

Curriculum Planning with 'Learning Outcomes': a theoretical analysis

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Abstract

The use of learning outcomes for curriculum planning is widely advocated in higher education, it is supported by an imposing set of claims, and it has official sanction, for example from the Quality Assurance Agency (QAA). In opposition, there are fierce criticisms, mainly on theoretical grounds. The debate between opposing parties can be sterile, unless conducted in relation to an actual application of learning outcomes. The intention here is to examine such a scheme. This paper considers theoretical arguments in relation to the scheme. There will be a subsequent paper which looks at empirical evidence, and a final paper will offer an alternative framework for planning curriculum content. The motive for this project is the author's belief that there is much in 'learning outcomes' that is inimical to any warranted conception of higher education.

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Curriculum Planning with 'Learning Outcomes': a theoretical analysis

Introduction

The use of 'learning outcomes' is widely favoured as a means of curriculum planning in higher education. Interest in the measurable output of teaching has intensified with increasing demands for accountability, and with pressures for greater relevance and for enhancing student employability (Sullivan, 1995). Market forces have been reinforced, and attempts made to encourage 'customer' power (Davis, 1990). Associated with these developments there has been a powerful managerialist drive for 'quality', usually defined in commercial terms as 'fitness for purpose' (HEQC, 1994). All these changes derive from, and have contributed to, the idea that education produces a 'commodity', which, like any other, can be packaged, measured and controlled. One obvious place to exercise control is at the point of 'delivery', the termination of each 'teaching unit'. Learning outcomes (and competencies) fit neatly into this market-led, employment-driven, commodified view of education.

In light of the spread of outcomes-based curriculum planning, its theoretical and empirical justification merits careful examination. Most previous studies, e.g. Brady (1996) which summarises existing research and views, have looked at learning outcomes in general and their benefits and demerits, thereby neglecting the particular ways that institutions have adopted the outcomes approach. This paper sets out to question the reasoning behind the use of learning outcomes in one particular scheme. A subsequent paper will look at empirical evidence in relation to that scheme. This is not a blanket criticism of the outcomes approach: it is an attempt to reveal weaknesses and to identify undoubted strengths. The ultimate intention (in a third paper) is to offer a robust and principled framework for teachers to help them in planning curriculum content.

Introduction to a scheme for learning outcomes

The learning outcomes scheme considered here aims at helping teachers to construct modules. The justification for the approach and the means to implement it can be found in a series of documents (Allan, 1995a, 1995b, 1996a, 1996b; Eatough et al., 1997).

Allan's use of the term "learning outcome" is not unambiguous. She precedes her rationale for the use of outcomes with Otter's definition, "What a learner **knows** [my emphasis], or can do as a result of learning" (Allan, 1995b, p.3). However, on the next page, she instructs designers to "avoid using verbs which are vague e.g. understand, have knowledge of, be acquainted with, **know** [my emphasis]" (Allan, 1995b, p. 4). This apparently trivial confusion may have a serious underlying cause. There appears to be a belief that 'know' (and 'understand' etc.) equate to performative words, or can be defined by a set of them. In other words, an advocate of outcomes believes that anything the curriculum designer intends should be learned can be expressed as a piece of observable behaviour; hence 'knowing' is reduced to 'knowing how to do something'. This belief will be later questioned on a number of grounds.

Allan's learning outcomes proposals are referred to in this paper as a 'scheme' rather than a 'framework or 'model'. There is a practical reason for making this distinction. According to a standard definition of a model, "There are two elements in the explanation and analysis of phenomena - concepts of the phenomena and the relationship prevailing between or among these concepts" (Rigby, 1969, p. 1). In Allan's scheme the concepts are "personal transferable outcomes", "generic academic outcomes" and "subject specific outcomes" (Allan, 1996a, p. 93). These are fully described, but there is no description of the relationship between these concepts, and there is very little indication as to its nature. Without this, the 'scheme' is underdetermined in its application. The curriculum designer is provided with lines of development (the three types of outcome) which have

heuristic value in planning. However, the designer then has no theoretical or practical way (through a description of the relationship) of determining to what extent each of these lines should be followed, and how to relate together results obtained from them in order to construct a curriculum.

The analysis here is based on Allan's papers. Curiously, Allan's own sharp criticisms of the learning outcomes approach which appeared in a teaching/learning guide to curriculum planning (Allan, 1995a, pp. 45-46) are not referred to in her advocacy of learning outcomes in the other documents (Allan, 1995b, 1996a). In one of these she asserts, without any reservations, that learning outcomes "offer a starting point for a viable model for the design of curricula in higher education" (Allan, 1996a, p. 93). This will be contested.

Allan provides a genealogical tree which shows the "evolution of [Allan's] learning outcomes" (Allan, 1996a, p. 101) from behavioural objectives, from Eisner's work, and from the model designed by the Unit for the Development of Adult Continuing Education (UDACE, 1989). Eisner's "trichotomy of outcomes", comprises "student" (marked by untaught learning), "subject-specific" learning (what was taught), and "teacher-specific" which includes "intellectual style, standards, values" (Allan, 1996a, pp. 106-7). The UDACE model consists of "subject-based outcomes" and "personal transferable outcomes" (Allan 1996a, p. 107). Allan sees her scheme as a direct development from these. To an observer, the claim for genetic legitimacy is not clear. Allan's scheme does not adopt Eisner's student-subject-teacher approach, nor UDACE's subject-personal classification, although it does maintain the link to behavioural objectives which she elsewhere seems to want to downplay. If paternity were sought, Bloom et al. might find it difficult to avoid partial responsibility. There is no explanation, independent of her comments on the Eisner and UDACE approaches, of the rationale for Allan's trichotomy of outcomes. Her "learning outcomes rationale" (Allan, 1995b, p. 3) consists of a mixture of pragmatic benefits, but nowhere is there a theoretical justification or a principled basis for the scheme.

Concepts in the scheme

The concepts in Allan's scheme will be considered in turn, and then the whole scheme will be examined. Her learning outcomes in higher education are:

- *subject-based outcomes*, ... subsume learning objectives and which are complex discipline-based outcomes which are capable of being assessed;
- *personal transferable outcomes*, including acting independently; working with others; using information technology; gathering information; communicating effectively; organisational skills; and
- *generic academic outcomes* Making use of information; thinking critically; analysing; synthesising ideas and information.

Allan (1996a, p. 107).

Subject-specific outcomes

Allan states that "subject specific outcomes relate directly to, and result from, the content that is taught in a given context" (Allan, 1996a, p. 101). Yet it is never made clear how these differ from "generic academic outcomes". She gives an example from a second level module "Curriculum Issues" (Allan, 1995b, p. 15). It has three subject specific outcomes: "define the concept of curriculum...", "analyse a curriculum critically...", "identify the educational and political ideologies...". The terms "define" and "analyse" are explicitly included in her "generic academic outcomes" under "analyse", and the term "identify" is implied (Allan, 1995b, p. 11). This is in contrast to both Eisner and UDACE with their (different) but clear underlying reasoning. Allan's rationale does not provide a means for 'partitioning', that is dividing a set into non-overlapping subsets, and therefore risks accusations of confused thinking. As no rationale is provided, the trichotomy can only be judged on

what it is, by trying to deduce the beliefs which underlie it, and by examining how it works when put into practice.

To counter a charge levelled at behavioural objectives, and potentially at learning outcomes, Allan proposes that subject specific outcomes should be grouped into “bundles” for assessment purposes (Allan, 1996a, p. 100). This would maintain the “integrity of the subject matter” and enable “the high level of analysis and synthesis” required in higher education. It is not made clear how a quantitative change (“bundling”) will bring about a qualitative change in subject knowledge and in the practice of academic skills. It merely moves assessment from each milestone along a fixed route to every fourth or fifth. Devising outcomes using the Allan scheme is reductionist: an essential aim is to render academic activity measurable by reducing it to its component skills and knowledge. Allan now proposes “bundling” some of these back together. This is surely inevitable unless every individual outcome is to be separately assessed. However, if nothing else is added, there is simply a concatenation of elements (outcomes) resulting in larger assignments. If, however, Allan sees some outcomes as lower level (perhaps on the lines of the Bloom taxonomy), then they can be subsumed into higher level ones, and the whole can be assessed through the higher level ones only. If this is what Allan intends, there must be some epistemological basis. The question as to whether there is an ordering, or whether only pragmatic considerations apply, is not even raised.

The concept of the reflective practitioner (Schon, 1986) is frequently invoked in higher education. Harvey and Knight regard the reflective practitioner as one who “consciously engages in a dialogue between the thinking that attaches to actions and the thinking that deals in more abstracted propositional knowledge” (Harvey and Knight, 1996, p. 160). Barnett (1997) talks of critical thinking in relation to subject knowledge and critical action in the world. This element of criticality is entirely missing from Allan’s scheme. Professionals in any field need to have a stock of subject-specific knowledge, but must be constantly aware of its limitations when they use it. There has to be an internal dialogue during real-world events where knowledge is applied sensitively in action, results questioned, actions modified, and knowledge itself may be changed. The failure to be a ‘reflective practitioner’ would mean that actions are inflexible and often inappropriate, being based on theories and procedures whose match to the real-world situation is never quite right. Giddens (1991, p. 127) talks about “*umwelt*”, the area of certainty that we each carry round with us. When viewed in epistemic terms, the practitioner in every profession must recognise this area of certainty as limited (alarmingly so in many professions, including teaching). Yet we continue to have to act in the world: reflexivity makes this possible. Arguably, it should be an essential consideration in any scheme for curriculum planning.

Personal transferable outcomes

These are variously described as “personal” and “key” and “outcomes” and “skills”; “transferable” is used consistently.

There were seven “key transferable skills”, which Allan claims “have been developed [presumably she means ‘identified’] at the University of Wolverhampton” (Allan, 1996a, p. 103). These were: “communicate effectively” using “writing skills” and “oral presentation skills”, “organise”, “gather information”, “use information technology”, “act independently”, “work teams”, and “numeracy” (Allan, 1996a, p. 108).

In a programme of Learning Outcomes Workshops, they had grown to include “problem solving techniques” as an eighth skill (Allan, 1996b). With the development of a Module Guide proforma (Eatough et al., 1997, p. 11) “listening skills” was added to written and oral skills to redefine “communicate effectively”, “leadership skills” was added to “work in teams”, and “problem solving techniques” was divided into “analytical skills” and “decision making”.

It seems that the 'development' process which Allan referred to is somewhat haphazard. Of course, there is always a potential difficulty with a denotative, rather than a connotative, definition, as Kant explained over 200 years ago. Commenting on Aristotle's categories, "Destitute of any guiding principle, he picked them up just as they occurred to him, and at first hunted out ten...Afterwards he believed he had discovered five others... But his catalogue still remained defective" (Kant, 1993, p. 86). Allan lacks a clear "guiding principle". Her list may be based on the stated requirements of employers: if so it is surely inadequate as a comprehensive specification for the skills of a student in higher education. It is easy to see gaps and add to the latest list; readers might like to try this for themselves: a start could be made with 'negotiate with a superior', 'initiate change', and 'make an ethical decision'.

Allan's prescriptive lists consist of outcomes all of which seem commendable. However, there are objections as soon as the accompanying explanations are considered. The outcomes are inevitably based on (unstated) assumptions about individuals and the organisations where these skills will be employed. All the outcomes appear to be technical, rational, and aimed at enhancing employability. All of them are presented as though organisations are mechanistic, consensual, hierarchical, ethical, and operate in a certain world. Everyday experience, theory, and research, all testify to the inadequacy of these assumptions. Organisations are complex, take on a variety of organisational forms, are arenas for complex social activity, and operate in dynamic environments. Here are a few examples which should cause the assumptions to be questioned. In a widely-cited text, Morgan (1986) outlines eight "images" or metaphors of organisations, where they are seen in terms of power, ideology, systems and other perspectives. But even his treatment is not exhaustive, it does not include feminist or black views, amongst others. There are innumerable research examples underlining the importance of non-rational factors (such as politics and culture) in organisations, for example, Franz and Robey (1984) and Flynn and Hepburn (1994). In a recent news bulletin (15th October, 1998) it was claimed that the Chief Constable of Manchester had said that there was "institutional racism" in his force. In the same bulletin, senior public officials were said to have lied over dangers from BSE, and a large company's intention to dismiss several hundred workers was announced. In the following week an editorial item in the computer press referred to an air traffic control company which had a "culture that puts avoidance of blame above promotion of success" (Computer Weekly, 25th October, 1998, p. 25). The view of learners that they, as employees, are/will be reactive, passive, quiescent, and ready to accept that management always knows best, may be seriously questioned, given these experiences of organisational life. Nowhere in Allan's specification is there any indication that the interests of employers and employees may differ, and that the employee may need to oppose management where it acts unwisely or unethically or illegally. A further damning criticism comes from research into students' own perceptions of their learning outcomes. As a result of some careful work Drew (1998) found, *inter alia*, that students themselves saw the development of skills as being context-specific and that values and attitudes were regarded as a highly important part of their education.

A second objection is concerned with the implicit assumption that personal transferable skills can be readily defined and taught. However, skills cannot be separated from knowledge, much of which is the subject of debate. Some of the issues are discussed below. Because space is limited, only four of Allan's skills are considered here, but that should be sufficient to reveal grave difficulties in this aspect of Allan's project.

"Communicate effectively" is presented as a set of straightforward techniques. Allan may have in mind a technical theory of communication, such as that of Shannon and Weaver (Liebenau and Backhouse, 1990). This pictures a 'sender' 'coding' a 'message', 'transmitting' it along a 'communication channel' (subject to 'noise') to a 'receiver' who 'decodes' it back into a the 'message'. This view of communication leads to just those rational, technical and instrumental considerations which are implied in Allan's description of skills. An alternative (semiotic) model of communication is that of 'levels' of communication from the technical 'empirics', through 'syntactics' and 'semantics' to the socio-cultural 'pragmatics' (Liebenau and Backhouse, 1990).

Using the latter model, effective communication is now contextualised, and requires an awareness of cultural, social, and personal considerations, in addition to technical ones. Of course, communication skills include personal and social aspects, not merely technical ones; this is the way that people communicate in the real world. The view of outcomes in Allan's scheme oversimplifies skills development by concentrating on technical aspects, and it does not even show awareness that this is being done. It is preparing students for a totally rational (non-existent) world. There is increasing research interest in communication, and this should have importance for personal transferable outcomes. Communicators should be self-aware that they are 'manufacturing' (constructing) reality and so are the people with whom they are communicating. Analysis of discourses confirms just how expert we all are at this (Bourdieu, 1977; Potter, 1996). Barthes has shown something akin to this in respect of text when he claims that it is impossible "to close the writing" (Barthes, 1977, p. 147). This does not deny that the author has a clear meaning in mind, but it does deny that this is what a text must mean. Each reader will provide their own meaning. The perception that everyone creates meaning, and the ways in which we do this, could well be a source of material for study and skills development. Insights (on power/knowledge) from writers such as Foucault (1978) further complicate what was presented as a simple technical skill. A concern with techniques is important, but it does not constitute "effective communication".

Allan's personal transferable outcomes include "gather information". It comprises, *inter alia*, "interpretation/presentation" and "manipulate and present data to effectively convey essential meaning to a range of target groups" (Eatough et al., 1997, p. 10). This is based on an absolutist and managerialist view of information. It seems to assume that information has one meaning, and that this "essential meaning" is what management wants it to mean: but not everyone may agree as to this meaning. An organisation may issue a policy document saying that it will use appraisal for staff development; but the results may be seen quite differently by managers and subordinates. It is not possible to find an "essential meaning" in such situations. One view of management is that its influence is enhanced through its privileged (but not unique) position in creating meaning (Choo, 1996). This more complex reality could be a source of study and skills development for students.

Another outcome concerns "work in teams". One of the subheadings is "adapt to different roles". This assumes that one line of theory about teams, associated (amongst others) with Belbin (Arnold, Cooper, & Robertson, 1998) should be privileged. In this theoretical approach, certain roles are considered vital to successful team working. However, there has been considerable and varied theoretical and empirical work on teams, so that it is not at all clear why this particular line should have been selected. Even if it were accepted as the basis for the development of practical skills, research results need to be considered. The work of Belbin himself (Arnold et al, 1998), Senior (1998) and Megginson (1996) would suggest that considerable caution is needed before simple solutions such as "adapt to different roles" could be put forward as an essential requirement for effective team working.

"Numeracy" is another outcome which is highly problematic. Few writers on the subject would consider "numeracy" equated with the skills listed in Allan (1996a). Paulos (1990, p. 3) describes it as an ability "to deal comfortably with the fundamental notions of number and chance". Following a literature survey and some preliminary investigations, Kemp (1996) suggested a number of components of 'numeracy': again, there was little similarity with Allan's description. Ehrenberg (1982) observed that students often felt they were less numerate at the end of a statistics course than at the beginning, and that they were probably right. All of this suggests that teaching numeracy is difficult with many unresolved problems. One difficulty noted by many researchers in the area (e.g. Anderson, 1989; Zeidner, 1991; Birenbaum and Eylath, 1994; Beattie, 1995) concerns the affective aspects of numeracy, with terms like anxiety, dread and fear frequently mentioned. The continuing publicity given to the scale of the numeracy problem should have alerted Allan to the fact that 'numeracy' is not a set of simple skills to be acquired by simple rational means.

“Problem solving techniques” is a subject of continuing specialist interest, in this case to cognitive psychologists and decision theorists (amongst others). Results, however, cannot be easily packaged into a set of techniques for use by students to ‘analyse’, ‘apply’ and ‘implement solutions’ (Eatough, et al., 1997, p. 11). The concerns of people in the field indicate the breadth of issues being researched. Work from a small sample of writers illustrates this (Kahney, 1993; Baron, 1994; Smyth Collins, Morris & Levy 1994; Gilhooly, 1996; Gross and McIlveen, 1997; Kellogg, 1997). They note the difference between adversary and non-adversary problems, and between problems which are routine and ill-defined. They identify a variety of approaches and skills: analogical problem solving; information-processing methods; means-ends analysis; the role of insight; creativity in problem identification; applying logic through deductive and inductive reasoning; the combination of different approaches through pragmatic thinking; the formulation of mental models. All of these (and more) have been the subject of research, often with results that could not be easily intuited. Research has shown differences in problem solving between novices and experts, and in some situations, but not all, domain-specific knowledge is highly important. With some problems it may be more appropriate to use algorithms and in others to use heuristics. There are recognised obstacles to finding a solution, such as mechanisation of procedure and functional fixedness. An interesting practical and research issue is metacognition; this includes formulation of strategies for problem solving, and choices between them, reflexivity in the problem-solver’s relation to the problem, including the readiness to question assumptions. A finding that may dismay supporters of problem solving as a key skill, is that research indicates a low level of transfer between problems. “All this has considerable implications for learning, since most teaching is based on the notion that students can learn to extract general principles from problem-solving experiences which they can apply to other similar problems” (Kahney, 1993, p. 145). Unfortunately for this view, they cannot do this without being presented with “at least a couple of closely related problems, and provided with information on the principle that united them” (Kahney, 1993, p. 145).

There seems to be an implicit assumption that problems are “out there” waiting to be solved. As Pidd points out, problems are “social constructs” (Pidd, 1996, p. 72). When seen this way, the context becomes much more important. Stakeholders, power and interests, a variety of views, and other factors may all influence problem definition, structuring, methods and solutions. Problem solving is not simply rational analysis and decision making to achieve an optimal solution. Even where context is less important there are varieties of problem situation. Some problems have to be “created”, and when they are the solutions are simple, as can be seen by looking at many everyday objects: what is required here is creativity, not technique. Some problems cannot be solved by analysis and decision making, but by a combination of approaches. Many problems are intractable, and are unlikely to be ‘solved’ by any means. It is positively harmful (and incorrect) to suggest that ‘problem solving’ can be accomplished by the application of technique. Despite all the research, there is not, and can never be, a complete set of techniques for problem solving. Kant (1993) distinguished between techniques (which he described as an understanding of rules) and judgement. He noted that someone who knew many “admirable... rules” could be a “profound teacher” and “yet in the application of these rules he may very possibly blunder...through lack of judgement” (Kant, 1993, pp. 140-141). He pointed out that a person could be learned (having a thorough understanding of techniques), yet still be stupid, that is be lacking in judgement. He makes the point that there cannot be techniques to select techniques, and techniques to guide the user in the application of techniques, and so on. This would lead to an infinite regress. Judgement is, rightly, not seen as a skill in this scheme, but nor is it recognised elsewhere in the scheme.

The skills outlined here, therefore, cannot be simply acquired. As shown, skills cannot be separated from knowledge. Arnold et al. (1998, p. 369) have noted, “The apparently clear distinction between knowledge, skills and attitudes is difficult to maintain”. All of the skills listed by Allan (and others) are widely advocated for inclusion in higher education, yet are in areas of intense and continuing research, debate and competing theory. No academic can have more than a passing knowledge of some of the findings and issues in all these areas. This presents difficulties for the teacher, but one that cannot be resolved by treating these ‘skills’ simply as techniques.

These personal transferable outcomes seem to be aimed at serving the needs of employers, but the whole idea of 'employability' skills has been questioned. Wellington (1993) points out that employers have conflicting views as to what they want, while Merson (1996) and Barnett question the relevance of "predefined skills" (Barnett, 1992, p. 159) when the world, including employment, is changing so quickly.

A final illustration underlines the importance, and difficulty, of skills learning. Argyris (1994) shows from his research on people in organisations just how hard it is to bring about change, even when people appear to want it. He shows that everyone has 'espoused theories' which they say (and believe) they follow, and 'theories-in-action' (p. 7) which actually determine what they do. He believes that fundamental change can only take place if there is 'double-loop learning' (Argyris, 1994, p. 12), which requires reflection on theories-in-action, and their results in practice. His research indicates that resistance to change is not simply individual conservatism, but that there are positive personal and organisational forces to reinforce lack of learning. This would suggest that even if skills could be taught as techniques, the employee might still not use them if their use conflicted with his/her theories-in-action.

Generic academic outcomes

The "key academic outcomes which have been identified at Wolverhampton" (Allan, 1996a, p. 102) are: "make use of information", "analyse", "think critically", and "synthesise ideas and information" (Allan, 1996a, p. 107).

This list is somewhat reminiscent of Bloom's taxonomy of educational objectives (Bloom, Krathwohl & Masia 1956): "knowledge", "comprehension", "application", "analysis", "synthesis", and "evaluation". Some of the criticisms which apply to Bloom et al. apply equally to Allan.

Bloom stated that his taxonomy "should be an educational-logical-psychological classification system" (Bloom et al., 1956, p. 6). Of course, it is impossible to achieve a simple hierarchical classification if the three organising factors are independent, which Bloom et al. considered them to be. Bloom's classification is based on three variables, and would therefore require three dimensions if the variables were orthogonal. Bloom did not have to confront this insoluble, and unrecognised, problem. Bloom rightly believed that any scheme "must be validated by demonstrating its consistency with theoretical views in research findings of the field it attempts to order" (Bloom et al., 1956, p. 17). However, when he tried to link his scheme to "theories of personality and learning", he admitted (imply, but honestly) he was "unable to find a single view which ... accounted for the varieties of behaviors represented in the educational objectives we attempted to classify" (Bloom et al., 1956, p. 17). He was overgenerous to the classification in saying that it "uses an order consistent with research findings" (Bloom, 1956, p. 18) as the research quoted concerned whether teachers could use it, not its validity in terms of cognition and epistemology. His ultimate justification for the simple to complex ordering was "the idea that a particularly simple behavior may become integrated with other equally simple behaviors to form more complex behavior" (Bloom et al., 1956, p. 18). It is hardly surprising that he could not find theoretical support for such a simplistic view of learning. Even then there was a wide, although somewhat contradictory, selection of learning theories with a contemporary (Hilgard, 1966) outlining twelve. Even if Bloom et al. had theoretical support for their simple-to-complex learning heuristic, they would still have had to justify the actual levels, and their sequence, in their cognitive hierarchy. It is hardly surprising that Bloom's taxonomy has virtually disappeared.

Allan's generic academic outcomes resemble those of Bloom et al., but show differences. From the examples given (Allan, 1995b), it seems that her outcomes form a kind of loose hierarchy. It is difficult to find a justification for Allan's structure. Bloom et al. attempted to do this for their taxonomy, failed, and admitted it, as has been shown. Each of Allan's outcomes, such as "make use of information", may be admirable, but there is no reason given as to why they should constitute the total

of all “generic academic” learning. As with personal transferable outcomes it is not difficult for the reader to add to Allan’s generic academic outcomes.

There are questionable views on knowledge and learning implied in Allan’s scheme. Students can learn to “make use” of knowledge, “analyse” it, “think critically” about it, and “synthesise ideas and information” from different parts of it. Knowledge appears to be objectified as a body of facts, ideas and theories. This is in contrast to non-absolutist epistemologies, such as that of Code (1998). She argues for a nuanced and sophisticated relativism. This derives from a recognition that “knowers are always *somewhere*” and their “differing social positions generate variable constructions of reality”. It is “grounded in experiences and practices, in the efficacy of dialogic negotiation and action” (Code, 1998, p. 144). What knowledge is remains contested. A traditional view, such as that of Ayer (1990) is that it is justified true belief. Pragmatists see it in terms of its usefulness, as explained in Mounce (1997). This paper is not arguing for relativism, or any other epistemological stance, but for an acknowledgement that diversity exists in views on knowledge, and that this cannot be ignored by anyone devising a scheme for curriculum planning. For example, Lyotard notes that “scientific knowledge is a kind of discourse” (Lyotard, 1984, p. 3). Bird claims that the scientific method is not ‘scientific’, although he does not subscribe to the full-blown relativism of Feyerabend’s “anything goes” in relation to method (Bird, 1998, p. 267). Burr (1995) and Fulk (1993) are two examples amongst hundreds whose research adopts a social constructivist approach to knowledge. Writers such as Kincaid (1996) and Goldman (1991) defend traditional approaches to research and to knowledge. All of this suggests that it is wrong to teach an unproblematic view of knowledge that is obtained from a simple application of the scientific method: it is wrong about knowledge, and wrong about method. At a metacritical level it presents a restricted and erroneous message to students.

A reference has already been made to a (dated) text (Hilgard, 1966), in which he described twelve theories of learning. To these could be added constructivism, the view that each learner constructs their own knowledge; research examples from numeracy skills include Chapman (1997), Wilensky (1997) and Cromer (1997). Writers on ‘deep’ and ‘surface learning’ make this a condition for permanent knowledge acquisition (Montgomery, 1994).

It is difficult to quarrel with “make use of information” as a skill because it is so colourless, and could include anything from planning the next war to choosing what to have for breakfast. “Think critically” is more ambiguous and debatable. “Critical thinking” can be used in the sense of evaluation and judgement, as outlined in texts such as Hughes (1996). Hughes explains that his text is an introduction to the “essential skills” required to create strong arguments (Hughes, 1996, p. 14). This appears to be what is meant by critical thinking in Allan (1995b). Critical theorists would look derisively at a technicist approach to criticism. For them, critical thinking is uncovering the social, ideological and historical forces which produce and limit ideas, culture, and other aspects of intellectual life. For them, critical thinking is essential if any theoretical development is to be understood. There are varieties of critical theorists working from widely different perspectives, such as those of Marx, Habermas, Nietzsche and Foucault. In a text edited by Alvesson and Willmott (1992), critical theory is shown at work in the range of management studies from quantitative subjects, such as accounting and OR, to the softer area of personnel and marketing. Much of business studies and management is taught primarily as techniques (Willmott, 1994; Grey and Mitev, 1995). Critical theory requires underlying assumptions, usually unquestioned, to be brought out and problematised. In the work of Habermas, and others, it carries with it a commitment to emancipation (Brocklesby and Cummings, 1996) that is markedly lacking in the outcomes approach. It seems apparent that Allan’s critical thinking is much more superficial, and that critical theory is not in evidence.

It is easy to add skills to Allan’s list of ‘generic academic outcomes’; three more are now proposed.

An essential academic ‘outcome’ is reflective thought; this was mentioned briefly earlier. It is not enough to “make use of information...synthesise ideas”, it is also essential to be reflexive, to think

while taking action, and be prepared to modify ideas and future actions on the basis of that thought-in-action: Schon talks of the reflective practitioner, and the education needed by them (Schon, 1986).

Increasingly students are expected to carry out their own investigations: this requires a set of academic skills not included in Allan's list, which assumes that students react to knowledge but do not create it. Dennett (1997, p. 242) would describe this as "poking at the system" as opposed to "communicating with it". In students' own research, Easterby-Smith et al. argue that students may adopt a "positivist viewpoint" or "phenomenological viewpoint" or both (Easterby-Smith, Thorpe & Lowe 1991). There seems to be no recognition by Allan of the interpretive methods of the cultural sciences, despite their being "raised to epistemological status" by Dilthey about a hundred years ago (Habermas, 1990). This dualism in method, and debates over it, continues. Kincaid (1996) can argue for positivism as the only true method in the social sciences, while Winch (1990) can argue for 'understanding' as opposed to causal explanation. Hammersley (1995) notes the growth of relativism in science, although attacks it himself. The vote implicit in Allan's work seems to be for positivism. However, interpretive methods are increasingly seen in widely differing fields of study. They have expanded outwards from history where Collingwood saw historical knowledge deriving from imaginative reconstruction "re-enactment of a past thought" (Collingwood, 1989, p. 114). This expansion can be seen, for example, in Llewellyn (1993) and Walsham (1995) who explain the development of relativist methods in accounting and information systems respectively.

Allan takes an individual view of modules, the learner, and knowledge. In practice "transdisciplinarity" (Gibbons, Limoges, Nowotny, Schwatzman, Scott & Trow, 1994) is increasingly in use to create knowledge. This means more than just Allan's "personal transferable outcome" or the ability to "work in teams". There are large academic issues here as well, not apparently considered by Allan.

The overall scheme: planning the curriculum

Having examined elements of the scheme in detail, its use in curriculum planning is now considered.

The scheme includes advice on outcomes, learning and assessment. Allan writes of the "congruence" between them (Allan, 1995b, p. 4). This seems to indicate that everything to be learned is an outcome and is subject to assessment. Handy writes of the "Macnamara fallacy" the third stage of which is "...to presume that what can't be measured easily really isn't important. This is blindness" and the fourth is "...to say that what can't be easily measured really doesn't exist. This is suicide" (Handy, 1995, p. 219). Learning outcomes require ostensive, measurable, behaviours; possibly the scheme is between steps three and four.

For any model to be viable, relations between components must be specified. The curriculum planner must know how the three different types of outcome can be linked. It is difficult to tease out the nature of the relationship in Allan's scheme. As formulated by Allan, the element 'personal transferable outcomes' is isolated from the other two types of outcome in the "evolution" process (Allan, 1996a, p. 101). The practical advice in Eatough et al. (1997, p. 4) is of limited value: it states that although "you may feel that ALL of the [personal transferable] skills are implicit in your module...only one or two are included for assessment purposes". There is a similar vagueness about academic outcomes. The curriculum designer is advised that "Subject specific outcomes" are "related specifically to the academic content of the module" (Eatough et al., 1997, p. 3) and may be taken from the current [pre-outcomes] Module Guide without amendment. Tautologically, the developer is advised that "Generic academic outcomes" tell the student "what is expected of him/her in terms of the academic complexity/level of study" (Eatough et al., 1997, p. 3). There is little in any of the documentation to explain how links between elements (classes of outcome) are to be established in the curriculum. While the contents of outcomes have been minutely specified, the links between 'general academic outcomes', 'subject specific outcomes' and 'personal transferable outcomes' remains shrouded in mystery.

Bloom et al. (1956) may have contributed to the scheme's 'generic academic outcomes' through their cognitive taxonomy. Their other contribution to outcomes in general is in their specification of the 'affective domain'. In this, learning objectives are organised into five levels (Krathwohl et al, 1964) in a similarly detailed way to the cognitive domain. However, these seem to be rarely used, and are not mentioned at all in this scheme. Yet affective considerations must be part of teaching and learning. Most writers on education believe that it is concerned with values, with acquiring, questioning, and developing them, and not just with cognition. Students, themselves, see this as an important part of their education, as Drew (1998) has shown.

Every curriculum planning scheme must itself rest on beliefs. Frankena (1970) proposed a layered model to help analyse theoretical frameworks and schemes. He showed that they must rest on different types of statement with normative as well as analytical, metaphysical, theoretical and factual foundations. He explains that "one must find out what statements of these different kinds it contains and how they are related to one another in the author's reasoning" (p. 16). An analysis of the scheme has been attempted here, with limited success because so much of it seems to be without any theoretical or principled basis.

Aims of education

In the scheme there are no references to what higher education is for. Consideration of aims must precede consideration of means in any rational programme. In this section various educational aims are stated, and the relevance of outcomes reviewed in relation to them.

In a survey of curriculum theories, Egan (1997) concluded that there were three main types of educational aim: preparing for social life (including work), developing the individual, and engaging with forms of disciplined knowledge. These themes appear in various ways in the approaches shown below.

Phenix expresses the aim of education as the "full development of human beings" (Phenix, 1964, p. xi). To Scheffler (1970, p. 30) it is "facilitating maximum self-sufficiency" with subject-matter chosen to "enable the learner to make responsible personal and moral decisions. Self-awareness, imaginative weighting of alternative courses of action, understanding of other people's choices and ways of life, decisiveness without rigidity, emancipation from stereotyped ways of thinking and perceiving- all of these are bound up with the goal of personal and moral self-sufficiency". Oakeshott says of university education it aims at helping students "to recognise and make something of [themselves]" (Oakeshott, 1962, p. 41).

The concern with students having an active part in knowledge creation is seen in many statements of educational aim: Nietzsche is expressing this when he declares that "One repays a teacher badly if one remains a pupil" Nietzsche (1992, p. 6). Harvey and Knight want education to be "transformative": the educated person "...should be someone who is able to deploy a variety of frameworks and to stand outside them; to have a commitment to continued learning and reflection; to be able to do this with a degree of autonomy; and who has integrated this with a set of developed values relating to the self as a learner and as a doer" (Harvey and Knight, 1996, p. 107).

Barnett, in a continuing project, has examined the question of aims in higher education and provides his solution which includes all three themes (Barnett, 1990, 1992, 1997). He sees knowledge as socially constructed out of dynamic discourses which include both students and teachers. There must be individual participation, openness, commitment to scholarship, with the confidence to submit knowledge claims and have them examined by others. This requires a developmental process for individuals, and is concerned with personal well-being, growth, and values, as well as the development of mind. He draws on the communicative rationality of Habermas to challenge the limited perspectives of cognitive-instrumental rationality (with its aim of efficiency) and strategic

rationality (with its aim to “bring about a desired behavioural response”) according to White (1995, p. 237), through the use of people as the instrumental means for achieving these aims. Barnett wants higher education to provide a scholarly community inclusive of students and teachers. He summarises his position on education as aiming at critical reasoning by the student in relation to what is studied, critical self-reflection by the student themselves, and critical action by the student in the world. Clearly a regime where one group devises a limited set of ‘learning outcomes’ for another group cannot begin to meet the conditions Barnett believes are necessary.

Freire presents a stark choice when he states that education is for domestication or liberation. For him, as for many writers, “neutral education cannot, in fact, exist” (Freire, 1970, p. 39). He presents a passionate attack on the “mere transfer of knowledge” from educators who know to students who do not (Freire, 1970, p. 41). He sees this as based on an understanding of reality which is fixed, and knowledge which is transferred rather than sought, and with clear and separate roles for students and teachers. Freire opposes this with a view of education which is emancipatory, where knowledge is incomplete, and students are also teachers, and teachers also students. Education is a participatory debate imbued with principled truth seeking.

Another way of approaching the purpose of education is to look at the individual that emerges from the process. Dennett argues that the mark of a truly rational person is “freewheeling flexibility” (Dennett, 1997, p. 245). For him, the necessary conditions of personhood are that individuals are rational beings, are intentional, they can receive and reciprocate feelings and attitudes, engage in verbal communication and are conscious of self. It is this reflective self-evaluation and reflexivity which makes individuals capable of second-order intentions. We do not have to act on our immediate desires and instincts, we have a choice. In this view, the concept of a person is “inescapably normative” (Dennett, 1997, p. 285) as “...we are *responsible* for being who we are” (p. 299). Arendt has similar beliefs about existential freedom, but sees threats from insidious sources. She wants people to defend themselves against the acceptance of bureaucratically normalised inhumanity. She argues that “the conviction that objective truth is not given to man but that he can only know what he makes himself is not the result of scepticism but of demonstrable discovery, and therefore does not lead to resignation but either to redoubled activity or to despair” (Arendt, 1958, p. 293). The individual has a duty to think and a moral responsibility for action in the world. She deplores behaviourism not because it is outdated and simplistic, but because it could easily become true. Sartre proposed that the individual is “condemned to be free” (Sartre, 1969, p. 444) but can easily deny that freedom in favour of comfortable conformity. Heil (1992, p. 151) agrees: “To possess a mind is not to occupy the place of a detached onlooker, but to be engaged in the world”. He goes on to state, “Self-consciousness, on this model, is fundamentally reflexive” (p. 180) and “... the thoughts we entertain are explicable, in part, by reference to their content. In each case we *create* something with a particular significance in part *because* it possesses that significance.” (p. 182).

Another way of considering aims is to look at the institution. Many writers have put forward the idea of the liberal university. A recent defender, Hammersley (1995), argues for its intrinsic as well as extrinsic value. Looking beyond the university, Dearing addresses questions about the type of education needed for the next twenty years. He notes that education should help to foster a learning society, one which will learn how to learn. Some of his key proposals are directly concerned with values. Two of the requirements for higher education which he highlighted are: “sustain a culture which demands disciplined thinking, encourages curiosity, challenges existing ideas and generates new ones” and “be part of the conscience of a democratic society, founded on respect for the rights of the individual and the responsibilities of the individual to society as a whole”, Dearing (1997, p. 8).

The learning outcomes approach gives no consideration to aims. It does, however, make a number of pragmatic claims. These will be examined in the final section.

Conclusion

A trenchant observer summarises criticisms of outcome-based education from a number of writers (Brady, 1996, pp. 12-14). "It is narrow, fragmented, mechanistic and behaviouristic... It limits enquiry, speculation or creativity... It devalues the affective dimension of education... It discriminates against the capable student". But learning outcomes also has an increasing number of supporters. There are arguments which appeal to individuals and organisations wanting a simple, rational system which permits a command-and-control type of management. Allan's "rationale" (1995b, p. 3) expresses this simple rational-instrumental view of teaching and learning. The "rationale" is given in full below.

Learning outcomes:

- provides students with a clear statement of what learning is about in a given module. This reduces the mismatch between how lecturers and students perceive learning and gives the students the wherewithal to take responsibility for their own learning;
- gives coherence to the learning experience by assuring congruence between the outcomes, taught programme and assessment régime and by providing students with a framework for their study time;
- removes the mystique surrounding assessment by providing students with clear guidelines on assessment tasks and criteria...
- facilitates the articulation of the transferable skills which are to be developed in a module. This provides students with information which may be used in choosing appropriate modules to develop personal profiles and to provide the basis for a Record of Achievement (RoA);
- facilitates APEL [Accreditation of Prior Experience and Learning] by giving students specific outcomes for which they can provide evidence of achievement;
- paves the way for NVQs [National Vocational Qualifications] at levels 4 & 5;
- clearly states what we say we do.

Allan (1995b, p. 3)

These postulated advantages can now be considered.

There is an emancipatory claim for the scheme that follows from students knowing what is expected of them, and the transparency of the assessment. With this information, students have the freedom to decide for themselves exactly how and when they will learn. However, it is difficult to see Freire (1970) and Barnett (1990, 1992, 1997), or other writers on aims, agreeing that students are given "responsibility for their own learning" with this learning outcomes approach. Students can decide when they learn, but not how or what. The limited nature of the academic outcomes, and the restricted nature of the matching assessment, constrains what the student should do. The very precision of the outcomes penalises any student going beyond what is asked for. There is no dialogue here, no community of students and teachers, no search for new knowledge, no creativity. Any "mismatch" between the perceptions of students and teachers is not resolved by dialogue, but by the detailed specification of outcomes by teachers on students: Freire (1970) would unhesitatingly describe this as 'domestication'.

The claim for "coherence" rests on an unwritten claim that the scheme itself is coherent. The foregoing examination shows that it is not. There is no educational justification for the scheme as a whole: the trichotomy of "generic academic outcomes", "subject-specific outcomes" and "personal transferable outcomes" does not rest on any stated basis, or any that can be inferred. Each of the elements in the scheme demonstrates the lack of theoretical, research or metaphysical justification. The scheme is not a model; without an explanation of the relationship between its elements its use is underdetermined.

The claim that the scheme "removes the mystique" can be upheld, but only at the cost of reducing teaching and learning to a narrow range of cognitive outcomes. In doing this, education is seen essentially as a narrow type of training. There is no place for critical thinking and action.

The “articulation of transferable skills ... in a module” might have some value. As has been shown above, there are fundamental problems arising from the commonsensical, rational-instrumental approach to skills as described in the scheme. One set of problems is concerned with the nature of these skills. There is a large, and continually expanding body of research evidence about theory and practice, very little of which is seen in the outcomes here. Another set of problems derives from the assumptions about the organisations, and society, where these skills will be applied. The skills are called “transferable” but this does not make them so (as has been indicated).

Allan concludes that learning outcomes “clearly states what we say we do”. There will be ‘no surprises’ as outcomes, teaching and assessment are pre-specified. Given the very narrow conception of ‘learning outcomes’, students will have no opportunity to develop and show their abilities except where closely defined and channelled by their teachers. Any genuine initiative, intellectual curiosity, and scepticism will be discouraged. Values and beliefs, seen to be of importance in education by writers and by students themselves, are nowhere in evidence. Perhaps Allan believes that they are fully formed and do not need to be part of education, or perhaps she feels that they are outside of the remit of education. Perhaps she believes that education should be ‘value-free’ at this level. If “what we say we do” is severely limited in the cognitive domain, if it excludes any consideration of values, if it limits learning to what can be assessed in the classroom, then it may well be true. Much of Dearing’s vision (and that of many other writers) would be abandoned.

Removing the “mystique” has another facet. Almost inadvertently, advocates of learning outcomes appear to have solved a problem that has puzzled philosophers for over two thousand years, what it is to know something. Allan explains that it is all a matter of the behaviour of the knower. Knowing can always be evidenced by behaviour, so the problem dissolves. The sceptic may not be so easily convinced. Perhaps ‘know’ and ‘understand’ are difficult words to work with because they refer to concepts which are highly complex, and perhaps learning, therefore, cannot be simply specified as ‘outcomes’. Perhaps the assumption that ‘know’ and ‘understand’ can be replaced by a small set of limited cognitive behaviours is a fundamental category mistake (Ryle, 1949). It is possible that learning outcomes might apply to a narrow field of training, but not to education. Even if an outcome is successful, a skill may not have been ‘really’ learned. Take the case of students who may be able to demonstrate that they can perform x and y (outcomes that are purported to define concept z), but then they say that they do not ‘really understand’ z: no one would say that these students are mistaken and that they must understand z. Further, in the real world, people may never apply z, for a variety of different reasons, even though it would be best if they did so.

The reference to APEL and NVQs will not be considered here, although both raise academic matters of serious concern.

Despite these criticisms, learning outcomes could still ‘work’. The next stage is to look at empirical evidence. This will be the subject of a second paper.

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