keen, P. G. Computer-based decision aids: The evaluation problem. *Sloan Management Review*, 1975, 16, 17-29.
- Maier, N. R. F. *Problem solving and creativity in individuals and groups*. Belmont, Calif.: Brooks/Cole, 1970.
- Simon, H. A. *The science of the artificial*. Cambridge, Mass.: MIT Press, 1969.
- Stogdill, R. M. *Handbook of leadership*. New York: Free Press, 1974.
- Vroom, V. H., & Yetton, P. W. *Leadership and decision-making*. Pittsburgh, Pa.: University of Pittsburgh Press, 1973.
- Wagner, H. The design of production and inventory systems for multifacility and multiwarehouse companies. *Operations Research*, 1974, 22, 278-291.
- White, S., & Fishbein, H. Children's learning. In N. Talbot, J. Kagan, & L. Eisenberg (Eds.), *Behavioral sciences in pediatrics*. Philadelphia, Pa.: Saunders, 1971.

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A CRITICAL THEORY OF ADULT LEARNING AND EDUCATION

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J. Mezirow, 'A critical theory of adult learning and education', *Adult Education*, vol. 32, no. 1, 1981, pp. 3-24.

ABSTRACT

Interpreting the ideas of Jurgen Habermas, the nature of three generic domains of adult learning is posited, each with its own interpretive categories, ways of determining which knowledge claims are warranted, methods of inquiry as well as its own learning goals, learning needs and modes of educational intervention. Perspective transformation is seen as one of the learning domains and the domain most uniquely adults. The nature and etiology of perspective transformation is elaborated with particular focus on the function of reification and of reflectivity. Implications of a critical theory for self-directed learning and adult education are explored. A Charter for Andragogy is suggested.

This article presents the beginnings of a critical theory of adult learning and education. There are three parts. In the first part the critical theory of Jurgen Habermas is presented as a learning theory positing three generic domains of adult learning, each with its own interpretative categories, ways of assessing knowledge claims, methods of inquiry and, by implication, each with its own distinctive learning modes and needs. The second part attempts to explain the least familiar of Habermas' domains of learning, "emancipatory action," by synthesizing and extending my earlier work on perspective transformation which is seen as the same concept. The nature and etiology of "meaning perspective" and perspective transformation in human development will be analyzed through the writings of social scientists. I draw upon our earlier studies of women in college re-entry programs because they represent the research base from which the process of perspective transformation was delineated and the source of the most familiar examples of this kind of learning in action. In the third part of the article, implications of this emerging critical theory for self-directed learning and for the education of adults will be explored.

Jurgen Habermas is widely considered as the most influential thinker in Germany over the past decade. As a philosopher and sociologist he has mastered and creatively articulated an extraordinary range of specialized literature in the social sciences, social theory and the history of ideas in the development of a comprehensive and provocative critical theory of knowledge and human interests. His roots are in the tradition of German thought from Kant to Marx, and he has been associated with the Frankfurt School of critical theorists which pioneered in the study of the relationship of the ideas of Marx and Freud.¹

THE DOMAINS OF ADULT LEARNING

Habermas differentiates three generic areas in which human interest generates knowledge. These areas are "knowledge constitutive" because they determine

categories relevant to what we interpret as knowledge. They also determine the mode of discovering knowledge and for establishing whether knowledge claims are warranted. Three distinct but interrelated learning domains are suggested by Habermas' three primary cognitive interests—the technical, the practical and the emancipatory. These interests are grounded in different aspects of social existence: work, interaction and power. Habermas suggests that differences in the very nature of these three interests mandate fundamentally different methodologies of systematic objective inquiry. By extension, each learning domain suggests to me a different mode of personal learning and different learning needs. These imply three different functions for adult education concerned with facilitating such learning. Consequently, I believe Habermas' work is seminal for understanding both learning and education.

The first of the three areas of cognitive interest, "work," refers broadly to the ways one controls and manipulates his or her environment. This involves "instrumental" action. Such action is based upon empirical knowledge and is governed by technical rules. Instrumental action always involves predictions about observable events—physical or social—which can prove correct or incorrect. Choices in the process involve strategies based upon this knowledge deduced from rules of a value system and from rules of investigation. These strategies may be correctly or incorrectly deduced. The criteria of *effective control* of reality direct what is or is not appropriate action. The strategy of choice depends upon correctly assessing alternatives.

Habermas contends that the form itself of this way of knowing necessitates the analysis of objects and events into dependent and independent variables and the identification of regularities among them. Hypotheses are confirmed through a system monitoring feedback. The empirical-analytic sciences have been developed expressly to assist us in understanding our technical interests, those relating to work. The very nature of our efforts to control and manipulate the environment has dictated a uniquely appropriate approach using hypothetical-deductive theories and permitting the deduction of empirical generalizations from lawlike hypotheses through controlled observation and experimentation.

The second area of cognitive interest, or learning domain, Habermas identifies as "practical." This area of practical interest involves interaction or "communicative action." Communicative action is a distinctly different way of knowing from the instrumental action through which one seeks to control and manipulate the environment. Communicative action

... is governed by binding *consensual* norms, which define reciprocal expectations about behavior and which must be understood and recognized by at least two acting subjects. Social norms are enforced through sanctions. Their meaning is objectified in ordinary language communication. While the validity of technical rules and strategies depend on that of empirically true or analytically correct propositions, the validity of social norms is grounded only in the intersubjectivity of the mutual understanding of intentions and secured by the general recognition of obligations. (11: 92)

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The uniqueness of communicative action requires a set of categories for understanding it, as well as for description and explanation, which is different from that appropriate to instrumental action. This understanding and mode of inquiry has as its aim not technical control and manipulation but rather the clarification of conditions for communication and intersubjectivity. It is not the methods of empirical-analytic sciences which are appropriate to this task but systematic inquiry which seeks the understanding of meaning rather than to establish causality. Habermas refers to the "historical-hermeneutic" sciences. Hermeneutics refers to the science of interpretation and explanation.² It is derived from that branch of theology which, through textual analysis, defines the laws by which the meaning of the Scriptures has to be ascertained. Habermas describes the approach of the historical-hermeneutic sciences:

Here the meaning of validity of propositions is not constituted in the frame of reference of technical control. . . theories are not constructed deductively and experience is not organized with regard to the success of operations. Access to the facts is provided by the understanding of meaning, not observation. The verification of lawlike hypotheses in empirical-analytic sciences has its counterpart here in the interpretation of texts. Thus the rules of hermeneutics determine the possible meaning of the validity of statements in the cultural sciences. (10: 309)

The historical-hermeneutic disciplines differ from the empirical-analytic sciences in the "content" studied, methods of inquiry and criteria for assessing alternative interpretations. They include descriptive social science, history, aesthetics, legal, ethnographic, literary and other studies interpreting the meaning of communicative experience. In our study of women in re-entry programs, we used a hermeneutic approach to attempt to understand patterns of commonality in the process of perspective change from transcripts of our interviews.

The third area of cognitive interest, or learning domain, Habermas characterizes as "emancipatory." This involves an interest in self-knowledge, that is, the knowledge of self-reflection, including interest in the way one's history and biography has expressed itself in the way one sees oneself, one's roles and social expectations. Emancipation is from libidinal, institutional or environmental forces which limit our options and rational control over our lives but have been taken for granted as beyond human control. Insights gained through critical self-awareness are emancipatory in the sense that at least one can recognize the correct reasons for his or her problems.

Habermas turns to the "critical social sciences" to find the mode of inquiry based epistemologically in emancipatory cognitive interest. Critical social sciences have the goal of critique. They attempt ". . . to determine when theoretical statements grasp invariant regularities of social action as such and when they express ideological frozen relations of dependence that can in principle be transformed" (10:310). Examples of critical science are psychoanalysis and the critique of ideology. An ideology is a belief system and attendant attitudes held as true and valid which shape a group's interpretation of reality and behavior and

are used to justify and legitimate actions. Critical theorists hold, with Marx, that one must become critically conscious of how an ideology reflects and distorts moral, social and political reality and what material and psychological factors influence and sustain the false consciousness which it represents—especially reified powers of domination.

The critical sciences "take into account that information about lawlike connections [which] sets off a process of reflection in the consciousness of those whom the laws are about." As initial nonreflective consciousness is transformed, such laws can be seen as being inapplicable.

The methodological framework that determines the meaning of the validity of critical propositions of this category is established by the concept of self-reflection. The latter releases the subject from dependence on hypostatized powers. Self reflection is determined by an emancipatory cognitive interest. (10:310)

Dramatic personal and social change becomes possible by becoming aware of the way ideologies—sexual, racial, religious, educational, occupational, political, economic and technological—have created or contributed to our dependency on reified powers. However, Habermas follows Hegel and Marx in rejecting the notion that a transformed consciousness in a specific situation can be expected to automatically lead to a predictable form of action. The intent of education for emancipatory action—or what in the next section of this article I have described as perspective transformation—would be seen by Habermas as the providing of the learner with an accurate, in-depth understanding of his or her historical situation.

PERSPECTIVE TRANSFORMATION

It is curious that the most distinctively adult domain of learning, that involving emancipatory action, is probably least familiar to adult educators. However, some readers will recognize the concept of emancipatory action as synonymous with "perspective transformation." This mode of learning was inductively derived from a national study of women participating in college re-entry programs (16). Through extensive interviews, it became apparent that movement through the existential challenges of adulthood involves a process of negotiating an irregular succession of transformations in "meaning perspective." This term refers to the *structure of psycho-cultural assumptions within which new experience is assimilated and transformed by one's past experience*. For many women studied, such psycho-cultural assumptions involved the traditional stereotypic view of the "proper" roles of women and the often strong feelings internalized in defense of these role expectations by women themselves.

Perspective transformation is the emancipatory process of *becoming critically aware of how and why the structure of psycho-cultural assumptions has come to constrain the way we see ourselves and our relationships, reconstituting this structure to permit a more inclusive and discriminating integration of experience and acting upon these new understandings*. It is the learning process by which adults come to recognize their

culturally induced dependency roles and relationships and the reasons for them and take action to overcome them.

There are certain anomalies or disorienting dilemmas common to normal development in adulthood which may be best resolved only by becoming critically conscious of how and why our habits of perception, thought and action have distorted the way we have defined the problem and ourselves in relationship to it. The process involves what Freire (7) calls "problem posing," making problematic our taken-for-granted social roles and expectations and the habitual ways we act and feel in carrying them out. The resulting transformation in perspective or personal paradigm is what Freire refers to as "conscientization" and Habermas as emancipatory action. In asserting its claim as a major domain of adult learning, perspective transformation at the same time asserts its claim as a central function for adult education.

Our natural tendency to move toward new perspectives which appear to us more inclusive, discriminating and integrative of experience in attempting to resolve our disorienting dilemmas may be explained as a quest for meaning by which to better understand ourselves and to anticipate events. Carl Rogers has hypothesized a teleological explanation, "... a formative directional tendency in the universe which can be traced and observed in stellar space, in crystals, in microorganisms, in organic life, in human beings. This is an evolutionary tendency toward greater order, greater interrelatedness, greater complexity" (22:26). As we will see, there are both cultural and psychological contingencies which can restrain our natural movement to learn through perspective transformation.

From our research on re-entry women, the dynamics of perspective transformation appeared to include the following elements: (1) a disorienting dilemma; (2) self examination; (3) a critical assessment of personally internalized role assumptions and a sense of alienation from traditional social expectations; (4) relating one's discontent to similar experiences of others or to public issues—recognizing that one's problem is shared and not exclusively a private matter; (5) exploring options for new ways of acting; (6) building competence and self-confidence in new roles; (7) planning a course of action; (8) acquiring knowledge and skills for implementing one's plans; (9) provisional efforts to try new roles and to assess feedback; and (10) a reintegration into society on the basis of conditions dictated by the new perspective.

The traumatic severity of the disorienting dilemma is clearly a factor in establishing the probability of a transformation. Under pressing external circumstances, such as death of a mate, a divorce or a family breadwinner becoming incapacitated, a perspective transformation is more likely to occur.

There appears to be two paths to perspective transformation: one is a sudden insight into the very structure of cultural and psychological assumptions which has limited or distorted one's understanding of self and one's relationships. The other is movement in the same direction that occurs by a series of transitions which

permit one to revise specific assumptions about oneself and others until the very structure of assumptions becomes transformed. This is perhaps a more common pattern of development. The role transitions themselves are only opportunities for the kind of self-reflection essential for a transformation. In such cases the anomalous situation creating a disorienting dilemma may be the result of a more evolutionary personal history in which circumstances, like the prospect of an empty nest, make a woman increasingly receptive to changing social norms regarding women's roles or internalized rigidities constraining her from becoming autonomous. There may be more women—and men too—familiar with Betty Friedan's "problem without a name" than they are with many more easily labelled existential dilemmas of adulthood.

Paulo Freire has introduced adult educators to "conscientization" as the process by which the Hegelian and Marxist concept of false consciousness becomes transcended in traditional societies through adult education.¹ The learning process in conscientization is seen in a different social context in women's consciousness raising groups and in college re-entry programs. From our study of this same process in re-entry women, it became apparent that Freire does not give sufficient cognizance to or make explicit the stumbling blocks which intervene to make this transformation in perspective itself highly problematic.

Although one does not return to an old perspective once a transformation occurs, this passage involves a difficult negotiation and compromise, stalling, backsliding, self-deception and failure are exceedingly common. Habermas has clearly recognized this fact:

We are never in a position to know with absolute certainty that critical enlightenment has been effective—that it has liberated us from the ideological frozen constraints of the past, and initiated genuine self-reflection. The complexity, strength and deviousness of the forms of resistance; the inadequacy of mere "intellectual understanding" to effect a radical transformation; the fact that any claim of enlightened understanding may itself be a deeper and subtler form of self-deception—these obstacles can never be completely discounted in our evaluation of the success or failure of critique. (3: 218-19)

In our study, we encountered women who simply transferred their identification from one reference group to another with the same absence of critical self-consciousness which characterized their traditional roles and relationships. However, our experience does not support the contention of Berger and Luckmann (2) that perspective transformations, which they refer to as "alternations," involve a replay of the childhood process of primary socialization with its uncritical identification with and emotional dependency upon a new group of significant others. While these writers correctly emphasize the importance of significant others who represent the new and more attractive perspective, and a degree of identification is probably inevitable in the process of taking their perspective, the crucial difference between this process and that of a primary socialization is that adults are capable of being consciously critical or *critically*

reflective in effecting these relationships. Children are critically unselfconscious and usually unaware of how circumstances have contrived to dictate their relationships and commitments to parents or mentors charged with their socialization.

In many cases of perspective transformation new commitments become mediated by a new critical sense of "agency" and personal responsibility. Rather than a simple transfer of identification to a new reference group, a new set of criteria come to govern one's relationships and to represent conditions governing commitments as well. Rather than simple identification, the process may be more accurately described as one of *contractual solidarity*. Commitments are made with implicit mutual agreement among equals (in the sense of agency) concerning conditions of the relationship, including periodic review and renegotiation with the option of terminating the relationship. Such insistence upon reciprocity and equality often represents positive movement toward greater autonomy and self-determination. A superior perspective is not only one that is a more inclusive or discriminating experience of integrating but also one that is sufficiently permeable to allow one access to other perspectives. This makes possible movement to still more inclusive and discriminating perspectives.

The term contractual solidarity is derived from Erwin Singer, who writes from a psychoanalytic point of view. He has proposed a differentiation between identification and identity development.

It is proposed that the *process of identification* implies the development of a self-definition by adoption, the growth of a self-delineation provided by others, be they individuals such as parents, groups such as nations, or abstract ideologies such as political philosophies. The process of *identity development*, on the other hand, denotes the emergence of a personal definition arrived at by attention to and cultivation of individual experience, be it sensory, aesthetic, or intellectual, a self-delineation which may not be in accord with group values, cultural expectations, and social demands. (23: 162)

Singer adopts the term solidarity to describe, "... an independently arrived at agreement with another person and the decision to join him without merging in him and adopting his identity while giving up one's own self-definition—a joining of partners with full maintenance of individuality" (22:171). Thus, in the development of identity, a kind of alienation from social expectations as given must be followed with a contractual solidarity which enables one to participate in society—or in its reconstruction—rather than to drift into aimlessness, apathy and withdrawal.

PSYCHOLOGICAL ASSUMPTIONS

The psychological dimension of "psycho-cultural" assumptions in perspective transformation involves two distinct but interrelated phenomena. The first pertains to the feelings generated by internalized cultural assumptions. Thus stereotyped sex roles carry with them a set of criteria for judging how a good and

successful woman behaves. These can generate strong feelings. One can feel strongly about her conviction that "A woman's place is in the home," and judge women who forego other options as having made noble sacrifices for a selfless principle. This habitual way of thinking and the strong feelings accompanying it are a function of a set of cultural assumptions expressed in terms of sex roles, social conventions and expectations and taboos. A woman's very concept of personal identity can be predicated solely on how well she sees herself fulfilling these cultural prescriptions. When one's definition of self becomes limited to that of a player of roles and an embodiment of biological needs, existential neurosis can result, a malaise of chronic meaninglessness, apathy and aimlessness (14: 1970).

A second set of psychological assumptions which must be brought into critical consciousness before perspective transformation is possible is the result of unresolved childhood dilemmas. Roger Gould (9) has identified these childish assumptions which must be resolved to permit us to respond effectively to the age-related existential dilemmas of adulthood. The distinctions are relatively easy to make between internalized cultural assumptions about traditional sex roles and such childish assumptions as "Life is simple and controllable; there are no significant coexisting contradictory forces within me" or "There is no evil or death in the world. The sinister has been destroyed." However, such childish assumption as "I'll always belong to my parents and believe in their world" with its component assumptions, "If I get any more independent, it will be a disaster," and "I can see the world only through my parent's assumptions," can represent overwhelming barriers to perspective transformation regarding sex role stereotypes, or any other cultural myths for that matter.

REIFICATION

Reification refers to the apprehension of human phenomena as if they were beyond human agency, like laws of nature.' Through socialization the social world often appears this way to children. In describing the dynamics of this process, Berger and Luckman anticipate the function of perspective transformation in adulthood:

... the available ethnological and psychological evidence seems to indicate... that the original apprehension of the social world is highly reified both phylogenetically and ontogenetically. This implies that an apprehension of reification as a modality of consciousness is dependent upon at least relative dereification of consciousness, which is a comparatively late development in history and in any individual biography. (2: 90)

Reification may involve a whole institutional order, specific practices, roles, or one's very identity, as when a person totally identifies with his or her social roles. Traditional perspectives become legitimized both by language and by explicit theories. A person's subjective apprehension is ordered by theories and ideologies which make anticipated events seem natural and correct. But socialization is never

completely successful. Deviant versions of reality provide alternative definitions. Social marginality, contact between previously segregated societies and the collapse of institutional order favor dereification.

There are important transitions involved in learning new roles associated with occupational training or social mobility. However, we fill normal social expectations by making such changes and they represent anticipated continuity with the past. Although there may be no reinterpretation of the past to conform with a newly understood reality, as in perspective transformation, individuals may be assisted to convert these transitions into transformations of perspective.

CRITICAL REFLECTIVITY

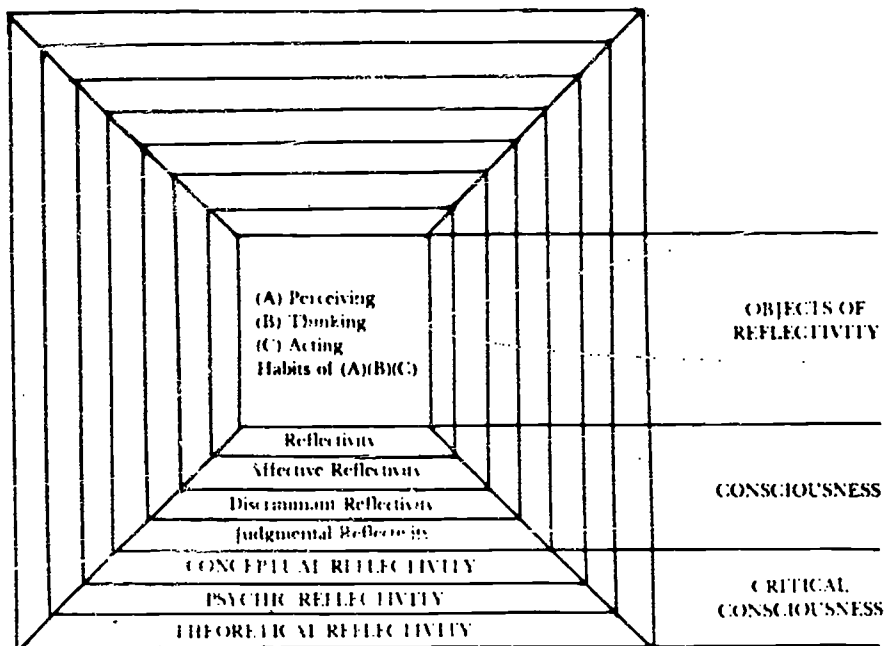
Perspective transformation fills an important gap in adult learning theory by acknowledging the central role played by the function of critical reflectivity. Awareness of *why* we attach the meanings we do to reality, especially to our roles and relationships—meanings often misconstrued out of the uncritically assimilated half-truths of conventional wisdom and power relationships assumed as fixed—may be the most significant distinguishing characteristic of adult learning. It is only in late adolescence and in adulthood that a person can come to recognize being caught in his/her own history and reliving it. "A mind that watches itself" may be Albert Camus' definition of an intellectual, but it also describes an essential function of learning in adulthood.

Lifespan psychologist John Broughton has evidence that it is only in adulthood that we come to acquire a "theoretical self-consciousness" capable of recognizing paradigmatic assumptions in our thinking. He writes "What emerges at adolescence is not self-consciousness but theoretical self-consciousness, an intellectual competence that enables us to articulate and communicate systematic justifications for the felt necessities of our ideas. Such legitimizing activities require epistemological reasoning about how we know, about how the self knows reality" (4: 95).

Only in late adolescence or adulthood does one find theorizing about alternative paradigms of thought as sets of assumptions which significantly influence our selection of data and our interpretation of evidence. Broughton writes of the "discovery that all has context."

The concept of critical reflectivity which plays so crucial a role in the adult learning process and in perspective transformation needs phenomenological study. Figure 1 suggests some principal dimensions of this construct.

FIGURE 1 Levels of Reflectivity



We can simply become aware of a specific perception, meaning or behavior of our own or of habits we have of seeing, thinking or acting. This is an act of *reflectivity*. *Affective reflectivity* refers to our becoming aware of how we feel about the way we are perceiving, thinking or acting or about our habits of doing so. Through *discriminant reflectivity* we assess the efficacy of our perceptions, thoughts, actions and habits of doing things; identify immediate causes; recognize reality contexts (a play, game, dream, or religious, musical or drug experience, etc.) in which we are functioning and identify our relationships in the situation. *Judgmental reflectivity* involves making and becoming aware of our value judgments about our perceptions, thoughts, actions and habits in terms of their being liked or disliked, beautiful or ugly, positive or negative.

We have seen how political, economic, sexual, technological and other cultural ideologies which we have assimilated become manifest in a set of rules, roles and social expectations which govern the way we see, think, feel and act. These ways of perception, thought and behavior become habituated. Donald Maudsley (15) has adapted the term "meta-learning" to describe "the process by which learners become aware of and increasingly in control of habits of perception, inquiry, learning and growth that they have internalized." He sees these habits as important elements in understanding meaning perspectives. Meta-learning is a common

element in almost every kind of learning from learning manual skills to learning in psychotherapy. Perspective transformation involves not only becoming critically aware of habits of perception, thought and action but of the cultural assumptions governing the rules, roles, conventions and social expectations which dictate the way we see, think, feel and act.

Critical awareness or critical consciousness is "becoming aware of our awareness" and critiquing it. Some of the ways this is done may be discerned by reflecting upon the assertion "John is bad." The act of self-reflection which might lead one to question whether good or bad are adequate concepts for understanding or judging John may be understood as *conceptual reflectivity*. This is obviously different from the *psychic reflectivity* which leads one to recognize in oneself the habit of making precipitant judgments about people on the basis of limited information about them (as well as recognizing the interests and anticipations which influence the way we perceive, think or act.) These two forms of critical consciousness may be differentiated from what may be called *theoretical reflectivity* by which one becomes aware that the reason for this habit of precipitant judgment or for conceptual inadequacy is a set of taken-for-granted cultural or psychological assumptions which explain personal experience less satisfactorily than another perspective with more functional criteria for seeing, thinking and acting. Theoretical reflectivity is thus the process central to perspective transformation.

There is an implicit ordering in the modes of reflectivity previously described, with most levels of reflectivity incorporating those preceding them in the diagram above. The degree to which these are age-related is unknown. However, critical consciousness—and particularly theoretical reflectivity—represents a uniquely adult capacity and, as such, becomes realized through perspective transformation. Perspective transformation becomes a major learning domain and the uniquely adult learning function. If adult education is to be understood as an organized effort to facilitate learning in the adult years, it has no alternative but to address the distinctive learning needs of adults pertaining to perspective transformation.

Perspective transformation also appears to best account for the process of transition between stages of adult psychological development in major life-span theories. A heightened sense of critical reflectivity is crucial to Erikson's "identity crisis" of late adolescence and to "integrity" in adulthood. It is probably the factor in Lawrence Kohlberg's adult stage of principled morality which separates this stage from those which precede it. Clearly, this is what Gould is writing about in movement through adult life stages and what Levinson sees as operant in moving through the psychosocial "seasons" of adulthood.

Levinson identified three major adult transitional periods of men occurring between the ages of 17-22, 40-45 and 60-65, each requiring a different perspective and ushering in a qualitatively different period of development with distinctive developmental tasks. He writes,

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The most fundamental tasks of a stable period are to make firm choices, rebuild the life structure and enhance one's life within it. Those of the transitional period are to question and reappraise the existing structure, to search for new possibilities in self and world, and to modify the present structure enough so that a new one can be formed. (13: 53)

Our research on perspective transformation in women was confirmed by Levinson's finding that transitional periods are often triggered by what he called "marker events"—our disorienting dilemmas. He observed, "No matter how satisfactory a structure is, in time its utility declines and its flaws generate conflict that leads to modification or transformation of the structure" (13: 55-60).

THE DEVELOPMENT OF PERSPECTIVES

Perspectives are constitutive of experience. They determine how we see, think, feel and behave. Human experience is brought into being through language.⁷ Restricted language codes can arbitrarily distort experience so that it gets shoe-horned into categories of meanings or typifications. Language builds up linguistically circumscribed areas of meaning. Meaning perspectives can incorporate fragmented, incomplete experience involving areas of meaninglessness. Intellectualizing meanings without fully assimilating them in experience contributes to this situation. Because such perspectives afford a limited basis for anticipating events, they are likely to give rise to disorienting dilemmas requiring a different set of criteria for making judgments. Perspectives involve institutionalized ideologies which predicate descriptive categories and rules or conventions governing their use. These involve roles and appropriate relationships and ways of behaving which one can think of as a body of tactics. There are implicit criteria for judging success and failure. Roles and relationships are frequently dichotomized constructs, such as parent-child, man-woman, mother-father, teacher-pupil, employer-employee, saved-damned, priest-parishioner, etc.

Typification is the process of categorizing our perceptions. Typifying always proceeds on the basis of a highly selective sample of information about objects or persons. The cultural ideologies or belief systems we have acquired through socialization provide our "background expectancies" directing the intentionality which influences how we perceive and governs how we typify what we see.

Jerome Bruner (5) has helped establish the constructive nature of ordinary awareness. As we mature, we attempt to improve our ability to anticipate reality by development of categoric or stereotyped systems for sorting out our perceptions. These categories may be a color, a way of judging distance by the relative size of objects, the concept of a Frenchman, or may be in terms of a personality trait like introspective. We tend then to sort all a person's actions in terms of these categories. Experience strengthens the personal category system by reinforcing our expectations about how things are supposed to be. But what we actually experience is the category, which is evoked by a particular stimulus, rather than the occurrence in the real world. We construct a model of the world with our

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system of categories, come to expect certain relationships and behaviors to occur and then experience our categories.

Bruner sees a universal direction of intellectual development moving from action—knowing by knowing how to do—to symbolic representation which primarily involves the use of language with rules for forming and transforming propositions and permitting representations not only of what is but also of what is not and what might be. This requires the development of self-consciousness which permits one to make the crucial distinction between one's own psychological reactions and external events. This self-awareness is a precondition for developing the capacity to categorize the same stimuli according to several different criteria or points of view. Through symbolic representation one can dialogue with oneself, and, in imagination, construct the perspective of the other person. Perspective taking then becomes an indispensable heuristic for higher level cognitive and personality development.

Culture impedes or facilitates the development of self-consciousness and ability to make symbolic representations. Thus schooling in traditional societies can make a very special difference by fostering the sort of self-consciousness essential for children and sometimes for illiterate adults to distinguish between their own thought or description about something and the thing itself. This involves the cultivation of individual subjectivity.

In terms of conceptual development, the process of development is toward increasing the tendency to categorize things that share a common attribute (superordinate grouping) rather than an earlier mode of grouping things which fit together in another way, for example, in a story. "The transition from the earlier to the later mode of grouping is handled by 'egocentrism.' Things are alike by virtue of the relationship that 'I' or 'you' have to them, or the action taken toward them by 'I' or 'you'" (6: 27).

Bruner and others have found that cultures vary in the degree to which they encourage the expression of the functions of things in terms of one's personal interaction with them. Some, like the Wolof of Senegal and the Eskimo of Anchorage, value self-reliance and suppress expression of individualism. Their children are less likely to set themselves apart from others and the physical world, are less self-conscious and place less value on themselves (6: 25-28).

The etiology of meaning perspective is illuminated by Bruner's work on the Piagetian concept of "decentration." This refers to the ability to analyze things in the world from a perspective other than one's personal or local perspective. There are several cultural dimensions in the use of language which are found to correlate with the ability to achieve decentration. Lower class children were found far less able to do this than middle class children (6: 147). Middle class children more commonly tend to use language as an instrument of analysis and synthesis in abstract problem solving and for decontextualization. This term refers to using language without dependence upon shared perceptions or actions, permitting one to conceive of information as independent of the speaker's point of view and to communicate with those outside one's daily experience regardless of their

affiliation or location. In observing these class related differences in language usage among children, Bruner comments, "I do not know, save by everyday observation, whether the difference is greater still among adults, but my impression is that the difference in decontextualization is greater between an English barrister and a dock worker than it is between their children" (6: 149).

A necessary inference from Bruner's findings is that if indeed some adult cultures discourage the development of self-awareness essential for decentration, for perspective taking and for the acquisition of a sense of identity in their children, these same deprivations and their consequent constraints must, *ipso facto*, pertain in adulthood. Moreover, there is a reason to believe this condition pertains not only to most people in some place but to some people in most places.

George Kelly (12) holds that each person creates his own world by means of dichotomous constructs, such as "black vs white," which are the result of our past experience. We apply these constructs to new experiences as long as they seem to work in anticipating events. We can prove or disprove only the possible alternatives suggested by our construction system. One's system of constructs sets the limits beyond which it is impossible for a person to perceive. Constructs control one's outlook. Kelly believes that even human behavior which has no language symbols nevertheless is psychologically channeled and is included in the network of dichotomous dimensions with which a person's world is structured. Perspectives are systems of such constructs involving what Polanyi refers to as "tacit knowing," unformulated knowledge such as that we have of a problem we are attempting to solve as distinct from explicit or formulated knowledge of which we can become critically reflective.

Orstein writes, "Our senses limit; our central nervous system limits; our personal and cultural categories limit; language limits, and beyond all these selections, the rules of science cause us to further select information which we consider to be true" (21: 41). There are many who would argue that it is less the rules of science and more the unsupportable and pervasive ideologies of scientism and technicism which shape our conception of reality.

A CRITICAL THEORY OF ADULT EDUCATION

We have examined in some detail the nature and development of perspective transformation as the third—and the uniquely adult—of Habermas' three domains of learning. By clearly differentiating these three interrelated but distinct "knowledge constitutive" areas of cognitive interest, Habermas has provided the foundation for formulating a comprehensive theory of adult education. As each domain has its own learning goal (*viz.*, learning for task-related competence, learning for interpersonal understanding and learning for perspective transformation), learning needs, approaches for facilitating learning, methods of research and program evaluation are implied or explicit.

This extension of Habermas' theory of areas of cognitive interest is reinforced by the experience of adult educators. We have understood through conventional

wisdom that educational design and methodology must be a function of the learning needs of adults and that formula or package programs which do not fully address the differences in goal and nature of the learning task are of questionable value. Perhaps it is because we have been marginal to the mainstream of education for so long that we have been able to sustain our own rather distinctive perspective on learner centeredness in conceptualizing our role. At any rate, we have tacitly recognized the vast differences in helping adults learn how to do something or to perform a task from helping them develop sensitivity and understanding in social relations and from helping them effect perspective transformation.

As educators, we need not concern ourselves with the philosophical question of whether Habermas has succeeded in establishing the epistemological status of the primary knowledge-constitutive interests with categorically distinct object domains, types of experience and corresponding forms of inquiry. There is sufficient force in his analysis to warrant serious examination of this contention as a hypothesis for investigation of and design of appropriate approaches for facilitating learning relevant to these three domains of learning. Despite their obvious interrelatedness in everyday life, a compelling argument has been made for recognizing that each involves its own different way of knowing and each is different enough to require its own appropriate mode of inquiry and educational strategy and tactics.

Educators have not only failed to recognize the crucial distinction among the three domains, but have assumed that the mode of inquiry derived from the empirical-analytic sciences is equally appropriate to all three learning domains. The behavioral change model of adult education—derived from this approach and therefore appropriate to facilitating learning concerned with controlling and manipulating the environment—has been indiscriminately applied as appropriate to the other domains as well. This misconception has become so pervasive that the very definition of education itself is almost universally understood in terms of an organized effort to facilitate behavioral change. Behaviorism has become a strongly institutionalized ideology in both psychology and education. Habermas' analysis of primary cognitive interests helps us demythify the learning process as well as our way of thinking about facilitating learning.

If you were to ask most professionals in adult education to outline how they would conceptualize program development, the model would probably be one which sets educational objectives in terms of specific behaviors to be acquired as dictated by a task to be accomplished. The task or role to be played is analyzed to establish its requisite skills, behaviors or "competencies." This is often referred to as a "task analysis." The difference would constitute a "needs assessment." An educational program is composed of a sequence of educational exercises reduced to their component elements with immediate feedback on each learning effort. Education is evaluated by subtracting measured learning gains in skills or competencies from behavioral objectives.

There is nothing wrong with this rather mechanistic approach to education as long as it is confined to task-oriented learning common to the "technical" domain

of learning to control and manipulate the environment. It is here such familiar concepts as education for behavior change, behavioral objectives, needs assessment, competency-based education, task analysis, skill training, accountability and criteria-referenced evaluation are appropriate and useful. In this domain research and program evaluation based upon the empirical-analytic model of inquiry have relevance and power.

It is only when educators address the other two domains of learning, social interaction—including educational process—and perspective transformation, using the same model that they have been wrong and generally ineffectual. The most common form this has taken is to attempt to broaden behavioral skills necessary to perform the task for which education is required. The assumption is that these are learned much like any other behavioral skill except that practice occasionally requires the use of hypothetical reality contexts, such as role playing, which are unnecessary in learning to operate a lathe or to perform other manual tasks.

Inherently different modes of systematic inquiry and educational design are implicit in the processes involved in the other two primary domains of learning. The second, social interaction, calls for an educational approach which focuses on helping learners interpret the ways they and others with whom they are involved construct meanings, ways they typify and label others and what they do and say as we interact with them. Our task is to help learners enhance their understanding of and sensitivity to the way others anticipate, perceive, think and feel while involved with the learner in common endeavors. Educators can assist adults to learn to take the role of others, to develop empathy and to develop confidence and competence in such aspects of human relations as resolving conflict, participating in discussion and dialogue, participating and leading in learning groups, listening, expressing oneself, asking questions, philosophizing, differentiating 'in order to' motives from 'because' motives and theorizing about symbolic interaction. Studies of symbolic interaction, "grounded theory" strategies of comparative analysis and phenomenological analyses seem especially appropriate for both educational research—especially that relating to educational process—and evaluation." Our work through the Center for Adult Education would be included in these efforts (17, 19, 20).

Perspective transformation, the process central to the third learning domain, involves other educational approaches. Here the emphasis is on helping the learner identify real problems involving reified power relationships rooted in institutionalized ideologies which one has internalized in one's psychological history. Learners must consequently be led to an understanding of the reasons imbedded in these internalized cultural myths and concomitant feelings which account for their felt needs and wants as well as the way they see themselves and their relations. Having gained this understanding, learners must be given access to alternative meaning perspectives for interpreting this reality so that critique of these psycho-cultural assumptions is possible.

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Freire has demonstrated how adult educators can precipitate as well as facilitate and reinforce perspective transformation. Beginning with the problems and perspectives of the learner, the educator develops a series of projective instructional materials—contrasting pictures, comic strips or stories posing hypothetical dilemmas with contradicting rules and assumptions rooted in areas of crucial concern to learners. Included will be representations of cultural discrepancies perceived by the educator which are taken for granted by the learners. Socratic dialogue is used in small group settings involving learners who are facing a common dilemma to elicit and challenge psycho-cultural assumptions behind habituated ways of perceiving, thinking, feeling and behaving. Emphasis is given equality and reciprocity in building a support group through which learners can share experiences with a common problem and come to share a new perspective. An ethos of support, encouragement, non-judgmental acceptance, mutual help and individual responsibility is created. Alternative perspectives are presented with different value systems and ways of seeing.

Where adults come together in response to the same existential dilemma for the purpose of finding direction and meaning, projective instructional materials may be unnecessary. In a support group situation in which conditions for Habermas' "ideal speech" is approximated, all alternative perspectives relevant to the situation are presented. Critical reflexivity is fostered with a premium placed on personalizing what is learned by applying insights to one's own life and works as opposed to mere intellectualization. Conceptual learning needs to be integrated with emotional and aesthetic experience. x

The research technique used by ethnomethodologists called "breaching" for studying meaning perspectives might also be used as an effective instructional method to foster perspective transformation. This would involve educational experiences which challenge the taken-for-granted assumptions about relationships in order to call them into critical consciousness. For example, learners used to traditional teacher-student relationships can be helped to examine implicit assumptions by being placed in a learning situation in which the educator refuses to play the traditional authority role of information giver or activities director but rather limits his or her response to that of a resource person. This typically generates strong negative feelings in learners who are unable to cope with the unexpected lack of structure. By subsequently helping learners see the reasons for their feelings rooted in the assumptions of an institutionalized ideology, real progress can be made toward perspective transformation. Through similar modified "T group" experiences with provision for a continuing support structure, individuals can be helped to recognize the way psycho-cultural assumptions about authority relationships have generated their habits of perception, thought and behavior and be assisted to plan and take action.

While Habermas is correct in suggesting that psychoanalysis and critique of ideology are appropriate methods for inquiry in this domain of learning, they are also appropriate educational methods. The process of perspective transformation

may also be studied using interviews; comparing movement in problem awareness, expectations and goals; or through comparative analysis to inductively ascertain commonalities.

Perspective transformation, following the cycle delineated earlier, also involves learning needs attendant upon systematically examining existing options, building confidence through competence in new roles, acquiring knowledge and skills to implement one's plans and provisionally trying out new roles and relationships. These learning needs involve all three learning domains. In everyday life few situations (e.g., self-instruction in a manual skill) will involve only one learning domain. They are intricately intertwined. To be able to facilitate learning adult educators must master the professional demands of all three and become adept at working with learners in ways that will be sensitive to both the interrelatedness and inherent differences among them.

I see no serious ethical issues involved in education for perspective transformation. Helping adults construe experience in a way in which they may more clearly understand the reasons for their problems and understand the options open to them so that they may assume responsibility for decision making is the essence of education. Bringing psycho-cultural assumptions into critical consciousness to help a person understand how he or she has come into possession of conceptual categories, rules, tactics and criteria for judging implicit in habits of perception, thought and behavior involves perhaps the most significant kind of learning. It increases a crucial sense of agency over ourselves and our lives. To help a learner become aware of alternative meaning perspectives relevant to his situation, to become acquainted with them, to become open to them and to make use of them to more clearly understand does not prescribe the correct action to be taken. The meaning perspective does not tell the learner what to do; it presents a set of rules, tactics and criteria for judging. The decision to assume a new meaning perspective clearly implies action, but the behavior that results will depend upon situational factors, the knowledge and skills for taking effective action and personality variables discussed earlier.

Education becomes indoctrination only when the educator tries to influence a specific action as an extension of his will, or perhaps when he blindly helps a learner blindly follow the dictates of an unexamined set of cultural assumptions about who he is and the nature of his relationships. To show someone a new set of rules, tactics and criteria for judging which clarify the situation in which he or she must act is significantly different from trying to engineer learner consent to take the actions favored by the educator within the new perspective. This does not suggest that the educator is value free. His selection of alternative meaning perspectives will reflect his own cultural values, including his professional ideology—for adult educators one which commits us to the concept of learner self-directedness as both the means and the end of education.

Inasmuch as the overwhelming proportion of adult learning is self-directed (24) and uses the experience of others as resources in problem solving, those

relatively few occasions when an adult requires the help of an adult educator must be understood in their broader context. Clearly, we must attempt to provide the specialized educational resource adult learners seek when they choose to use an adult educator, but our professional perspective needs to be unequivocal: we must respond to the learner's educational need in a way which will improve the quality of his or her self-directedness as a learner. To do less is to perpetuate a dysfunctional dependency relationship between learner and educator, a reification of an institutionalized ideology rooted in the socialization process.

Although the diversity of experience labeled adult education includes any organized and sustained effort to facilitate learning and, as such, tends to mean many things to many people, a set of standards derived from the generic characteristics of adult development has emerged from research and professional practice in our collective definition of the function of an adult educator. It is almost universally recognized, at least in theory, that central to the adult educator's function is a *goal and method of self-directed learning*. Enhancing the learner's ability for self direction in learning as a foundation for a distinctive philosophy of adult education has breadth and power. It represents the mode of learning characteristic of adulthood.

Each of three distinct but interrelated domains—controlling and manipulating the environment, social interaction and perspective transformation—involves different ways of knowing and hence different learning needs, different educational strategies and methods and different techniques of research and evaluation. A self-directed learner must be understood as one who is aware of the constraints on his efforts to learn, including the psycho-cultural assumptions involving reified power relationships embedded in institutionalized ideologies which influence one's habits of perception, thought and behavior as one attempts to learn. A self-directed learner has access to alternative perspectives for understanding his or her situation and for giving meaning and direction to his or her life, has acquired sensitivity and competence in social interaction and has the skills and competencies required to master the productive tasks associated with controlling and manipulating the environment.

A CHARTER FOR ANDRAGOGY

Andragogy, as a professional perspective of adult educators, must be defined as an organized and sustained effort to assist adults to learn *in a way that enhances their capability to function as self-directed learners*. To do this it must:

1. progressively decrease the learner's dependency on the educator;
2. help the learner understand how to use learning resources—especially the experience of others, including the educator, and how to engage others in reciprocal learning relationships;
3. assist the learner to define his/her learning needs—both in terms of immediate awareness and of understanding the cultural and psychological assumptions influencing his/her perceptions of needs;
4. assist learners to assume increasing responsibility for defining their learning objectives, planning their own learning program and evaluating their progress;

5. organize what is to be learned in relationship to his/her current personal problems, concerns and levels of understanding;
6. foster learner decision making—select learner-relevant learning experiences which require choosing, expand the learner's range of options, facilitate taking the perspectives of others who have alternative ways of understanding;
7. encourage the use of criteria for judging which are increasingly inclusive and differentiating in awareness, self-reflexive and integrative of experience;
8. foster a self-corrective reflexive approach to learning—to typifying and labeling, to perspective taking and choosing, and to habits of learning and learning relationships;
9. facilitate problem posing and problem solving, including problems associated with the implementation of individual and collective action; recognition of relationship between personal problems and public issues;
10. reinforce the self-concept of the learner as a learner and doer by providing for progressive mastery; a supportive climate with feedback to encourage provisional efforts to change and to take risks; avoidance of competitive judgment of performance; appropriate use of mutual support groups;
11. emphasize experiential, participative and projective instructional methods; appropriate use of modeling and learning contracts;
12. make the moral distinction between helping the learner understand his/her full range of choices and how to improve the quality of choosing vs encouraging the learner to make a specific choice.

I believe the recognition of the function of perspective transformation within the context of learning domains, as suggested by Habermas' theory, contributes to a clearer understanding of the learning needs of adults and hence the function of education. When combined with the concept of self-directedness as the goal and the means of adult education, the essential elements of a comprehensive theory of adult learning and education have been identified. The formulation of such a theory for guiding professional practice is perhaps our single greatest challenge in this period of unprecedented expansion of adult education programs and activities. It is a task to command our best collective effort.

FOOTNOTES

1. The treatment of Habermas' most important concepts within the limitations of this article are necessarily brief and superficial. The interested reader is referred to Trent Schroyer's *The Critique of Domination, the Origins and Development of Critical Theory* (Boston: Beacon Press, 1973) and Thomas McCarthy's *The Critical Theory of Jurgen Habermas* (Cambridge, MA: MIT Press, 1979), the most complete synthesis of Habermas' work in English. For serious students, "Jurgen Habermas: the Complete Oeuvre. A Bibliography of Primary Literature, Translations and Reviews" by Rene Gortzen and Frederik van Gelder may be found in *Human Studies* 2 (1970), 285-300.
2. See Bauman, Zygmunt, *Hermeneutics and Social Science*, N.Y.: Columbia University Press, 1978.
3. See Gabel, Joseph, *False Consciousness: An Essay on Reification*, N.Y.: Harper Torchbooks, 1975.
4. See Peter Berger and Stanley Pullburg, "Reification and the Sociological Critique of Consciousness," *History and Theory* 4, (1965) 196-211.
5. Also read Carol Gilligan and John Michael Murphy, "Development from Adolescence to Adulthood: The Philosopher and the Dilemma of the Fact" in *New Directions of Child Development* Deanna Kuhn (Ed.) San Francisco: Jossey-Bass, 1979. These writers report empirical findings in a longitudinal study of a cognitive developmental progression in late adolescence toward more "dialectical or contextual structures of thought."
6. See John C. Gibbs, "Kohlberg's Stages of Moral Judgment: A Constructive Critique," *Harvard Educational Review* 47 (1977), 43-61.
7. Giddens (8: 142) notes that Wittgenstein's "language games," James' and Schutz's "multiple realities," Castaneda's "alternative realities," Whorf's "language structures," Bachelard's and Althusser's "problematics," and Kuhn's "paradigms" each is used to show that the meanings of terms, expressions, or

descriptions have to be understood in relation to "frames of meaning." Foucault's "episteme" deals directly with this concept as well. He uses this term to refer to the composite "codes" of a culture governing its schemes of perception, language, values and the order of its practices.

8. For a review of related research see A. Jon Magoon. "Constructivist Approaches in Educational Research." *Review of Educational Research* 47 (1977), 651-693.
9. Conventional T group experience fosters psychic rather than theoretical reflexivity.

REFERENCES

1. Arlin, Patricia. "Cognitive Development in Adulthood: A Fifth Stage?" *Developmental Psychology* 11 (1975), 602-606.
2. Berger, Peter L. and Thomas Luckmann. *The Social Construction of Reality*. Garden City, N.Y.: Doubleday, 1966.
3. Bernstein, Richard J. *The Restructuring of Social and Political Theory*. Philadelphia: University of Pennsylvania Press 1978.
4. Broughton, John. "'Beyond Formal Operations': Theoretical Thought in Adolescence," *Teachers College Record* 79 (1977), 87-97.
5. Bruner, Jerome. "On Perceptual Readiness." *Psychological Review* 64 (1957), 123-152.
6. Bruner, Jerome. *The Relevance of Education*. New York: W. W. Norton, 1973.
7. Freire, Paulo. *Pedagogy of the Oppressed*. New York: Herter and Herter, 1970.
8. Giddens, Anthony. *New Rules of Sociological Method*. New York: Basic Books, 1976.
9. Gould, Roger L. *Transformations: Growth and Change in Adult Life*. New York: Simon and Schuster, 1978.
10. Habermas, Jurgen. *Knowledge and Human Interests*. Boston: Beacon Press, 1971.
11. Habermas, Jurgen. *Toward a Rational Society*. Boston: Beacon Press, 1970.
12. Kelly, George A. *A Theory of Personality: The Psychology of Personal Constructs*. New York: W. W. Norton, 1955.
13. Levinson, Daniel, et al. *The Seasons of a Man's Life*. New York: Knopf, 1978.
14. Maddi, Salvatore. "The Existential Neurosis," in *Psychopathology Today*, R. S. Sahakian (ed.). New York: Peacock Press, 1970.
15. Maudsley, Donald B. "A Theory of Meta-Learning and Principles of Facilitation: An Organismic Perspective." Doctoral dissertation, Toronto: University of Toronto, 1979.
16. Mezirow, Jack. *Education for Perspective Transformation: Women's Re-entry Programs in Community Colleges*. New York: Center for Adult Education, Teachers College, Columbia University, 1975.
17. Mezirow, Jack. *Evaluating Statewide Programs of Adult Basic Education: A Design with Instrumentation*. New York: Center for Adult Education, Teachers College, Columbia University, 1975.
18. Mezirow, Jack. "Perspective Transformation," *Adult Education* 28 (1978), 100-110.

19. Mezirow, Jack and Amy Rose. *An Evaluation Guide for College Women's Re-entry Programs*. New York: Center for Adult Education, Teachers College, Columbia University, 1978.
20. Mezirow, Jack, Gordon Darkenwald, Alan Knox. *Last Gamble on Education: Dynamics of Adult Basic Education*. Washington, D.C.: Adult Education Association of USA, 1975.
21. Ornstein, Robert E. *The Psychology of Consciousness*. San Francisco: W. H. Freeman, 1973.
22. Rogers, Carl. "The Formative Tendency," *Journal of Humanistic Psychology* 18 (1978), 23-26.
23. Singer, Irwin. "Identity and Identification: A Thorny Psychological Issue," *Review of Existential Psychology and Psychiatry* 5 (1965), 140-148.
24. Tough, Allen. "Major Learning Efforts: Recent Research and Future Directions," *The Adult Learner, Current Issues in Higher Education*. National Conference Series. Washington, D.C.: American Association for Higher Education, 1978.

3

LEARNING IN THE WORKPLACE: THE CASE FOR REFLECTIVITY AND CRITICAL REFLECTIVITY

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V.J. Marsick, 'Learning in the workplace: The case for reflectivity and critical reflectivity', *Adult Education Quarterly*, vol. 38, no. 4, 1988, pp. 187-98.

ABSTRACT

Learning in the workplace has traditionally been understood primarily in terms of behaviorism, a perspective compatible with the machine-like design of organizations when training and development emerged as a field of practice. Adult educators have not challenged the desirability of that perspective directly, although various theorists suggest its modification through greater learner participation, problem-centeredness, experience-basing, and concern for different learning styles. This article raises questions about the universal valuing of behaviorism in workplace learning based on a review of trends in organizations in the post-industrial era and analysis of theorists within and outside the field who emphasize the importance of reflectivity and critical reflectivity in learning. The author then describes emerging characteristics of a new paradigm for understanding workplace learning and concludes with a discussion of its limits.

Workplace training and development is a field of practice that is rapidly moving toward an identity of its own. The American Society for Training and Development (ASTD) (1986) notes that "employee training is by far the largest delivery system for adult education" (p. 7). ASTD estimates that approximately \$30 billion is spent annually by employers for formal training and \$180 billion for informal training, while the Government spends an additional \$5 billion for training.

While adult educators often lay claim to the professional preparation of trainers, many such programs are based on theory from a variety of disciplines other than adult learning (ASTD, 1981). If any discipline has dominated theory-building in training, it has been psychology, particularly the school of behaviorism (Goldstein, 1980). This article questions this continued primary reliance on behaviorism. It argues that behaviorism does not foster the reflective abilities needed to assist people at all levels to learn in the workplace, particularly in their informal interactions, although such training might successfully develop specific skills.

The article begins with a brief description of how behaviorism manifests in workplace training as well as a discussion of some modifications by adult educators. The next section is a review of trends in organizations that suggest the need for a new paradigm for understanding workplace learning in the post-industrial era. Scholars concerned with learning that emphasizes reflectivity and critical reflectivity are then examined in terms of their "fit" with workplace learning. Finally, the author discusses the emerging characteristics and limits of a new paradigm for workplace learning.

BEHAVIORISM AND SOME MODIFICATIONS

Most descriptions of, and prescriptions for, workplace learning are based in a behavioristic paradigm. The term "paradigm" is here used to mean a fundamental world view that influences the way in which its adherents define reality and locate and solve problems within it. Behaviorism, while interpreted somewhat differently by its adherents, is defined as that educational philosophy which emphasizes environmental conditioning of responses. Marsick (1987) summarizes characteristics of the current behavioristic paradigm for workplace learning as follows:

1. It is behaviorally-oriented with performance outcomes that can be observed, quantified and criterion-referenced.
2. Personal and work-related development are separated.
3. The organizational ideal for which training is designed is a well-functioning machine with clear, hierarchical lines of authority, jobs that do not overlap, and rational systems of delegation and control.
4. Training is designed to meet needs of individuals, not groups.
5. Learning is designed on a "deficit" model that measures individuals against standard, expert-derived norms.
6. Problem-solving emphasizes objectivity, rationality, and step-by-step procedures.
7. Training typically consists of classroom-based, formal group activities.
8. Trainers focus on "pure" learning problems, with support provided to the organization to manipulate the environment to sustain outcomes. (pp. 1-2)

Some training models depart from this purely behavioristic paradigm. Two examples are andragogy and experiential learning. Andragogy (Knowles, 1980) departs from the behaviorist paradigm in that the learner takes a more active role in controlling learning objectives and the means to attain them. Andragogy is increasingly used in workplace training design, although there is, to date, little empirical evidence assessing its usefulness in business and industry. Another modification is experiential learning theory with its concern for differences in learning style (Kolb, 1984). Kolb's work also departs from behaviorism in that it is first concerned with the experience of the learner, not the intent of the experts designing the activity. Knowles and Kolb have substituted a degree of learner-centeredness for the expert control of behaviorism. However, the trainer using these models seldom advocates substituting learner preferences for those of the organization.

The behavioristic models of practice developed as the field emerged to meet the needs of organizations after World War II were based on a production orientation unlike today's service economy, an educational level of the workforce far below today's norm, and technology considered primitive by today's standards. Much of the early theory came from military experience prior to guerrilla warfare, and was well-suited to organizations whose predominant mode of operation might be described by the metaphor of a machine (Morgan, 1986). Characteristics of the social organization of the workplace included logic, rationality, linear cause-effect relationships, clear demarcation of responsibilities, hi-

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erarchical control, and forged unification of the movement of parts into a whole which minimized duplication and overlap. In tandem, training was developed to prepare people for machine-like work according to their levels in the hierarchy much as in an assembly line. Workers' deficits would be systematically filled or fixed as they passed along the organizational conveyor belt until they reached the point where the organization decided they could go no further. They had either acquired the prescribed skills to fill the prescribed slot or were matched to a different line to which they were considered more suited.

Two points must be made about the behaviorist paradigm before proceeding with a discussion of an alternative viewpoint. First, there are times when behavioristic training is entirely appropriate to the task at hand, particularly when workers are learning a precise technique that allows no variation. As will be argued later, however, even in these cases there are often good reasons for mediating this instrumental focus. Second, alternatives to the behaviorist paradigm have always existed, particularly in management development or organization development (OD) where answers are not as clear-cut (e.g., interpersonal communications, team building, decision making in a turbulent environment, group dynamics). OD has based much of its learning design on the action research strategies of Kurt Lewin, a philosophy of pragmatism grounded in John Dewey's experiential learning, and on a systems approach. However, trainers have never fully adopted these strategies for learning, perhaps because their mandate does not typically extend beyond instruction to the wider-scale organizational interventions advocated by OD.

Behaviorism has thus become a dominant force in workplace training. The next section reviews changing trends in organizations that challenge this perspective in the post-industrial era.

CHANGES IN ORGANIZATIONS

A group of popular writers have examined trends and pockets of innovation in successful businesses: entrepreneurship and intrapreneurship, decentralization, networking, participatory management, flattening of middle management, and a culture of empowerment (Kanter, 1983; Naisbitt & Aburdene, 1985; Peters & Waterman, 1982; Toffler, 1985). While each holds a somewhat different focus, these authors collectively call for new forms of organization if business is to survive and flourish in this post-industrial technological era. At the heart of their arguments is concern for *intangible* factors not always factored into the bottom line: human values, new forms of social interaction, commitment, a service orientation, risk-taking, independent thinking, integration among units within the organization as well as in external interfaces, and creativity. These authors essentially argue that productivity must be redefined; short-run profit taking must be mediated by a longer-term perspective on productivity that capitalizes on the creativity of its human resources.

Pressures to change come from both the external world of business, particularly the technological revolution and the increase in international competition, and the nature of the workforce itself. Carnevale and Goldstein (1983) highlight some of these factors: the impact of the baby boom and of women entering the

market in large numbers, a larger pool of both more highly-educated white middle class workers and less well-educated minorities and immigrants, and the mid-career glut.

Change, however, requires far more than tinkering with the latest management fad, re-writing policies and procedures, or providing a training course in techniques, as both advocates and critics learned with respect to Japanese models of management. Change requires a fundamental shift in thinking. Lincoln (1985) suggests that, in fact, a paradigm revolution is taking place in almost all fields of human endeavor. She draws on the analysis of Schwarz and Ogilvy (1979) of many formal disciplines to highlight the following characteristics of such a shift: from simplicity to complexity, from hierarchy to heterarchy, from a mechanical model to a holographic one in which people can play multiple roles (just as the whole can be recreated from any of its parts in the laser-created photograph called a hologram), from predictability to ambiguity, from direct to mutual causality, from planned assembly of complex systems to their spontaneous creation through interaction, and from objectivity to an awareness of multiple perspectives.

To summarize, organizations are changing rapidly due to changes in the external environment, technology, and the workforce. New models are required to understand, function within, and learn in today's organizations. These models suggest a move away from the mechanistic orientation which fostered and encouraged tightly controlled behavioristic learning. In order to develop a new model for understanding workplace learning in the organization of today and/or tomorrow, the next section reviews learning theorists who advocate reflection and critical reflectivity in practice.

LEARNING THEORY AND THE WORKPLACE

Carr and Kemmis (1933) also analyze paradigm shifts, their focus being teaching and learning. They identify a dominant technical paradigm based on logical positivism. Practitioners under this paradigm are urged to master and apply an objective body of knowledge, developed over time through controlled experiments and theory building. Education under this paradigm emphasizes transmission of pre-defined knowledge and skills. The role of the educator is to select the best technology to meet these ends.

One alternative to this technical emphasis is the interpretative paradigm, derived from humanism and phenomenology, in which learning is seen as a process of interaction leading to a better understanding of the meaning of experiences. From this viewpoint, education is a practical art in which the educator makes judgments based on his/her experience about how best to facilitate learning in personalized situations. While Carr and Kemmis find this paradigm more suited to learning in today's organizational contexts, they develop a third paradigm that goes one step further: the strategic paradigm, influenced by the critical social science of Habermas. Habermas (1971) suggested people learn differently when they pursue tasks than when they learn social norms or try to understand themselves. Key to learning in this paradigm is understanding the way in which social, cultural, historic, and economic forces shape meaning, and through this understanding, becoming empowered to act on these forces.

Yet training frequently emphasizes job-related knowledge and skills as if it is possible to divorce them from the rest of the worker's life. However, for learning to be effective, one must consider two deeper levels in which job skills are embedded: the social unit that shapes the individual's reactions at work, i.e., the organization and the immediate work group; and the individual's perception of self vis-a-vis the job and organization. Thus, learning for organizational productivity cannot be separated from learning for personal growth, as is often done. Nor can the burden of change be placed primarily on the individual in isolation from the organization.

Mezirow (1981, 1985) has developed a theory of learning, based on the critical social science of Habermas, that simultaneously accounts for the need to develop job skills and the fact that this learning is intertwined with learning about the organization and the self. Mezirow differentiates among three domains of learning: instrumental, dialogic, and self-reflective. He notes that instrumental learning refers to task-oriented problem solving, dialogic learning to the way in which people come to understand consensual norms in society, and self-reflective learning the way in which we learn to understand ourselves. Instrumental learning is what commonly takes place when people learn how to do their job better, and is thus frequently the focus of technical learning. People identify a problem, formulate a hypothetical course of action, try it out, observe the effects and assess results. Learning is generally prescriptive.

Dialogic learning, however, takes place in work settings when people learn about the culture of the organization or when they interpret policies, procedures, goals and objectives. Self-reflective learning, in turn, is directed at personal change. Its emphasis is critical reflection about oneself as a member of larger social units in order to ask fundamental questions about one's identity and the need for self-change. This change usually involves a transformation in "meaning perspectives," which are integrated psychological structures having dimensions of thought, will, and feeling, and which represent the way a person looks at self and relationships.

Instrumental, dialogic and self-reflective learning cannot easily be separated in any given situation. This is perhaps most obvious in managerial training. Technique, while very valuable, cannot be slavishly followed when dealing with people and "psyching out" unspoken norms and rules that influence applications. Here, the manager must balance the technically correct solution with the humanly viable one. While it is true, for example, that managers need skills in delegating tasks, frequently the reasons for non-delegation are embedded more deeply in the culture of the organization that rewards individual achievement and visibility or in the individual's personal working style.

People become most aware of the connections among learning in all three domains when they become critically reflective; that is, they bring their "assumptions, premises, criteria, and schemata into consciousness and vigorously critique them" (Mezirow, 1985, p. 25). Critically reflective learners are continually sensitive to why things are being done in a certain way, the values these reflect, the discrepancies that exist between what is being said and what is being done, and the way in which forces below the surface in the organization shape actions and outcomes. Critically reflective learners will not automatically follow

an "expert's" recipe for solving what has been defined for them as a problem. They will determine whether or not they see the problem and proposed solution in the same way, probe the organizational context to ferret out facets of the culture that influence action, and attempt to understand how suggested solutions fit with their own image of themselves.

To summarize, all workplace learning cannot be explained by the technical paradigm. Some learning is best facilitated through interpretative strategies to assist people in understanding the meaning of their experience or through the strategic paradigm with an emphasis on changing consensual norms. By becoming critically reflective, people can better see the way in which task-related learning is often embedded in norms that also impact on one's personal identity. The next section further explores this concept of reflective and critically reflective learning from the perspective of workplace theory, particularly as it relates to the dynamics of informal learning.

INFORMAL LEARNING: REFLECTION-IN-ACTION

Being critically reflective means that one probes for assumptions, values and beliefs underlying actions. All learning in the workplace does not call for this depth of analysis, nor is it always encouraged or even tolerated. At the least, however, learning calls for some level of simple reflection, that is, the regular examination of one's experience to assess its effectiveness. While training can include reflection and critical reflection, it may be easier to examine these phenomena where they more naturally occur, that is, through informal learning while on-the-job. Training and education are delivery systems. By contrast, learning is the way in which individuals or groups acquire, interpret, reorganize, change or assimilate a related cluster of information, skills and feelings. It is also primary to the way in which people construct meaning in their personal and shared organizational lives.

Carnevale and Goldstein (1983) point out that a large percentage of learning takes place on-the-job (p. 37). A Honeywell study (Zemke, 1985) found that 50% of the ways in which managers learned to manage came from challenging job experiences, 30% from relationships with others in the organization, and only 20% from training (pp. 50-51). While important, training was helpful primarily when it was specifically timed to meet pressing job demands and because it increased the development of significant relationships with colleagues. These findings are reinforced by Kaplan, Drath, and Kofodimos (1985) in a study of effective executive self-development and McCauley (1986) in a literature review of managers' development.

There is less information on how people actually do learn informally. Schon's (1983) analysis of "reflection-in-action" sheds some light on this process. Schon critiques the relevance of scientific problem-solving models centered around "technical rationality" to the world of practice he calls "the swamp." In this world of practice, more attention must be paid to problem setting, an interactive process of naming the focus of our attention and framing the context in which a problem is understood. Schon depicts this process of problem setting as a reflective conversation with the situation in which the practitioner draws on

his or her experience to understand the situation, attempt to frame the problem, suggest action, and then re-interpret the situation in light of the consequences of action.

Schon has worked with Argyris (1974, 1978) to develop the notion of single and double loop learning to explain what happens when people fail to produce desired results. In single loop learning, a person continues to try out the same strategy or variations on it, and continues to fail because his or her solutions are based in a set of undiscussible governing values that frustrate success, such as remaining in control and avoiding what are perceived as negative feelings. These values are tied to the culture of the organization and are counterproductive in part because they prevent critical inquiry into the reasons for failure. To get out of this bind, a person must get past the single loop into a double loop of learning—that is, become critically reflective and dig below the surface for the unstated values, assumptions, judgments, and attributions that govern one's actions and create the learning block. One must also become skilled at communicating this information to others as the basis for dialogue. Double loop learning is thus based on the generation of valid information, free and informed choice, and internal commitment to outcomes.

For example, a woman may find she typically fails to make her opinions heard in group meetings with male colleagues. She might conclude that the problem is a sexist attitude on the part of her colleagues. She may attempt to correct the problem in a single loop by asserting the authority of her position, but finds she still fails to achieve desired results. While the problem may indeed be her colleagues' attitudes, it may also be the result of other factors. Typically, however, neither party in the situation will explore the meaning of such an interaction. As Argyris and Schon note, in these situations, feelings are kept hidden and rationality invoked, in part out of embarrassment, and someone attempts to keep the situation in control so he or she can win. The result is a closed environment in which people cannot learn because too many strong feelings and opinions are kept undiscussible.

Single loop learning does not involve critical reflectivity, while double loop learning does. The latter also typically draws on all three learning domains described by Mezirow. In single loop learning, reflection takes place on the surface level of means and ends. In the above example, the woman learns instrumentally and in a single loop when she counters being ignored by asserting the authority of her position. Reflection in dialogic learning involves intersubjective agreement. The woman learns dialogically by attempting to understand norms governing the conversation, the most obvious of which might be gender roles. However, perhaps she has less seniority or is a non-engineer in a company of engineers. Self-reflective learning does not always cross over into the dialogic domain, but it is more powerful when it does because assumptions may be based on internalized, unexamined social norms. In the above example, colleagues might point out that her language is laced with question marks at times when she wishes to convey certainty or that her quietness is interpreted by some as an attempt to control. Self-reflection in the workplace, frequently prompted by unsuccessful behavior, is often linked to changes in instrumental action. In the above example, the woman might both watch her own style of delivery as well as

begin to inquire into the data behind assertions made by her colleagues in order to move the meetings more toward the ideal of exchange of valid information.

In summary, many training solutions are only partially successful in solving learning problems. Training may be divorced from the context in which people work. Even when steps are taken to assist in transfer of learning to the job, people are left much on their own to figure out how these skills relate to real-life problems. Workers need more than a set of techniques; they must be able to analyze a situation to determine the nature of the problem being addressed and derive their own solutions to these problems, often on-the-job. The next section builds on the above learning frameworks to address this need.

A NEW PARADIGM

If behaviorism is being challenged, what are the elements of a contrasting paradigm for understanding and designing workplace learning? This author suggests that a new paradigm is emerging that includes some of the following characteristics: a broadening of the instrumental focus of learning, integration of personal and job-related development, an organizational model that functions as a learning system, a focus on group as well as individual learning, a concern for critical reflectivity and for problem setting as well as problem solving, emphasis on informal learning, and development of the organization as a learning environment.

To elaborate, work-related learning includes instrumental action for which behavioral models are often suited, but goes beyond it to include dialogic and self-reflective learning. Individuals are most productive when they can participate fully in negotiating meaningful contributions to shared organizational goals and norms. It follows that personal development is not considered either as separate from the job, antagonistic to it, or an "add-on" that is nice but not essential. Persons learn best about the job when their own identity and growth are recognized as integral to that learning.

To facilitate this kind of learning, the organization cannot function strictly as a machine. One option would be the holographic model in which all employees are encouraged to learn many aspects of the work, participate jointly in appropriate decentralized decision making, and continually monitor actions and results to keep the organization flexible. The holographic model may go too far in the direction of participation for many organizations. However, learning in today's era cannot easily take place when employees are confined to individual, pre-determined actions that are collectively orchestrated to minimize overlap or any duplication of abilities or functions.

When looked on in this manner, it is clear that the unit for learning is not only the individual, but groups within the organization joined together to create their working goals and relationships. The emphasis is on teamwork, not solely to meet pre-defined goals, but to modify these and create new goals. A new paradigm would acknowledge that learning takes place at many levels, from the individual on up through groups to, at times, the entire organization. To fully understand learning under a new paradigm, one would look at the way in which individual learning is shaped by and contributes to collective learning, and vice versa.

Learning design under a new paradigm would encourage reflectivity and critical reflectivity. The organization should provide a clear picture of its desired outcomes, but training would not solely consist of a lock-step process of inculcating these pre-defined objectives. Individuals would be encouraged to develop a habit of reflectivity in both formal and informal learning modes in which they continually probe their experience to determine why they are or are not effective and how they can learn to become so. Through such reflection, problems would be continually reformulated as old data are re-evaluated. Participation in setting the problems thus becomes as important in this paradigm as is finding and implementing the best solutions. Problem setting is a creative, non-linear process of probing that can be aborted by a demand for closure before participants have reached consensus on the nature of the problem.

This paradigm emphasizes informal learning because so much of today's formal training is focused on behaviors and skills alone. Informal learning is an opportunity for reflection-in-action. Formal training would still be needed under a new paradigm, some of which would still be aimed primarily at productivity in the instrumental domain. However, training would be designed to link learning in all three domains and timed by the individual in consultation with the organization to take advantage of those turning points in which individuals are more naturally reflective. Self-directed learning, coaching, mentoring and group learning would be encouraged. The organization thus becomes a learning environment for the growth of individuals and groups vis-a-vis work, not primarily a factor to be manipulated to produce desired behavior. As a learning environment, it must provide opportunities for experimentation, risk-taking, dialogue, initiative, creativity, and participation in decision-making.

Limits of a New Paradigm

There are limits to who can best learn under this new paradigm and to the conditions within an organization that facilitate or impede it. These are discussed in the following terms:

1. Workplace learning will always be governed to some extent by an instrumental focus because the primary purpose for such organizations is productivity.
2. All individuals are not ready to participate more fully in decision-making and self-directed learning.
3. Organizations cannot always change conditions such as hierarchy and centralized decision-making even when they wish to do so.

First, workplace learning is informed by its instrumental focus. A number of implications follow. Learning in the dialogic and self-reflective domains must take place primarily for purposes of productivity. However, productivity needs to be redefined in longer-range terms so that the current emphasis on short-term results does not force continual sacrifices in individual and collective learning that require time before results appear. While emphasizing the critical importance of organizations as learning environments, a balance must be maintained between time for learning and time for producing or else the organiza-

tion will go out of business. Finally, while learning must acknowledge the legitimacy of self-reflection and personal growth, the organization cannot take on the role of therapist. This does not mean that organizations should de-value the importance of personal growth nor should they drop financial or other allowances to facilitate therapy when obviously needed. However, learning under a new paradigm can acknowledge and work with feelings associated with personal identity and growth without, for example, becoming a substitute for psychoanalysis.

The second set of limits deals with individual readiness for this kind of learning. The new paradigm depends on increased participation of all individuals in decision-making and in dialogue about shared goals, norms, values, and procedures. Central to the new paradigm on an individual level are autonomy, initiative, independent judgement, self-direction, and a reservoir of experience and knowledge appropriate to the tasks being faced. Many workers are quite happy with jobs that are clearly defined and that do not require ongoing reflection. Reflection, whether simple or critical, requires extensive dialogue and personal change that might not be desired by the individual or feasible in many organizational contexts.

The third set of limits are organizational. The new paradigm suggests that a structure must be evolved that allows for participation and empowerment without sacrificing its primary purpose for existence. In some businesses, hierarchy and centralized decision-making are probably essential. Kanter (1983) sums up the dilemmas of participation around initiating such programs, managing them, choosing issues on which to focus, working on teams, linking teams to their environments, and evaluating success. She concludes that "managing participation is a balancing act" (p. 275).

The organization develops and reflects conditions and a culture that facilitates or impedes learning. Managers are often allowed greater leeway in such learning than are workers at the lower end of the hierarchy, perhaps because managers must exercise judgment under ambiguous conditions. Currently, judgment is frequently limited the further down one goes in the hierarchy as the nature of work becomes increasingly dependent on carrying out the decisions of others and on complex interaction among groups and work units. Learning likewise is often increasingly limited to routine procedures and prescribed behaviors. Hence, rapid and total change in the direction of a new organizational paradigm may not be desirable or feasible. Likewise, people cannot be expected to learn autonomy and autonomously overnight.

CONCLUSION

Training has been dominated by behaviorism. This article reviews trends in organizations that suggest a new paradigm for understanding and facilitating workplace learning in the post-industrial era and discusses learning theories that contribute to this conceptual framework. Reflectivity and critical reflectivity are at the heart of these perspectives. The framework addresses both formal and informal learning, but encourages a stronger emphasis on informal learning.

Instrumental learning about the job is not separated from relevant dialogic or self-reflective learning. Since this kind of learning assumes a level of employee participation that is seldom found, productivity under this framework must be redefined and conditions within the organization re-examined if such learning is to take place.

Both organizations and unions are faced with crises that call for a different way of doing business. Such changes will probably come slowly. Nonetheless, some organizations are experimenting with new ways of involving employees in decisions about goals and work procedures. A perspective on learning in the workplace that helps employees engage differently in setting and solving problems seems helpful in these circumstances. All learning does not necessarily involve the dialogic and self-reflective domains. However, a theory of learning in the workplace should include provisions for helping adults understand and interpret the meaning of the full range of events that occur in that setting.

REFERENCES

- Argyris, C. & Schon, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco: Jossey-Bass.
- Argyris, C. & Schon, D. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison-Wesley.
- American Society for Training & Development. (1981). *Models and concepts for T & D/HRD academic programs* (Paper No. 6, ASTD Research Series). Washington, D.C.: Author.
- American Society for Training & Development. (1986). *Serving the new corporation*. Alexandria, VA: Author.
- Carnevale, A. P. & Goldstein, H. (1983). *Employee training: Its changing role and an analysis of new data*. Washington, D.C.: ASTD Press.
- Carr, W. and Kemmis, S. (1983). *Becoming critical: Knowing through action research*. Victoria, Australia: Deakin University Press.
- Goldstein, I. L. (1980). Training in work organizations. *Annual Review of Psychology*, 31, 229-272.
- Habermas, J. (1971). *Knowledge and human interests*. Boston: Beacon Press.
- Kanter, R. M. (1983). *The changemasters: Innovation for productivity in the American corporation*. New York: Simon & Schuster.
- Kaplan, R. E., Drath, W. H. & Kofodimos, J. R. (1985). *High hurdles: The challenge of executive self-development* (Technical Report No. 25). Greensboro, NC: Center for Creative Leadership.
- Knowles, M. *The modern practice of adult education* (rev. ed.). (1980). Cambridge, NY.
- Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Lincoln, Y. S. (1985). *Organizational theory and inquiry: The paradigm revolution*. Beverly Hills: Sage.
- Marsick, V. J. (Ed.). (1987). *Learning in the workplace*. Beckenham, Kent, U.K.: Croom Helm.
- McCauley, C. D. (1986). *Developmental experiences in managerial work: A literature review* (Technical Report No. 26). Greensboro, NC: Center for Creative Leadership.
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32, 3-24.
- Mezirow, J. (1985). A critical theory of self-directed learning. In S. Brookfield (Ed.). *Self-directed learning: From theory to practice* (pp. 17-30). San Francisco: Jossey-Bass.

- Morgan, G. (1986). *Images of organization*. Beverly Hills: Sage.
- Naisbitt, J. & Aburdene, P. (1985). *Re-inventing the corporation*. New York: Warner.
- Peters, T. J. & Waterman, R. H. (1982). *In search of excellence: Lessons from America's best-run companies*. New York: Warner.
- Schon, D. (1983). *The reflective practitioner*. New York: Basic Books.
- Schwarz, P. & Ogilvy, J. (1979). *The emergent paradigm: Changing patterns of thought and belief*. Menlo Park, CA: Stanford Research Institute.
- Toffler, A. (1985). *The adaptive corporation*. New York: Bantam.
- Zemke, R. (1985). The Honeywell studies: How managers learn to manage. *Training*, 22(8), 46-51.

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BEYOND THE ANECDOTAL: ADULT LEARNING AND THE USE OF EXPERIENCE

R. USHER

R. Usher, 'Beyond the anecdotal: Adult learning and the use of experience', *Studies in the Education of Adults*, vol. 17, no. 1, 1985, pp. 59-74.

Writing about the use of experience in adult learning requires the development of what Maudsley has called 'metalearning' — a theory of one's own learning providing a consequently greater awareness and control of the learning process. A crucial aspect of this is the use of personal experience, in particular the skill of reflecting on that experience. In practice this is difficult both for the teacher and the student since it involves operating at a number of different levels of action and analysis, often at the same time. Nonetheless, it has to be attempted. If it is the case that one's theories about learning change as a result of experience then, equally, theories about experience change as a result of learning. From my own experience which has been that of teaching adult education studies to professional adult educators I have undergone a process of personal learning which has led me to develop my own 'theory' about experience. More important, adult students in their own learning, need to experience a process of developing a 'theory' about that learning through which they can make sense of their experience and use it productively.

My starting point is the continual struggle which I have experienced in coming to grips with and meaningfully applying the rather elusive notion of 'using the experience of students'. This struggle arises from a fundamental problem which, perhaps, faces all teachers but particularly those who teach adult educators. Put simply, the problem is that 'practice must exemplify theory'. By this I mean that the 'theory' of adult education, particularly that relating to adult learning and teaching, places a very clear emphasis upon certain characteristics of adult as learners. 'Theory', such as it is (and in this I include principles and prescriptions) stresses student autonomy, respect, the value of active learning, student-centred approaches to teaching, etc. Given this, therefore, the 'practice' of teaching cannot reasonably be organised in a didactic way. It cannot, for example, treat students as if they were empty vessels to be filled with the teacher's knowledge, or concentrate only on the products of learning and ignore the process. The point therefore is that unless the way teaching is conducted exemplifies what is taught there is a contradiction at the very heart of the teaching enterprise.

My own experience of teaching suggests that this contradiction is very real and can have serious consequences for student learning. Certainly, as a practising teacher, it is something that one becomes aware of very

quickly. Equally, one becomes aware that a way of avoiding or resolving the contradiction is to 'use the experience of students'. On the face of it, this appears to be an eminently reasonable and appropriate procedure yet, as I hope to show, it is one fraught with difficulties.

PROBLEMS IN THE USE OF EXPERIENCE

There is a crucial difference between knowing something and actually doing it. Most teachers know, in a general sense, what 'using the experience of students' means, but translating this into actual practice in the classroom is often a very different matter. Part of the problem is the all-embracing and therefore vague quality of the notion of 'using experience'. As Abrahamsson² has pointed out *all* learning is based on experience of some kind. This is a truism which, in practice, is not very helpful so perhaps, as a first step, learning *through* experience needs to be distinguished from learning *from* experience.

Accepting that teaching is concerned with helping students learn from experience then the kind of experience becomes an important consideration. Not all experience is a basis from which learning can derive. This is not only true of informal, 'every-day' learning but even more of the learning expected of those studying adult education. In an earlier article³ on work experience and academically-oriented studies I made the point that it cannot be assumed that work experience *per se* either supplies or leads to the development of cognitive skills. Given that much work nowadays is routinised and deskilled this, in fact, is probably very unlikely.

This is not to suggest that the work experience, let alone the general life experience, of adult educators is either routine or deskilled. Whether it is or not does not affect the general point about the relationship between experience and learning. Given that the relationship is problematic it follows, therefore, that there has to be a selection from experience. This then raises the question of who does the selecting. The most obvious answer is that it should be the student. However, selection presupposes criteria and the ability to apply these. In other words it requires certain skills which depend on prior learning. At the same time, these skills appear to be required as the starting-point of learning.

Perhaps, therefore, it is the teacher who should do the selecting. Certainly, this would seem to resolve the logical impasse. However, this will not do either, for if the teacher does the selecting then the experience is no longer the students'. It would be a situation which differed only in appearance from a didactic approach to teaching.

It seems to me that this problem is part of a larger one which is to do with the fact that when we talk of 'learning from experience' what we really mean is learning from reflection on experience. Dewey probably summed it up best when he said, 'No experience having a meaning is possible without some element of thought.'⁴ Experience may be the raw material but it has to be processed through reflection before it can emerge

as learning.

Kolb's experiential learning cycle⁵ which illustrates the link between 'concrete experience' and 'reflection' is undoubtedly useful in thinking about teaching but has a misleading inevitability as if students can progress from experience to reflection in a completely spontaneous way. In my view, the progression is impossible without a considerable degree of guidance from teachers. But, where does guidance end and imposition begin? Perhaps this is just another aspect of the 'contingency' of teaching. However, whilst a realistic answer may be that 'it all depends' this is not much help for a teacher who is trying to strike a correct balance.

I am not even sure that you can teach students to reflect in any direct sense. This might appear to be the answer with the obvious analogy of direct teaching of study skills. Reflective skills (e.g. critical differentiation and problem awareness) are not, however, learnt in a vacuum (neither, for that matter are study skills). You cannot reflect without having something to reflect about and unless students have appropriate prior conceptions about learning they will be unable to reflect on their experience. This is an important point which I will return to later.

Another problem with developing learning from experience arises from the inevitable personalised nature of using experience. Abrahamsson discusses this when he refers to the need for students' experience to have personal validity:

The learner must have a personal commitment to the process of learning and exploring. He must be ready to challenge his own ideas, values and conceptions in order to learn new ideas, perspectives and applications.⁶

He goes on to point out, however, that this personal validity must be balanced against 'societal' and 'scientific' validity. It would be difficult to conceive of any situation, either individual or social, within a public educational system, where individual learning could be justified purely in terms of personal validity. At the same time students have a responsibility to 'accepted truth' in their areas of study. This notion of 'scientific validity' is a difficult one involving as it does contentious epistemological questions. However, even if the idea of 'accepted truth' is problematic it must be the case that learning must have some 'scientific' validity. If an area of study has no minimum body of knowledge, however inchoate in content or uncertain in status, with which there is some measure of common agreement, then learning becomes totally subjective and, ultimately, eccentric and trivial.

In my experience, adult students seem only too ready to pursue the 'scientific' rather than the personal in the sense that they are often reluctant to accept that their experience has any meaning from which they can learn. This is a phenomenon which has been extensively commented on. The explanation normally given is that the students' previous experience of education, particularly at school, has led them to downgrade the importance of their experience as a source of learning.

Allied to this, the student sees the university or college as a very formal institution concerned with the transmission of abstract knowledge and with assessment. Students quickly realise that this is not the 'real' world where experience is both useful and important.

In these circumstances, it is hardly surprising that students tend to see learning as having a mainly 'scientific' validity. The result of this is that teaching becomes didactic and learning 'objectified'. Students take no responsibility for their learning and their work becomes formal, abstract and ultimately arid. This is often seen most clearly in essay writing. An essay, for example, will contain excellent reviews of the literature and detailed analysis of the main concepts but with no attempt to relate this to personal experience. The worst cases are essays on adult learning which contain not a single reference to the student's own learning. This is what I mean by learning becoming 'objectified' – it is depersonalised, abstract, 'out there' rather than 'in here'.

This situation can extend beyond essay-writing to embrace every aspect of the course. There may be the appearance of open, participative learning and student-centred teaching but the reality is student dependency. Students are inhibited and the development of their expressive and critical skills is circumscribed through their inability to relate these to a structure of personal meaning derived from experience.

Teachers, then, may start out with the best of intentions, fully recognising that teaching should be organised in ways which utilise students' experience yet still end up with something completely different. A very common occurrence which often marks the beginning of good intentions going awry is the tendency for students' use of experience quickly to become anecdotal. In a recent course in which I was involved, the teachers, at the start, asked students to write a short piece about a recent critical 'incident' in their working life. The idea was that these accounts would be a way of operationalising students' experience and providing the 'raw material' for reflection and discussion about the principles and practice of adult education. The results, on the whole, were disappointing. The students produced their accounts but the difficulty lay in using them in the most effective way. First, the accounts were inevitably very personalised so each student found it hard to relate to the experience of another and invest it with the same personal meaning. The discussion, therefore, tended to concentrate on details and ultimately became unproductive. Second, the teachers failed to draw out useful generalisations from which all students could learn. I suspect this was due to both their lack of appropriate skills and the inherent limitations of the approach. The generalisations that were eventually made came not from the students but from the teachers and were drawn from their 'expertise' rather than from the discussion of the accounts.

Inevitably, therefore, the whole exercise came to be seen by teachers and students alike as little better than anecdotal. Students thought they were not saying the 'right' things; they questioned the relevance of each

other's contributions. They became irritated at what they took to be the failure of the teachers to adopt leadership roles. In short, there developed what Jaques has aptly described as a 'negative learning culture'.⁷ A teaching situation designed to facilitate learning from experience became one where students not only failed to take responsibility for their own learning but ultimately rejected the process of learning from experience as trivial and irrelevant. The attempt to operationalise the use of experience in a practical way resulted in experience being seen as anecdotal, from which nothing productive could emerge.

I have focused on this issue of the anecdotal not because I take it to be the root of the problem — on the contrary, it is a symptom and not a cause — but because it seems to encapsulate many of the problems inherent in using experience. The problems I have isolated so far are:

- (1) since not all experience can be a basis from which learning can be derived, learning must therefore involve a selection from experience;
- (2) reflection is necessary in the processing of experience but does not happen spontaneously;
- (3) experience must have personal meaning but needs to have features to which others can relate their own experience and from which scientifically as well as personally valid generalisations can be made.

Now the anecdote is clearly a selection from experience and does have personal meaning. This is, actually, the criterion for selection. But since the selection is solely on this basis it is inevitably too personalised. It has an existential validity for the subject but little beyond that. It is not generalisable, it is not something with which others can share and is not productive of reflection. My point is that the anecdote is a common feature of any teaching situation that tries to use students' experience. We should not be surprised at its existence, rather we should see it as a warning that an experience-centered approach can easily go wrong if certain important but not immediately obvious conditions are not present.

USING EXPERIENCE PRODUCTIVELY

One of the main issues which has emerged so far is the students' need for prior skills in order both to articulate and reflect on their experience. The problem for the teacher is to facilitate the learning of these skills without undermining the very foundations of learning from experience.

There are many factors which complicate this tricky area. Experience tends to be concrete and customary and therefore may not spontaneously generate these skills. Many teachers believe that the proper approach is to teach students these skills. Others believe that they cannot be taught directly and ought, therefore, to be allowed to emerge through the process of teaching. I personally doubt whether either of these approaches is likely to be productive. Direct teaching of these kinds of skills is likely to be as unsuccessful as the direct teaching of study skills. As ~~Orin~~ has pointed out,⁸ the most common way of teaching study skills is to tell students what these are and then teach them the appropriate

techniques to improve their performance. He goes on to show that this cannot really be done. We can hardly tell students what the necessary study skills are because first, we do not have a 'blueprint' of what these are and second, they do not exist in a form which would allow them to be taught generally to all students. Gibbs also goes on to make the very important point that training students in study techniques is a useless endeavour unless it 'meshes in' with their orientation and purpose in learning.

It seems to me that the points Gibbs makes about the direct teaching of study skills apply equally to the kinds of skills needed in using experience. We do not have a 'blueprint' and we cannot teach them in a generalised way. This is not to say that there are no skills to be learnt or that teaching cannot facilitate their learning. Gibbs himself does not make such a sweeping claim about study skills. What he is criticising is the 'deficiency in skills' model which assumes that deficiencies can be remedied by appropriate training. As he says:

I do not want to claim that all study skills advice and all attempts at training students to use techniques are absolute nonsense. But . . . considerable and sometimes overwhelming problems face attempts to give advice and train students in a generalised way. At the same time, in the right context, both advice and training have their place but as servants of other approaches and not as ends in themselves.⁹

These 'other approaches' are to do with the students' orientation to learning, to which I shall return later. Before doing so, however, let me briefly consider the view that reflective skills ought to be allowed to emerge through the process of teaching. There is merit in this view since reflective skills cannot be learnt without at least some optimum processual conditions. How learning takes place can often be more important than what is learnt. But it would be rash to assume that the right processual conditions will, of themselves, lead to the development of appropriate reflective skills. In the same way as 'having' an experience does not necessarily lead to learning, so classroom activity, however well-planned and executed, does not, of itself, necessarily lead to the development of reflective skills.

Since, therefore, we cannot teach these skills either directly or indirectly I would suggest that the way forward can be found by starting with the orientations students have towards learning, in particular their conceptions of the nature of learning and knowledge. Säljö, for example, has isolated five different conceptions of learning:

- (1) an increase in knowledge
- (2) memorising
- (3) the acquisition of facts which can be utilised in practice
- (4) abstraction of meaning
- (5) an interpretive process aimed at the understanding of reality.¹⁰

A number of significant points emerge from this. First, there is the clear distinction between 'learning and understanding' or 'learning and real learning'¹¹ in the sense of learning as the acquisition of facts and learning

as the abstraction of meaning and understanding of reality. Second, (4) and (5) suggest that learning is seen as an activity (e.g. 'abstracting', 'interpreting') rather than as something passive as in (1), (2) and (3). Third, within conceptions (4) and (5) there is also the implication that learning is more complex, holistic and perspective-dependent. This latter is, in fact, a very important aspect of the conceptions of knowledge which research has shown students also hold. J.D. Wilson² for example, distinguishes between 'dualistic' and 'relativistic' conceptions – within the former, knowledge is seen as a matter of 'right or wrong' whilst within the latter it is seen as relative with meaning dependent on perspective and context.

Perhaps the most important conclusion which Säljö drew from his study was that there is a clear difference between those students who take learning for granted and those who reflect on and are aware not only of what they learn but of learning itself. He refers to this latter as 'thematised learning'. Learning becomes thematised through reflection and the development of an awareness that:

- (1) learning is heavily dependent on context;
- (2) learning in formal education is different from 'learning for life';
- (3) rote learning is different from understanding ('real learning')¹³

This thematised conception of learning can be contrasted with a reproductive conception which sees learning as reproducing facts and information acquired through memorisation. Linked with this are two contrasting conceptions of knowledge. One sees knowledge as being either 'right' or 'wrong' in an absolute sense whilst the other sees knowledge in a more relative way. This analysis (summarised in Figure 1) can be applied to skills and the use of experience. My contention would be that the necessary skills cannot be developed unless students move from a reproductive to a thematised conception of learning and from a dualistic to a perspective-dependent conception of knowledge.

CONCEPTIONS OF LEARNING	CONCEPTIONS OF KNOWLEDGE
Reproductive	Dualistic
Thematised	Perspective Dependent

Figure 1

If learning is seen as essentially a matter of reproduction then, inevitably, the emphasis will be on acquiring a 'body of knowledge' pertaining to the subject of study and the ability to reproduce this at the appropriate times, e.g. in the classroom, essay-writing and exams. This passive view of learning is reinforced by a dualistic conception of knowledge where things are either 'right' or 'wrong' and where the student looks to the teacher to define what falls into these two categories. The result is that experience counts for little – in fact, it is downgraded and distrusted since it is seen as both unreliable and irrelevant.

However, when learning is seen as thematised, the emphasis is on reflection and awareness with the process of learning accorded equal importance to the product. Here, the view of learning is active and interactive and is reinforced by perspective-dependence which sees knowledge not as absolute but as dependent on standpoint and context. In this situation, experience has a radically different place, central to the learning enterprise. The raw material of thematised learning is experience, particularly the experience of learning which itself becomes a conscious object of reflection. At the same time, as Larsson points out, experience becomes the means of understanding the nature of perspective-dependent knowledge.¹⁴

The differences are summarised in Figure 2. A student's conceptions of learning and knowledge will influence his approach to using experience. Approach A is a surface one since the conceptions held lead to a downgrading of the usefulness of experience. On the other hand, with B the conceptions are such that a deep approach to using experience is possible.¹⁵ Perhaps the most important thing is that reflection and awareness are intrinsic or 'built-in' to the process.

CONCEPTIONS OF LEARNING	CONCEPTIONS OF KNOWLEDGE	APPROACHES TO USING EXPERIENCE
Reproductive Thematised	Dualistic Perspective dependent	A -- Surface (anecdotal) B -- Deep (productive)

Figure 2

Approach A is a surface one, not because experience is not recognised but because it is seen as an undifferentiated 'given', thus making it difficult for students to relate meaningfully to their experience. They see it as something external to themselves, that has happened in the past but cannot be readily made sense of in terms of present studies. At the very best, it might be something that can be used as an example to reinforce a fact or a theory whilst, at the worst, it is something which cannot be internalised, and is therefore downgraded in status. If 'objectified' learning and 'externalised' knowledge validated by absolute criteria are the conceptions held by students then it is hardly surprising that experience is also 'objectified' and 'externalised' and not seen to be productive of 'true' knowledge.

With approach B the situation is entirely different. Here, experience can be differentiated and, equally important, problematised. In effect, the ability to differentiate (i.e. select and problematise) constitute the main reflective skills which allow experience to be used productively in learning. It is important to be absolutely clear what is meant here. Experience can be not only recognised but also meaningfully related to in the sense that it is no longer a given 'out there' but can be internalised through differentiation and problematisation. This does not mean, however, that learning and experience become 'subjectified'. It would be tempting to say this given the characteristics of approach A. However,

dichotomising for the sake of superficially-attractive consistency has to be resisted. Certainly experience is 'subjectified' in the sense that it is internalised, but it does not constitute the exclusive pool from which learning is derived nor is it the case that only personal knowledge is accorded legitimacy. For example, personal knowledge derived from experience is contrasted with that derived from books. Neither is rejected but each is seen as a different knowledge-perspective which can be problematised and thus analysed at a variety of levels. Different aspects of experience can themselves be contrasted and problematised in terms of their value for learning.

At this point, a number of complicating factors have to be introduced, the most important of these being the context in which learning takes place. Approaches to using experience are influenced by contextual factors both directly and indirectly through modifying and/or reinforcing conceptions of learning and knowledge. There are three main contextual factors — the learning task, the teaching, and finally, the kind of assessment used. In what follows, I shall concentrate mainly on the first two.

In any course of study the nature of learning tasks can be such as to encourage and reinforce reproductive/dualistic conceptions of learning and knowledge. This occurs most obviously where the academic nature of learning tasks is stressed and teachers do not realise how easy it is to do this from a very early stage. Even the most sophisticated adult student tends to see educational institutions as places which emphasise academic learning, that is a kind of learning which is theoretical and derived from books rather than practical and deriving from experience. This view is invariably reinforced by the long and formidable syllabus and booklist.

Following these initial impressions, the learning tasks usually require students to get to grips with what books say about concepts and theories. When I first started teaching 'adult psychology' the course was structured around a detailed examination of certain psychological concepts (e.g. learning, motivation, intelligence) through the reading of books and articles. The vehicle for this examination was the discussion group where students having read the appropriate text would then discuss it critically. The result was that although the texts were read, the discussion never really increased understanding. Students could reproduce the critical arguments used in the text but these were never internalised. Learning therefore became 'objectified' with the unfortunate consequences I have previously mentioned.

The problem here was that the nature of the learning task did not allow students to develop thematised and perspective-dependent conceptions. There was no room, therefore, for making sense of experience and using it productively. The best example is probably the study of 'motivation'. Now adult students are always very enthusiastic about this because they feel it is important for their work and something where their experience could be helpful. They then read about the main theories of motivation, only to find

that these are such that no link can be made with either their work or their experience. The latter is then rejected as trivial or irrelevant — after all the theories must be right! But once experience has been rejected, the theories have no meaning except in a purely abstract and 'objectified' sense. What is missing here is the recognition that neither their experience nor the theories are 'right' or 'wrong' but rather that each is looking at the same thing but from a different perspective. Once that is recognised then the relative usefulness of experience and theory can be problematised and the nature of the learning task transformed from 'academic' to 'experience-focused'. Experience is not taken as a 'given' although it does provide a structure, if not the exclusive basis, for designing the learning task.

Learning tasks can, therefore, either encourage the rote learning of facts and theories or a search for understanding through a structure of meaning based on previous knowledge and experience. The important point, as Laurillard⁶ notes, is that the approach to learning tasks is not a matter of innate characteristics but of the learner's relationship to the tasks, in particular to the kind of demands he believes will be made of him. Ideally, therefore, learning tasks which are experience-focused rather than academic will reinforce thematised, perspective-dependent conceptions and encourage deep-level (productive) as against surface-level (anecdotal) approaches to using experience. However, to construct learning tasks which are experientially productive is difficult for teachers in a working environment where the emphasis is on academic scholarship and expertise. Students, themselves, may be resistant for all kinds of reasons, not least of which may be a suspicion that although 'academic' knowledge may be meaningless and irrelevant, it is nonetheless the only knowledge upon which society places value and status. At the same time, a totally phenomenological approach to learning tasks would be of limited usefulness since learning must have 'scientific' as well as personal validity.

Turning now to teaching as a contextual factor, on the face of it the influence of this appears reasonably straightforward. Didactic modes of teaching are inherently unlikely to encourage the use of experience. The recognition of this had led to the increasing use of approaches which are student-centred and the organisation of teaching in participative and experiential modes. However, these approaches may, often, be more matters of intention than substance. I described earlier how I set out to use a participative mode but ended up with a thinly-disguised didactic mode which led to confused and dependent students. Both the learning tasks and my teaching were to blame since I could not construct the latter in a genuinely participative and experientially-based way. I would ask students to use their experience and they, of course, would come up with anecdotes from which nothing could be derived. I asked them to apply theories to their experience as if abstract theory and personal experience were qualitatively similar categories. In this situation, it is hardly

surprising that the use of experience was quietly and tacitly abandoned.

However, something which may throw light on this problem and is an aspect of teaching which is often overlooked is the question of authority. One possible explanation of my teaching problem could be that like many teachers I was too much the authority figure even though I did not intend to be. Even during a discussion students often regard teachers as the authority and any desire they may have to deploy their experience quickly crumbles against the seemingly solid wall of certainty and 'truth'. Situation-centred approaches which seek to use students' experience as the building blocks of knowledge are a genuine attempt to overcome this problem of authority. Yet, again, the reality may be quite different. This approach can also become anecdotal from which nothing productive can be derived. Students can become irritated at each other's contributions and resentful that the teacher does not play a more active and direct role. I have participated in a course where such an approach was used and by the end students were rejecting their contributions and demanding a more didactic mode of teaching.

My view of this was that the teacher, although not *the* authority, was still *in* authority in the sense that whilst control of the product of learning had been given to students, the process of learning (i.e. how learning was to take place) remained under the teacher's control. In other words whilst authority may have been less visible than in the didactic mode it was nonetheless still present. What is more, the students realised this but did not know how to cope with it. It would have been inappropriate to have sat quietly listening yet they found it hard to use their experience because they were both ill-equipped to do so and unsure of what was expected. Furthermore, the course was formally assessed, a matter of continual concern to the student. They, therefore began to feel cheated as they thought the teachers were playing some kind of devious game with an unclear purpose and uncertain rules. In the end, they figured that the only safe thing to do was to go back to a didactic mode.

The question of authority is obviously very sensitive and involves sociological as well as psychological factors. The teacher's authority is not just a matter of students' conceptions of 'expertise' but is also based on the fact that he embodies the institution in the classroom. This is a role which teachers cannot abandon, a fact which is often forgotten by the more extreme proponents of experiential learning. In any course of study what is institutionally required of students is of equal importance to what the students want to learn and teachers must attempt to satisfy both. However, if the problem of authority is honestly faced and appropriate procedures (e.g. learning contracts) are used it is still possible to satisfy both institutional demands and the students' need for studies which are relevant, meaningful and rigorous. In this context, Axelrod's 'evocative' mode¹⁷ is a useful way of characterising a style of teaching which emphasises student inquiry and the discovery of meaning within a framework of shared responsibility for learning.

The final contextual factor — assessment is the one which poses most difficulties. It is certainly the most difficult for ordinary teachers to influence. It inevitably appears formalistic and threatening and no amount of reassurance seems to alleviate the anxiety students feel. Students tend to conceive of assessment in ways which encourage reproductive learning, 'right' answers and surface level approaches. The emphasis is on 'knowing the facts', examination or essay-writing techniques and generally 'playing the academic game'. Research shows that students who are anxious about being tested and have a heightened fear of failure tend to adopt surface level approaches.^{1*}

I have found that even 'open-book' examinations and continuous assessment do not entirely solve the problem. Only the writing of dissertations seems to encourage thematised learning, perspective-dependence and deep-level approaches. The reasons for this are not hard to find — the dissertation is the least formal and least threatening part of assessment. Also with the longer time available for writing the fear of failure is attenuated.

Formal assessment prevents adult students from taking responsibility for their own learning. The use of experience is downgraded by encouraging an absolute view of knowledge and 'external' criteria for judging the worthwhileness of knowledge. Standards by which work is to be judged are presented as 'objective' and 'given' even though, in reality, agreement about what these are is difficult to find. I would characterise this style of assessment as 'external' because it is something which 'happens' to the student. In a very real sense he has virtually no control over procedures, standards, external examiners and no right to challenge the final outcome. Equally, the content of assessment is 'external' in that it consists of a 'given' body or knowledge which the student has to demonstrate he has mastered. This style of assessment is clearly inappropriate to the kind of teaching and learning which is concerned with the use of experience. A 'cooperative' style of assessment would be more appropriate — cooperative in the sense that self and peer assessment is in-built alongside teacher assessment and counts towards the final outcome. Students can participate in the formulation of criteria of assessment and of what constitutes a reasonable standard in an open and productive way with teachers.

CONCLUSIONS

My purpose has been to examine the use of experience in adult learning since I believe that this is a vital area which unfortunately, in the main, has not been accorded the attention it deserves. I mean by this that, although a great deal has been written, much of this is in the realm of aspiration and rhetoric and therefore largely unhelpful to the teacher in the classroom. This has certainly been my experience and therefore my own thinking about the use of experience has gradually evolved through experimentation and trial and error rather than through using the

techniques and prescriptions advocated in the literature on experiential learning. What I have put forward therefore, are my own reflections about the use of experience. At the same time I have found that the empirical research such as that carried out by Säljö provides insights into the nature of student learning and the basis of a framework for understanding the difficulties in using the experience of students productively.

The various factors which influence approaches to using experience can be depicted as in Figure 3. The main influences are the students' conception of learning and knowledge and the context of learning tasks, teaching and assessment. It is important to note that these also influence and interact with each other. The effect of these factors on approaches to using experience is mediated by the development of reflective skills.

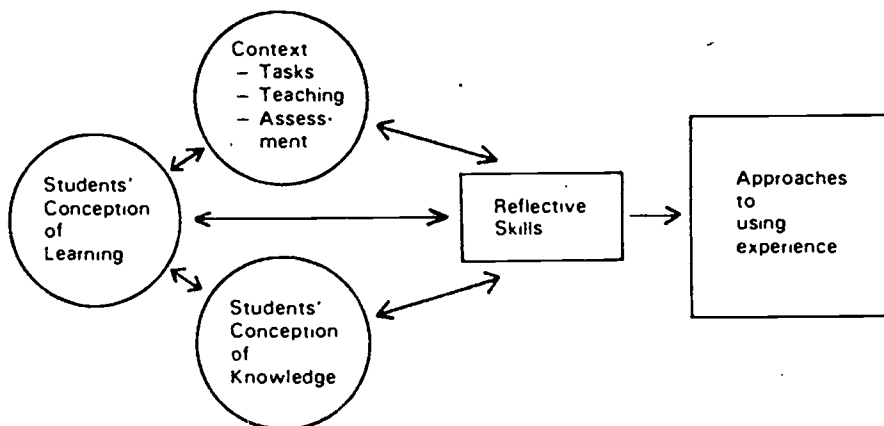


Figure 3

From this schematic model it is possible to elaborate a more detailed framework of the relationship between the various factors and their influence on approaches to using experience (Figure 4). The framework is useful in a number of ways. First, it furthers understanding of the factors that influence two contrasting outcomes. In one, which I have earlier characterised as 'anecdotal', experience becomes trivial and irrelevant, whilst in the other it becomes the basis for learning. These outcomes are the product of interaction between students' conceptions of learning and knowledge on the one hand and context on the other, moderated through reflective skills which can lead to either a surface or deep approach to using experience. Second, the term 'pathologies' refers to the tension between the personal validity of experience and the scientific validity of 'accepted' knowledge. It points to the distorting effects of pursuing one to the total exclusion of the other. The pursuit of scientific validity leads to 'objectification' where learning is seen as the mastery of 'objective' knowledge without the need for internalisation and the ascription of

Students' Conceptions of Learning	Students' Conceptions of Knowledge	Context			Reflective Skills	Pathologies (Personal, scientific validity)	Approaches to Using Experience.	Out
		Tasks	Teaching	Assessment				
Reproductive	Dualistic	Academic	Didactic	External	Developer as product	Objectification - Scientific validity	Surface	Explored been individual and
Thematized	Perspective Dependent	Experiencing focused	Explanatory	Comparative	Intrinsic to process	Subjectification - Personal validity	Deep	Explored been for legal

Figure 4

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personal meaning. In the opposite case of 'subjectification' the pursuit of personal validity leads to a situation where learning is seen to only have personal meaning and the need for reference to 'truth' rejected. Each pathology is therefore, both philosophically and practically, a blind alley.

I would not wish to suggest that this framework represents a theory other than in the sense of one's own metalearning. Nor would I wish to suggest that there is a causative chain at work here. Rather it is an attempt to isolate some of the main factors involved in learning from the use of experience, to identify them and gain some insight into how they relate to and interact with one another. My means of doing this has been to start with the outcomes which I have personally experienced, and then working backwards to try to analyse, in an admittedly eclectic way, what the underlying factors might be which lead to these outcomes. In this way I have found, for example, that trying to use students' experience productively is impossible without first enabling students to understand and articulate their underlying and deep-rooted conceptions of learning and knowledge. It is only by doing this that they can begin to develop a productive (or deep) approach to using experience. Otherwise using experience will be dismissed or, at best, trivialised whatever the teacher's intentions. Clearly, as teachers, we have to be able to facilitate learning from experience which inevitably involves going 'beyond the anecdotal'. This difficult problem cannot, in the end be resolved by 'sharpening up' our technique but by 'sharpening up' our *analysis* and the way we, as teachers, conceive the problem.

Notes and References

- 1 Donald B. Maudsley, 'A theory of metalearning and principles of facilitation, an organicist perspective' (Unpublished doctoral dissertation, University of Toronto, 1979). Cited in Robert M. Smith, *Learning How to Learn: Applied Theory for Adults*, Milton Keynes, Open University Press, 1984.
- 2 Kenneth Abrahamsson, *Co-operative Education, Experiential Learning and Personal Knowledge*, Stockholm UHA, 1981.
- 3 R.S. Usher, 'Adult students, work experience and academic studies', *Studies in Adult Education* 14, 1982, pp78-84
- 4 John Dewey, *Democracy and Education*, New York: Free Press, 1966
- 5 D.A. Kolb and R. Fry, 'Toward an applied theory of experiential learning', in C L Cooper, *Theories of Group Process*, New York, Wiley, 1975.
- 6 Abrahamsson, p3.
- 7 David Jaques, 'Problems of authority in experiential learning' in R. Boot and M Reynolds, *Learning and Experience in Formal Education*, Manchester Monographs, 1983
- 8 Graham Gibbs, *Teaching Students to Learn. A Student-centred Approach*, Milton Keynes: Open University Press, 1981.
- 9 Gibbs, p71.
- 10 Roger Saljö, 'Learning in the learners perspectives I - some commonsense conceptions', *Institute of Education Reports No 76*, University of Gothenburg, 1979
- 11 Roger Saljö, 'Learning about learning', *Higher Education* 8, 1979, pp443-451.
- 12 J.D. Wilson, *Student Learning in Higher Education*, Croom Helm, 1981.
- 13 Roger Saljö, 'Learning in the learners perspective II - differences in awareness', *Institute of Education Reports No 77*, University of Gothenburg, 1979.

- 14 Staffan Larsson, 'Teachers' interpretations of the concept of "experience"' in R. Boot and M. Reynolds.
- 15 The terms 'deep-level' and 'surface-level' were first used by Ferenc Marton and Roger Säljö in 'On qualitative differences in learning I – outcome and process', *British Journal of Educational Psychology* 46, 1976, pp4-11, to describe different student approaches to learning. I have adapted the terms to apply to different student approaches to using experience whilst still preserving the essential meaning.
- 16 Diana Laurillard, 'The processes of student learning', *Higher Education* 8, 1979, pp395-409.
- 17 J. Axelrod, *The University Teacher as Artist*, San Francisco: Jossey-Bass, 1973.
- 18 A. Fransson, 'On qualitative differences in learning IV – effects of motivation and test anxiety on process and outcome', *British Journal of Educational Psychology* 47, 1977, pp244-257.

ANNOTATED BIBLIOGRAPHY

Argyris, C. & Schön, D.A. *Theory into Practice: Increasing Professional Effectiveness*. Jossey-Bass, San Francisco, 1974.

A discussion of professional competence and how it might be acquired. The book explores the widely used terms 'espoused theories' and 'theories-in-use' to describe what learners claim to be doing and what their practice indicates.

Boud, D.J., Keogh, R. & Waiker, D. (eds). *Reflection: Turning Experience into Learning*. Kogan Page, London, 1985.

This book takes the point of view that the concept of reflection is central to the way in which adults learn from experience. Different approaches to promoting reflection are described: using autobiography and other forms of writing, debriefing of groups, use of computer-generated guides to reflection and cooperative enquiry.

Boud, D.J. & Griffin, V.R. (eds). *Appreciating Adults Learning: From the Learners' Perspective*. Kogan Page, London, 1987.

A collection of studies mostly using a constructivist approach to the way in which adults learn as seen from the learners' points of view. The researchers discuss their own personal learning as well as that of the groups they studied. It is interesting to note how these perspectives relate to other viewpoints in the literature.

Brookfield, S.D. *Understanding and Facilitating Adult Learning*. Jossey-Bass, San Francisco, 1986.

A guide to the use of adult learning principles in the design and conduct of education and training activities. While self-directed learning is used as a major focus, the book takes a critical look at the work of Malcolm Knowles and others who have promoted the idea of andragogy ('the art and science of teaching adults').

Higgs, J. (ed.). *Experience-Based Learning*. Australian Consortium on Experiential Education, Sydney, 1988.

Australian examples of the use of experience-based learning in work, community and educational settings. The Australian Consortium on Experiential Education is the main professional group in this country for those interested in ways of promoting learning from experience.

Jarvis, P. *Adult Learning in the Social Context*. Croom Helm, London, 1987.

Peter Jarvis attempts to encompass a range of learning by adults into a single framework and sets such learning in a social context. There are useful discussions of different approaches to adult learning and the role of reflection.

Kolb, D. *Experiential Learning*. Prentice-Hall, Englewood Cliffs, NJ, 1984.

David Kolb is well known for his 'Learning Styles Inventory' and his experiential learning cycle. This book sets these ideas in a broader context and acknowledges the debt of experiential learning to Dewey, Piaget and Lewin.

Marsick, V.J. (ed.). *Learning in the Workplace*. Croom Helm, London, 1987.

Learning in the workplace is a great deal more than the learning of skills and knowledge. Contributors to this book argue that training in the workplace fails because it is based on conditions which no longer prevail in modern organisations. Examples are given of new approaches to workplace learning which challenge traditional assumptions about what is appropriate.

Pedler, M. (ed.). *Action Learning in Practice*. Gower, Aldershot, Hants, 1983.

Action learning is an approach to learning in organisations which was developed by Reg Revans in the United Kingdom: 'a process in which individuals learn through attempting organisational change by tackling hitherto intractable problems in the company of four or five others ...' This book describes the application of action learning in a variety of private and public organisations.

Rogers, C.R. *Freedom to Learn for the 80s*. Charles E Merrill, Columbus, Ohio, 1983.

A work which has influenced many writers and practitioners. Carl Rogers's ideas developed from his counselling practice and represent a view of learning which is person-centred. While the examples in the book are mostly in educational settings, Rogers's friendly and gentle manner makes his views about the facilitation of learning very compelling.

Schön, D.A. *The Reflective Practitioner*. Basic Books, New York, 1983.

Schön, D.A. *Educating the Reflective Practitioner*. Jossey-Bass, San Francisco, 1987.

In these two books Donald Schön opens up the notion of skilled practice involving much more than technical skills and specialist knowledge. In his view learning in the professions (and by implication most complex learning) requires the development of a reflective approach which draws understanding from the problems which the practitioner confronts. In the second of these books, he examines the implications of these ideas for training and education.

Weil, S.W. & McGill, I. (eds). *Making Sense of Experiential Learning: Diversity in Theory and Practice*. Society for Research into Higher Education and the Open University Press, Milton Keynes, 1989.

Based on contributions to the First International Conference on Experiential Learning this collection brings together, for the first time, examples of

experiential learning from four areas in which workers have often not acknowledged different perspectives on experiential learning. The editors, in excellent overview chapters, portray the four 'villages' of experiential learning and their characteristics: the assessment and accreditation of prior experiential learning; changing educational practices, structures and purposes; education for social change; and finally, personal growth and development.

ACKNOWLEDGMENTS

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Reading 4 "First published by the National Institute of Adult Continuing
Education (England and Wales) in Studies in the Education of Adults, Vol.
17 No. 1, 1985" © NIACE

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Cat. No. EAE600M03

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