An alternative to the objectives model; the process model for the design and development of the curriculum.

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1 author:

Mary James

University of Cambridge

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An alternative to the objectives model: the process model for the design and development of curriculum

Mary James

Introduction

By 1977, when I first read *An Introduction to Curriculum Research and Development*, by Lawrence Stenhouse (1975), it had already become a best seller and an Open University set book. As a practising teacher, I had recently embarked on a part-time MA in Curriculum Studies, so, as students do, I annotated the passages that spoke to me most forcefully. Reading the book again, together with other material from the Stenhouse archive at the University of East Anglia[1], I was intrigued to discover how many of the points that struck me as important on first reading remain significant for me today. Whether that says more about my reading than Stenhouse's writing, I may never know. There are, of course, elements that now seem odd or problematic in ways that I was blind to then. The use of the masculine pronoun throughout would not be acceptable today although it was standard practice at the time. The examples used to illustrate curriculum development are drawn almost exclusively from the secondary sector, and especially from the curricula of elite schools. There is an assumption that curriculum developers – or 'curriculum workers' as Stenhouse often called them – are located in universities, rather than in the government agencies of recent history. Indeed there is very little reference to the role of the state at all because, in the 1970s: '…teachers have been rather free of policy constraints on the curriculum…' (Stenhouse, 1975: 42). Most remarkably, perhaps, given present experience of the effects of over twenty years of national curriculum and assessment policy, Stenhouse made only slight reference to the driving force of assessment and testing.

If I set aside these reservations, I am reminded just how powerful an impression the book made on me in 1977 and how seminal a contribution it made to my thinking and practice, then and subsequently. It articulated the rationale for the Humanities Curriculum Project, to which I was introduced at a training course led by John Elliott in Norwich in 1972. This was possibly the most powerful professional development experience of my career because it challenged my beliefs about worthwhile curriculum knowledge, the process of teaching and the role of the teacher. With the support of a visionary head teacher, who had sent

[1] http://research.edu.uea.ac.uk/carecentreforappliedresearchineducation/carearchiv/selectedworksoflawrencestenhouse

me on the course, I then introduced HCP to students in the 'lower streams' in my school, who were perceived to be struggling in its traditional grammar school environment. When I later moved to a comprehensive school, I took with me the HCP principles of procedure to help me think through curriculum design, development and evaluation in new subject areas (sociology and social studies). Reading Stenhouse's book during my time at this school helped to ground my practice in theory and refine it through better understanding. It has continued to influence my thinking through more than thirty years of subsequent research and teaching in universities.

This then is the personal baggage I bring to the writing of this chapter, in which I aim to do two main things:

1. Provide an account and critique of the process model and how it developed as a response to the objectives model
2. Discuss its relevance to theory and practice in the 21st century.

The process model as a reaction to the objectives model

Intellectual foundations

International reference is a strong characteristic of Stenhouse's writing. His reading and personal contacts allowed him to draw extensively on overseas sources, particularly in the USA and Scandinavia. It is not surprising therefore that his argument for a process model of curriculum design and development was framed in response to the dominant 'objectives model' that had emerged in the United States. By the 1970s curriculum discourse in the USA was dominated by rational curriculum planning based on an instrumental view of education as a means towards ends. This assumed that if ends were sufficiently carefully specified then the best means to attain these ends could be established by scientific evaluation of controlled interventions. Advice or prescription on the most effective and efficient interventions (the means) could then be disseminated to teachers to implement in their schools.

This seemingly simple and rational means-end planning model had great appeal, as it does today, to the bureaucratic mind. But from the very first, Stenhouse took issue with it because his observations of teachers and teaching revealed marked gaps between plans and practice. The alternative position he developed is expressed in his definition of curriculum:

> *A curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice.* (His emphasis) (Stenhouse, 1975: 4)

This idea that educational intentions need to be in the form of *principles* open to *critical scrutiny* and capable of *translation* in ways best suited to different contexts of *practice*, was the foundation for many of Stenhouse's ideas.

But he was also critical of a focus on means and ends that paid insufficient attention to content – the subject knowledge that is involved in the exchange. He rejected the image of the teacher as an engineer or technician and placed weight on the teacher as scholar dealing in public knowledge: 'A teacher is a man (sic) of learning skilled in teaching.' (ibid: 6) Inevitably, given the limited time students spend in schools and the breadth of possible content, a curriculum has to be a 'selection' from 'public traditions', culture or intellectual capital. (Cross reference to Pring's chapter?) While he acknowledged the competing claims of sub-cultures in a pluralist society, he drew on the work of R.S. Peters (1966) to argue for the philosophical view that some contents are intrinsically more worthwhile than others. This has implications for teaching. Rather than adopt the popular view, current at the time, that teachers should select content according to students' interests and then steer them towards the more worthwhile, he was inclined to think that teachers should choose 'that which is judged worthwhile and attempt to teach it so well that it evokes interest'. (Stenhouse, 1975: 9) Thus, he accepted that disciplines of knowledge, arts, skills, languages, norms and values, which are created and 'curated' (ibid: 13) by reference groups outside the school, have legitimate claims for inclusion in the curriculum.

One senses, however, that Stenhouse was not entirely comfortable with his line of argument. His early work was informed by sociology and history, which prompted him to regret that the content of education had been relatively neglected by sociologists (Stenhouse, 1963: 120). By the 1970s there were fierce debates about the nature of knowledge. On one side were the philosophers and subject specialists with traditions driven by the search for absolutes and 'warranted' knowledge. On the other side was a powerful group of sociologists of knowledge (e.g. Young, 1971), who argued persuasively that knowledge is socially constructed according to the vested interests of powerful and elite groups. Stenhouse saw a way out of the impasse in the work of Joseph Schwab (1964), and particularly Jerome Bruner[2] (1960) whose background as a psychologist led him to assert that the process of education is essentially the same for all. Bruner advanced the hypothesis, which Stenhouse quoted on several occasions:

> …any subject can be taught effectively in some intellectually honest form to any child at any stage of development. (Bruner, 1966: 33)

This hypothesis – the foundation of Bruner's curriculum project, 'Man: a Course of Study' (MACOS) – was less concerned with the search for absolute truths as a desire to understand the world by giving it structure and meaning. Similarly, Schwab (1964: 13-14) characterised disciplines as resting on structures of concepts that are provisional and changing. According to Stenhouse:

> Knowledge in this sense consists not of facts, but of facts so structured by theory that they acquire meaning. Whereas facts *per se* (…) can be

[2] Stenhouse spent time (and drank wine!) with Jerome Bruner, who was Watts Professor at Oxford University from 1972-80. (Cross reference to Norris chapter?)

mastered by memorisation, knowledge with meaning requires understanding…' (Stenhouse 1975: 17)

Thus Stenhouse found a way to accommodate both philosophical and sociological perspectives – to acknowledge the intrinsic worth of disciplinary knowledge *and* the provisionality of knowledge constituted by the contested interests of sub-cultures. The key was to see learning as a *process* directed towards the growth of understanding through critical scrutiny, which sought the best that might be thought and known by subjecting all propositions to testing for bias and error against logic and experience. This would both satisfy curiosity and form a basis for action (ibid: 16). Thus classrooms needed to be seen as laboratories in which students learn but teachers also develop by challenging their assumptions and testing innovations, assisted by consultancy and research where appropriate. (Cross reference to Elliott chapter) It was this core of ideas, therefore, that provided him with the intellectual basis for his own process model of curriculum design and development, and for his trenchant critique of the objectives model that had grown in popularity in the US and was to become increasingly influential in the UK.

The case against the objectives model

Stenhouse's case against the objectives model rested on his view that planning by objectives fundamentally misunderstands the nature of learning. To make his point, he quoted two powerful similes employed by other writers. Philip Jackson (1968: 167) wrote, 'the path of educational progress more closely resembles the flight of a butterfly than the flight of a bullet'. And Paul Hirst (1965: 135) claimed, 'understanding a form of knowledge is far more like coming to know a country than climbing a ladder'. Thus learning is not simply a case of getting from A to B. Viewed as the growth of understanding, learning is not a target to be hit but something to be broadened, deepened, enhanced, enriched - and it may take the learner in unexpected but important new directions. If this is the case then, according to Stenhouse, it is better to be led by 'principles of procedure' or 'pedagogical aims' than 'objectives'. Some argued that principles of procedure could be described as 'process objectives' but Stenhouse rejected this nomenclature on the grounds that 'principles of procedure' avoids confusion with objectives in the normal sense and it stresses the need for teacher judgement and grasp of criteria and principles. (Stenhouse, 1975: 39).

Ralph Tyler's 1949 classic, *Basic Principles of Curriculum and Instruction,* was a focus of Stenhouse's critique of the objectives model. In this book Tyler discussed four alternatives for making curricular decisions to guide teaching:

1. Specify teaching methods
2. Specify content
3. Specify generalised outcomes, e.g. develop critical thinking
4. Specify changes to take place in students: behavioural objectives or 'intended learning outcomes'. Here general aims are analysed into specific observable, and thus measurable, behaviours.

Tyler argued that traditional classroom practice in schools, and training courses in teachers' colleges, had tended to focus on the skill of imparting the teachers'

subject knowledge to students using generic teaching methods. This had undervalued deliberation about what young people might be expected to have learned and achieved as a result of their experience of schooling. If proper consideration of valued learning outcomes is undertaken then the results can be framed as planning objectives for curriculum, instruction and assessment. By pursuing this argument, Tyler was attempting to rebalance the customary focus on the activity of teaching with a complementary focus on learning. In a sense, his vision was itself a reaction to what had gone before – a point that Stenhouse's critique may have insufficiently acknowledged.

In 1962, Hilda Taba, in *Curriculum Development: Theory and Practice,* then developed Tyler's conceptual scheme into an orderly planning procedure of seven steps:

1. Diagnose needs
2. Formulate objectives
3. Select content
4. Organise content
5. Select learning experiences
6. Organise learning experiences
7. Determine what to evaluate and ways and means of doing it

Stenhouse (1975: 56) was not disparaging of this effort. He credited it with the potential to co-ordinate the contributions of the disciplines of education: ethics, epistemology, sociology of knowledge, social philosophy, psychology, learning theory, systematic pedagogy, social psychology, psychometrics and educational measurement. The achievement of such co-ordination would be no mean feat!

However, this potential could be undermined by the unintended consequences of attempts to implement such a scheme. One such effect was the proliferation of taxonomies of educational objectives, which tended to have a 'conservative cast' (ibid: 59) especially when they were reduced to behaviours that could be measured with precision. Sometimes they become absurd, as in an example of criteria for a school student's appreciation of good literature which Stenhouse paraphrased as: 'Solves the central problems of literary criticism at which professional critics have been working throughout the centuries!' (ibid: 60)

By the 1970s, educational objectives had become big business in the USA.

> In the United States some school systems have contracted out sectors of the education system to profit-making learning system companies whose profits depend on their capacity to achieve objectives pre-specified in terms of the children's performance on standardized tests. (Stenhouse, 1975: 69)

In England, at the same time, only the curriculum project 'Science 5-13', directed by Wynne Harlen, had adopted a version of the objectives model. This involved a general aim, eight broad aims, stages, and objectives appropriate to stages. Stenhouse was sympathetic to this approach, which he described (ibid: 64) as

intelligent, moderate, modest and practical. Above all, the project indicated the need for flexibility and responsiveness by teachers. He contrasted Science 5-13's 'With objectives in mind' approach with the 'Objectives or bust' approach in the US, which horrified him.

Stenhouse began his critique, in the chapter he devoted to it, by warning against reification; the objectives model is a conceptual scheme, not a thing, and should attract experimental testing not uncritical allegiance (ibid: 71). James Popham's (1968) defence against eleven criticisms of the objectives model were his particular focus. He used six pages (1975: 72-77) to challenge Popham's defence against these criticisms which illustrates just how lively the debate was, and how widespread. Myron Atkin, Philip Jackson, Robert Stake and Elliott Eisner were all quoted as critics of the objectives model, which stood accused of:

1. Triviality, because trivial learning behaviours are easiest to make operational and measure;
2. Preventing opportunism, because pre-specification prevents teachers from taking advantage of unplanned opportunities;
3. Neglecting wider objectives than pupil behaviours, e.g. community values;
4. Difficulties with measurement, which becomes mechanistic and dehumanising;
5. Being undemocratic, because it prescribes how learners should behave;
6. Insisting that teachers should specify their goals in terms of measurable behaviours, which is unrealistic;
7. Ignoring the difficulty of defining measurable behaviours in the arts and humanities;
8. Making most educational goals innocuous if stated precisely;
9. Turning measurability into accountability, by encouraging the judgement of teachers by the outcomes their students achieve, which may be affected by factors beyond the teachers' control;
10. Underestimating the difficulty of teachers generating objectives unless they are given a bank of them to choose from; [3]
11. Making teachers inattentive to unanticipated but important results.

Popham's argument was mainly that all these perceived problems could be overcome and that learners would benefit. On some issues his response to the criticism was peremptory. For example, on the matter of whether it is realistic for teachers to be expected to set goals in terms of measurable behaviours, he thought they ought to. Stenhouse regarded Popham's judgement, that much teaching practice is indefensible, as punitive to teachers. Moreover, he detected that the real issues were political; they were not merely technical.

> The demand for objectives is a demand for justification rather than simply description of ends. As such it is part of a political dialogue rather than an educational one. It is not about curriculum design, but rather an expression

[3] At UCLA in the 1970s Popham worked on developing an objectives bank – the Instructional Objectives Exchange.

> of irritation in the face of the problem of accountability in education. I believe that politicians will have to face the fact that there is no easy road to accountability via objectives. Payment by results showed that. (Stenhouse, 1975:77)

Whilst this comment now seems prescient in the UK context, it should be remembered that Popham was working in a rather different US context, dominated by the norm-referenced assessments of widespread psychometric testing. So Popham's progressive move to criterion-referenced and curriculum-based assessment was, in some senses, enlightened. At least it acknowledged that assessment should be related to the curriculum and the teaching that students experience, which has not always been the case in the USA.[4] James Popham is now in his eighties but he is still an active and lively educator who is now an advocate of assessment integrated into curriculum and instruction for formative purposes (assessment for learning). [5]

Eisner (1967, 1969), who, like Stenhouse, was a critic of the behavioural objectives model, nonetheless used the terminology of objectives to distinguish 'instructional objectives', which give mastery of cultural tools, from 'expressive objectives', which allow creative responses. As an art educator, he valued educational encounters as evocative rather than prescriptive and wanted to find a way to describe valued creative encounters and their significant, and often unique, products. Stenhouse was sympathetic to this but criticised Eisner's continued use of the term 'objective' and his almost exclusive focus on the arts. He thought that evocative encounters and creative responses needed to be valued across the curriculum. He also had difficulty with the idea that expressive objectives could be pre-specified. In an earlier article, he wrote:

> …one must judge after the fact whether the product produced or the behaviour displayed belongs to the novel class. I think, in fact, that the problem is not that of judging whether the behaviour be novel, but rather, given that the behaviour is in some sense novel and individual, how do we specify a situation in which the teacher is called upon to make judgements of quality and worthwhileness. (Stenhouse, 1970: 76)

This debate with Popham, and with Eisner, indicates that Stenhouse was less interested in the technical issues to do with specifying educational objectives and their measurement, important though they are, but with more fundamental

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[4] For example, the key selection test for higher education in the US – the SAT Reasoning Test, formerly the Scholastic Aptitude Test – is not a test of what students have learned in relation to the curriculum, but a test of more generic skills deemed to indicate readiness for college education.

[5] In 2009 he was a signatory to a position paper on Assessment for Learning developed at the Third International Conference on Assessment for Learning. This can be downloaded from: http://www.annedavies.com/**assessment_for_learning**_ar_a010.html This is also reproduced in Klenowski, V. (2009).

objections. In essence he drew on his most deeply held intellectual beliefs, outlined above, to argue that the objectives model is flawed because it mistakes the nature of knowledge, and it mistakes the nature of improving practice (Stenhouse, 1975: 79).

As his response to particular initiatives, like 'Science 5-13', indicated, Stenhouse wasn't entirely dismissive of the pursuit of objectives. Rather, he rejected the idea that they could be the basis of a complete model applicable to all aspects of education. He delineated four different processes of education in schools (ibid: 80):

1. Training: concerned with skills and exhibited as capacity in performance;
2. Instruction: concerned with acquiring information and detected in memorisation and retention;
3. Initiation: concerned with familiarisation with norms and values and demonstrated in a capacity to interpret the social environment;
4. Induction: concerned with thought systems – understanding – evidenced through a capacity to grasp, judge and construct relationships among concepts, drawing on the disciplines but with the potential to go beyond existing knowledge by critical and creative thinking. This was the only category that Stenhouse designated as 'knowledge' *per se.*

He acknowledged that training and instruction 'gives a reasonably good fit' to the objectives model because it is a relatively straightforward matter to specify skills and information to be acquired by students, and to assess them in performances on standard tests.

Initiation is more problematic because norms and values are often absorbed through the hidden curriculum although recognition of its importance, e.g. character building in well-known independent schools in England, implies an attempt to disclose it to some form of examination. In a later paper, Stenhouse and Gajendra Verma (1980) discussed attitudinal objectives in relation to the 'Problems and Effects of Teaching about Race Relations' project, and whether the teaching of attitudinal objectives should (or could) be taught without cognitive content. (Cross reference to Elliott chapter?)

The big challenge to the objectives model, however, is from education as the process of induction into thought systems. Stenhouse's strong view was that:

> *'Education as induction into knowledge is successful to the extent that it makes the behavioural outcomes of the students unpredictable.'* (His emphasis)(Stenhouse, 1975: 82)

An alternative process model of curriculum design and development

In order to advance an alternative process model for induction into thought systems, Stenhouse returned to the notion of intrinsic justification of educational activities - drawing on Peters'(1966) conception of worthwhileness. Because important concepts, procedures, and criteria, within a subject or discipline, are the focus of ongoing speculation in the professional community they demand

enquiry and discussion, rather than mastery. Stenhouse, following Bruner's dictum, believed this kind of 'intellectually honest' enquiry was possible with most groups of learners if the appropriate procedures were in place. For example, the historians' key concepts of causation, change and evidence, could be examined at different levels in relation to the study of World War One with older students, or discussion of an infants' playground fight with younger ones (Stenhouse, 1975: 85). Accordingly, principles for the selection of worthwhile content, and the structure of activities, do not depend on the specification of objectives. They point, Stenhouse argued (ibid: 87) more clearly to 'principles of procedure' in teaching - another concept derived from Peters (1959: 90). In a sense, Stenhouse was returning to the two possibilities that Tyler dismissed: specifying what the teacher is to do, and specifying the content to be dealt with.

> Let us accept that education is concerned with disciplined activity in some broad sense. Then we may distinguish two forms of disciplined action, action disciplined by preconceived goals and action disciplined by form or by principles of procedure. […] a form or principles model could be used in curriculum research and planning. Thus, one could start from a specification of content, say lyric poetry or moral philosophy, and then attempt to design a method which would be consonant with a defined view of the nature and educational worth of lyric poetry or moral philosophy. One would rely on the consonance between content and method to provide the teacher with a vehicle through which an area of experience or knowledge could be explored appropriately. (Stenhouse, 1970: 76-77)

This could be rational planning without objectives, which also 'allows of students themselves having objectives, and accepts that the teacher can accept a range of objectives rather than one, while still being able to exclude some objectives as wholly inappropriate or misconceived' (ibid: 77).

An important point is that Stenhouse clearly distinguished objectives from outcomes. (He made this point forcefully in his 1980 response to Brian Crittenden's criticisms in 1979.) He did not deny the importance of learning outcomes – of course it is expected that students learn something as a result of their educational experiences. The problem was the pre-specification implied by objectives:

> …the content being so structured and infused with criteria that, given good teaching, student learning's can be treated as outcomes, rather than made the subject of pre-specifications. Disciplines allow us to specify input rather than the output in the educational process. (Stenhouse, 1970: 77)

He recognised also, quoting Jackson (1968), that teachers who profess objectives cannot easily realise them in intelligent classroom processes (Stenhouse, 1970: 79). Therefore 'we shall have to build into our developmental work a research element which builds the theory on which more rational curriculum planning can be based.' (ibid: 80) Here then is the emergence of the concept of the teacher as researcher (cross reference to Elliott chapter).

On the basis of this argument Stenhouse offered his own specification for the curriculum development process (1970: 82):

1. Define the value positions in any curriculum specification
2. Specify curriculum in terms of content materials and method
3. Indicate training procedures for teachers
4. Define the contextual variables in schools, systems, environments that will affect realisation in practice
5. List and test hypotheses regarding effects
6. Attempt to relate effects to contextual variables

The research element in this formulation is strongly indicated. Unlike the assumption underpinning the objectives model, research is not conceived only as preceding development, but as integral to it because implementation in different contexts will demand ongoing evaluation and adjustment. Professional researchers cannot be everywhere at once, so teachers and external 'curriculum workers' need to work in partnership to develop 'a balanced combination of worthwhile experiences likely to serve the needs of students with differing purposes'. In this way it might be possible to break the hypothesis drawn from Jackson's observations that: 'The effects of any curriculum differ in important ways from those expected by the planners, experimenters and teachers.' (Stenhouse, 1970: 82)

In his 1975 book, Stenhouse was able to give two examples of what his specification for the curriculum development process might look like in practice. He drew on Bruner's work with 'Man: A Course of Study' and his own 'Humanities Curriculum Project' (1975: 90-94). MACOS adopted a social science disciplinary framework, drawing especially on the behavioural sciences and anthropology, to explore three fundamental questions: What is human about human beings? How did they get that way? How can they be made more so? The content of the course consisted of detailed study of the Pacific salmon, the herring gull, the baboon and the Netsilik Eskimo, all compared with the students' own society and experience. In contrast, HCP had no particular disciplinary structure but was founded on discussion-based teaching for understanding of controversial issues associated with topics such as work, education and war:

> Understanding is chosen as an aim because it cannot be achieved. Understanding can always be deepened. Moreover, there must always be dispute as to what constitutes a valid understanding. (1975: 94)

Principles of procedure determined the approach and, given the controversial nature of the subject matter, the procedural neutrality of the teacher was deemed vital. The assumption was not that the teacher should hold no views on these matters but that they should not express them. Instead they would help and encourage students to come to their own reasoned views based on discussion involving careful scrutiny of available evidence. (Cross reference to Elliott's chapter) In other words, the role of the teacher was to facilitate this process, which could be highly disciplined.

The HCP project team provided boxes of collected 'evidence' on the suggested themes although there was no suggestion that discussion should be confined to these materials. Had the WorldWideWeb been available at the time, this process of gathering and interrogating evidence would have been transformed and allowed teachers to truly focus on the process. As it was, in my own involvement with teaching HCP, my students quickly became frustrated with the photocopied selections from rather elite sources, such as leader articles from *The Times,* and decided that they needed to collect their own data. Thus they borrowed tape recorders and cameras and requested permission to visit other schools, nurseries and workplaces to investigate other peoples' experiences of education – the topic we were studying at the time. This proved to be a turning point: the moment when my group of 'underachieving' grammar school students took charge of the process of their own learning.

In summary therefore, Stenhouse's process model focused on knowledge as the growth of understanding. It depended for its success on the quality of the teacher, who needed wisdom and scholarship (Stenhouse, 1975: 96) as well as principles of procedure and skills in their implementation. This posited the need for ongoing professional development based on critical enquiry in classrooms.

> I am suggesting that a policy of curriculum research and development which works to principles and criteria and studies, rather than prescribes, student outcomes offers better prospects than does the objectives model of raising our level of aspiration in the schools and of making realities closer to those aspirations. (Stenhouse, 1976: 9)

Significance today

This section attempts to address the second main aim of this chapter: to discuss some of the relevance, or otherwise, of Stenhouse's argument for theory and practice in the 21st century. The three themes chosen are those that represent the core interacting systems at the heart of schooling: curriculum, pedagogy and assessment.

Curriculum

In 1963, Stenhouse analysed the differences between the general education of famous English independent schools, focusing on character and citizenship; the specialising and differentiating academic education of the grammar schools; and the curricula of non-academic secondary schools which either attempted to instil respect for academic cultures that students would not enter, or to win working class students to the teachers' middle class moral and social standards. One somewhat disturbing reading is that Stenhouse seemed to accept the common assumption at the time that working class children were non-academic by nature or upbringing. His solution to the problem of finding a suitable curriculum for the average child was to propose a radical progressive approach to teaching based not on academic subjects but on the exploration of 'problems' that looked forward to participation in adult society. He mentioned problems such as war, race relations, propaganda, human cruelty, or relations between the sexes. This

foreshadowed the content of the HCP, which was funded by the Schools Council in anticipation of the raising of the school leaving age (referred to as ROSLA) to sixteen in 1973. ROSLA projects, of which there were several, were designed to meet the particular needs of those who would previously have left their secondary schools at fifteen. Stenhouse's intention therefore was to find curriculum content to provide challenge and 'stimulate the pupils to an attempt to find for themselves standards which are worthwhile and viable in terms of their own experience of life'. (1963: 133)

However, in arguing in his later, 1975, book that priority be given to processes for inducting students into thought systems, Stenhouse also affirmed the wisdom behind the traditional focus of the school curriculum on the arts, humanities and sciences – the kind of curriculum he, himself, was exposed to as a student at Manchester Grammar School.[6] By 1975, his involvement with Bruner's social science curriculum, MACOS, and his role as disseminating agent for it in the UK[7], had convinced him of Bruner's view that knowledge as intellectual understanding can be taught to most students if the processes are appropriate - although some of the examples that he chose to use, e.g. moral philosophy, lyric poetry or *Hamlet,* are less than convincing. Thus he came to believe that all students could be taught in such a way as to achieve a degree of disciplinary understanding, either through the study of traditional subjects or through the study of everyday 'problems'. Stenhouse's views were not only close to those Bruner but also those of John Dewey (1916) who regarded disciplines as dynamic structures of ideas that constituted resources for thinking about questions and issues that arise from experience. (Cross reference to Pring Chapter)

However, it is curious that at a time in England when the tripartite system was being replaced by comprehensive schools, which stimulated debate about the need or otherwise for a common curriculum made compulsory for all (White, 1973), Stenhouse did not fully engage with this issue. He still saw curriculum development characterised by the setting up of 'projects', although he noted that some of these, as in HCP, were moving beyond a subject-specific focus to consider more generic curriculum problems. His position appeared to be (1975: 184) that there are certain basic values on which schooling should be based, one of which was a public tradition of negotiation. Thus he believed that curriculum decision-making should be decentralised at school level and based on co-operation through research and development in a fully interacting community. This was consistent with his position throughout but it did not allow him to foresee the initiation, by Prime Minister James Callaghan in 1976, of a Great Debate to open up the 'secret garden' of the curriculum, which eventually led to the establishment of the national curriculum for all state schools.

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[6] The motto of Manchester Grammar School is *sapere aude* ('dare to be wise') a quotation from Horace, used by Kant and the motto of the Enlightenment.

[7] When I attended the HCP training course at Norwich in March 1972, I was also introduced to MACOS through viewing filmed material that had just arrived from the US.

So, Stenhouse's concerns continued to focus on standards for the selection of content and the criticism of performance at school and classroom level. And this depended, in his view, on, 'the teacher's grasp of the nature and standards of the knowledge being taught. That is why teachers learn subjects.' (1980: 4) In contrast to teaching by objectives, which portrays the teacher as a kind of intellectual navvy who knows exactly where to dig the trenches but not why, Stenhouse offered an alternative vision in his example of history teaching.

> In any knowledge area – say history – begin your curriculum planning by getting a group of colleagues together who are going to teach the subject. Let each define his substantive interest: eighteenth century diplomatic history, or the history of the Australian rules game or the history of banking or the steam engine. Let all agree to read regularly for a year in the philosophy of history and historiography, and then for a second year in classics of historical writing, and during that time to produce some work of his or her own in the chosen substantive area of interest. Relate this to teaching by accepting the curriculum and teaching you are now engaged in as a starting point. Regularly review examples of pupils' work alongside your own. Are they making the same sort of progress as the teacher group is? Keep tinkering about with the curriculum and the teaching strategies to extract more performance.
>
> If you need more structure, take on a curriculum project in history and use it as a line of development, feeding back evaluative assessment from your classroom and your teacher seminar group and digesting the project until it disintegrates as it is digested to form muscle in your teaching.
>
> At a different level this is possible in relation to non-specialist teaching in primary schools. 'Let's have a blitz on …' science or social studies or history or maths: that's the usual formula. (Stenhouse, 1980: 5-6)

Underpinning this is a view that teaching and its outcomes should be based on 'the standards expressed in a form of knowledge, or as I might prefer it, a mode of experience (after Oakeshott 1933), and not on a comparison between the observed outcomes with some prespecification of the outcome.' (His emphasis)(ibid: 6)

From a contemporary perspective, it is interesting that after more than two decades of experience with a national curriculum in England, overloaded with subjects, programmes of study and attainment targets, and increasingly criticised for privileging factual recall of information and low-level skills, Stenhouse's emphasis on disciplinarity – deep understanding of the conceptual structures of thought systems - is witnessing a resurgence in efforts to bring knowledge back into the discourse of curriculum and pedagogy.

Most remarkable perhaps is Michael F. D. Young's (2008) documentation of changes to his own thinking about the question of knowledge in education since the publication of *Knowledge and Control* in 1971, to which Stenhouse referred. Young has now revised his earlier relativist position, which viewed knowledge and the curriculum as a manifestation of power. In his recent book he adopts a

social realist position, which recognises that knowledge is socially produced but that it requires warrant independent of social interests and the dynamics of power. Drawing on Durkheim, Vygotsky and Bernstein, he has come to the view that epistemology and social theory need to be considered together and that the social character of the curriculum does not undermine the objectivity of knowledge but is, on the contrary, a condition for it. It is in skilful debate about boundaries – a social process – that the worthwhile can be known or created. Although Young does not quote Stenhouse, there is much that now resonates with Stenhouse's position over 30 years earlier.

Similar debates are now in evidence in other parts of the world. For example, in the USA, Lee Schulman and Kathleen Quinlan (1996) have resurrected questions that were at the heart of the transactional psychology and curriculum theory of John Dewey and others at the beginning of the 20th century.[8] The concept of 'transaction' was crucial because the development of mind was seen as the product of interaction between the individual and the social environment – between actor and structure. These ideas were an important legacy of William James and G.H. Mead and were developed further in the work of Dewey, Vygotsky and Bruner. As we have seen, Stenhouse was significantly influenced by the work of Bruner and Dewey.

Alvin Goldman, also from the USA, has pioneered the development of 'social epistemology', which shares some features of the recent argument developed by Young. In a series of publications, Goldman (1987, 1999, 2010) has systematically developed a framework and set of applications to expand epistemology into the social arena. This is based on the idea that prospects for knowledge and justified belief often depend on social sources and institutional practices. Contrary to post-modernism and social constructionism, 'social factors' need not totally corrupt the pursuit of truth and knowledge. It makes sense to investigate the specific ways that social and interpersonal practices influence, positively or negatively, the extent and accuracy of human knowledge, and how epistemic relativism can co-exist with objectivism.

These recent writings lend support to Stenhouse's concerns about the way in which the nature of knowledge is misunderstood, particularly by advocates of the objectives model. They also, explicitly or implicitly, affirm the importance of Stenhouse's emphasis on critical scrutiny through social processes of discussion of evidence, which is the basis for reflective teaching, dialogic learning and classroom enquiry.

Pedagogy

In a quite remarkable passage, written in 1963, Stenhouse described how learners are inducted into externally 'created and curated' thought systems and how they re-create them for themselves. This is the basis both of learning and innovation. [9]

[8] See Bredo (1997) for a succinct history of these ideas

[9] The objectives model, based on behaviourist views of learning, deals with the latter very poorly, as Stenhouse noted in his criticisms of Popham's defence.

> Creative innovation is only possible through culture. The reason for this is as follows. The consensus which underlies culture crystallizes into meanings represented by symbols. These symbols, which are learnt by individuals in communication, serve to objectify culture in manipulable form. The language which is learnt culturally in communication can be taken into solitary reflection where the symbols can be re-ordered and can interact so that it is possible to establish new relationships and new concepts. The public language of religion, for example, can be taken into private thinking and used to create a unique subjective experience of the idea of God. Thus individuality grows from culture. Men forge in the dialectic of social interaction the tools which serve the inner dialectic of thought and imagination. And perhaps the most vital criterion of the richness of a culture is the degree to which it feeds individuality and creative innovation. (Stenhouse, 1963: 126)

This seems to be pure Vygotsky, yet Stenhouse did not mention Vygotsky's classic, *Thought and Language*, which was first published in English in 1962. He may however had heard some of these ideas because Bruner claims to have first encountered talk of Vygotsky's influence, and his work on the role of language and the Zone of Proximal Development, in 1954 at an international congress in Montreal (Bruner, 1986: 70-1). Whatever may be the case, the similarities between the thinking of Vygotsky and Stenhouse are striking.

Vygotsky (1978) studied the development of the higher mental faculties of the individual mind, but, in keeping with his identity as a Soviet psychologist, he was also interested in the way that 'collective consciousness' was brought into the individual mind. Central to his theory was the assumption that social interaction is crucial i.e. much more than a context for learning. The transfer and translation of cultural knowledge involves both externalization and internalization through shared activity (interaction) and individual learning activity (action).

Vygotsky's theory also predicts creativity or knowledge creation in learning because, once the individual has internalized the use of tools (artefacts, practices, symbols, language), he or she can adapt them or create new ones to tackle new problems with new results. These can be shared with others, creating a cycle of externalization, internalization and externalization. Thus Vygotsky's theory of tool-mediated learning activity can encompass learning outcomes associated with higher and lower mental processes, attitudinal, cognitive and behavioural outcomes, individual and shared activity, problem-solving processes and products, the acquisition of existing knowledge and the creation of new knowledge. If Stenhouse had known of the existence of this work, he would surely have mentioned it because it provides additional theoretical support for his process model, and especially the principles of procedure that are central to it.

The importance of such principles has also been affirmed in recent outputs from the Economic and Social Research Council's Teaching and Learning Research Programme (TLRP). This large £43m programme of research and development to improve outcomes for learners of all ages in teaching and learning contexts across the United Kingdom has attempted to summarise what, after ten years (2000 to 2009), it has contributed to the understanding of effective pedagogy. It chose to offer ten 'evidence-informed principles', which engage with diverse forms of evidence whilst calling for the necessary application of contextualised judgement by teachers, practitioners and policy-makers. James & Pollard (2011) provide a detailed account of the rationale, evidence and argument that underpin the development of TLRP's ten principles of effective pedagogy. The decision to frame conclusions in terms of principles, and to stress the need for contextualised judgement, was influenced by thinking such as Stenhouse's, with which the TLRP Directors were familiar.[10]

TLRP's commitment to work 'to improve outcomes for learners' implied a belief that educational progress is possible. It never shared the extreme relativism of some post-modernists although it tried to be inclusive of a wide range of theoretical perspectives within its activities. Pollard (2005: 3) viewed the Programme as a potential vehicle for 'creative mediation' and drew explicitly on an appeal to the Enlightenment commitment to the application of science and reason in the improvement of society. Making allowance for a degree of interpretation within certain limits, the TLRP proposed the following propositions, informed by theory and evidence, from which the principles were derived: [11]

1. Effective pedagogy equips learners for life in its broadest sense.
2. Effective pedagogy engages with valued forms of knowledge.
3. Effective pedagogy recognises the importance of prior experience and learning.
4. Effective pedagogy requires learning to be scaffolded.
5. Effective pedagogy needs assessment to be congruent with learning.
6. Effective pedagogy promotes the active engagement of the learner.
7. Effective pedagogy fosters both individual and social processes and outcomes.
8. Effective pedagogy recognises the significance of informal learning.
9. Effective pedagogy depends on the learning of all those who support the learning of others.
10. Effective pedagogy demands consistent policy frameworks with support for learning as their primary focus.

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[10] Andrew Pollard, the Director of TLRP, has produced a major resource of materials on *Reflective Teaching* (Pollard, 2008), which are indebted to Stenhouse, and others, for their conceptualisation. Mary James, the Deputy Director of TLRP, is the author of this chapter.

[11] For the elaborated version see http://www.tlrp.org/themes/themes/tenprinciples.html And for the evidence on which these are based see James & Pollard (2011).

Resonances with many of the ideas of Dewey, Vygotsky, Bruner, Shulman and Stenhouse are deliberate because these scholars provided foundations, directly or indirectly, for many of TLRP's projects and thematic initiatives.[12]

Assessment

Stenhouse (1975: 95) made the strong claim that,

> The process model is essentially a critical model, not a marking model.' (…) This does not mean that students taught on the process model cannot be examined, but it does mean that the examination must be taken in their stride as they pursue other aspirations.

In some ways it is to be regretted that Stenhouse did not say more about assessment because many of the criticisms of the objectives model, to which the process model was a response, were generated from concerns about measurement. He did not live long enough to see how the growth of teaching by objectives in the United States, and the use of results as accountability mechanisms, would sweep into England with the introduction of national curriculum assessment with its detailed attainment targets, national tests, and published performance tables. As the UK Assessment Reform Group noted in 2009:

> Assessment information has become a proxy measure that is supposed to facilitate judgements on the quality of most elements of our education system: its **teachers**, **head teachers**, **schools**, **support services**, **local authorities** and even the **government** itself. This represents a fundamental change from the situation even 20 years ago, when test and examination results were predominantly meant to serve as indicators of what a **pupi**l knew and understood of a subject. (…) …there may be negative consequences for the pupil, if an **institution** takes actions designed to improve its performance in the measured assessments which go against the **young person's** long-term educational needs, for instance, where teachers drill pupils in techniques for earning marks at the expense of teaching for deeper understanding. (Their emphases)(Mansell, James and the ARG, 2009: 7)

Despite Stenhouse's powerful arguments, the objectives model is alive and well and living in the UK although there have continued to be dissident voices, such as those from the Assessment Reform Group. [13]

It is difficult to know why Stenhouse did not fully explore the assessment implications of his critique of the objectives model and promotion of his process alternative. He may have been diverted by the debates about programme

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[12] See www.tlrp.org for information about the programme as a whole and its constituent projects.

[13] See http://www.assessment-reform-group.org for activities and publications from 1989 to 2010.

evaluation at the time, and especially his frequent disagreements with Barry MacDonald, the evaluator of HCP, who he saw as increasingly interested in the evaluation of policy, rather than how it might support teachers' capacity to evaluate (Stenhouse, 1980: 8). However, what he did have to say about assessment of students' learning was interesting and anticipated some of the debates about formative and summative assessment that developed after his death.

First, he recognised that the objectives model of curriculum design and development was actually shaped by the concerns of examiners. Its behaviourist approach to planning which involved a sequence of specifying behavioural objectives, testing entry behaviour, designing curriculum and teaching students, then testing outcome behaviours, 'can be worked by psychologists or psychometrists who know very little about the classroom, which is often treated as a 'black box' (with the teacher inside!)' (Stenhouse, 1976: 3)[14] Moreover, far from raising standards, such practices can have the effect of 'dumbing down':

> Teaching and learning at their best unfold, are built up and do not aim at a goal: they build as high as they can. (…) Experience with payment by results in England and performance contracting in the United States as well as more moderate applications of the objectives pattern, suggest that only the weakest teachers will teach better. (…) For the better teachers they lower the level of aspiration. (…) Certainly, in our country, examinations set lower standards than good teachers hope to achieve because they set common standards for all pupils whereas much of the highest achievement is highly individual. Because we cannot predict educational events and effects reliably, public specifications of objectives in practice set low goals. (…) The deft teacher can, if he will, achieve the publicly-appreciated objectives without undertaking the burden of educating the pupils!' (His emphasis)(Stenhouse, 1976: 4-6)

Reflecting on experience in England, thirty years on, these insights seem prescient.

Stenhouse's alternative form of assessment was primarily the essay, which he viewed as congruent with his process model in that it alone could provide evidence of knowledge as understanding: '…knowledge can be assessed only by essays: performance which can be critically evaluated but not prespecified.' (Stenhouse & Verma, 1980: 1) This may seem somewhat unimaginative and derived from existing practice in English grammar and independent schools, but Stenhouse was careful to emphasise that 'essay' should be understood as wider that an extended written task:

[14] It is significant that Black and Wiliam (1998) called the summary of their seminal review of research on assessment and classroom learning, *Inside the Black Box.*

> In any area of knowledge or art the most important product in terms of student performance is the essay – in the broadest sense of that word, that is, a trial piece or endeavour. (1975: 82)

In more recent years, this idea has found expression in the work of Ted Sizer (1992) and the Coalition of Essential Schools in the USA, who developed the idea of an Exhibition, which has the following features:

- It asks students to work across traditional scholarly disciplines in a respectful way by creating 'real' learning activities. Tasks are not necessarily devised by teachers; students can devise them for themselves, providing they understand the principles that underlie their construction. Helping students to acquire this meta-level understanding is also a valued teaching and learning aim.
- It asks students to practise using accumulated knowledge and to apply it to new situations.
- It insists on effective communication in a number of forms of expression, e.g. oral, written and graphic.
- It requires that students be reflective, persistent and well organised.
- It creates a focus for their learning by describing the destination for their journey, although this is not to say that precise learning outcomes are tightly pre-specified. The best teachers usually want to see their students achieving more and going beyond what they might have pre-specified.

This description is taken from an account (James, 1998: 120) where an explicit link is made to Stenhouse's thinking along similar lines.

Also prescient in Stenhouse's thinking was the concept of formative assessment, which has now achieved widespread recognition as 'Assessment for Learning' (ARG, 2002), albeit with various interpretations (see Klenowski, 2009). Indeed a distinction between formative and summative purposes is nascent in the introductory booklet to HCP:

> Teachers will be concerned with judging students' work for two reasons. Sometimes the judgement, whether it be of discussion or of other work, will be part of the diagnostic and self-evaluative process by which the teacher meets his duty to assure himself that individual students or groups are making progress in understanding. In another context, students' performance may need to be assessed and expressed in terms of grades or some other system of public evaluation. (HCP, 1970: 33)

The process of formative assessment also began to emerge in Stenhouse's account of how an 'essay' is evaluated:

> The evaluative response to an essay involves the teacher in a claim to make judgements about the quality about student work, guided by his understanding of the nature of his subject. An essay is not right or wrong. It is to be judged qualitatively in the light of criteria appropriate in its field. Now of course this implies that the evaluation of an essay is not objective,

> and indeed it is an index of the quality of a teacher that he is capable of thoughtful and productive evaluation which helps the student to improve his work. This sets problems in public examining, but there is no escape from them. (…) We do not teach people to jump higher by setting the bar higher, but by enabling them to criticize their present performance. (…) The improvement of practice rests on diagnosis, not prognosis. (Stenhouse, 1975: 82-83)

In much of his writing, Stenhouse was centrally concerned with ways of improving teachers practice (cross reference to Elliott chapter) and, although he implied that there are strong parallels with improving students' performance through formative assessment, he did not develop these links very far. This is a pity. However, the pointers he gave provided support for the direction that others might eventually follow.

Conclusion

Stenhouse's seminal work on both the theory and practice of a process model of curriculum design and development, arose out of his critique of the theory and practice of the objectives model. Most significantly he was opposed to the behaviourism on which it was founded because this failed to engage with the growth of knowledge and understanding in the interactions between students, teachers and intellectual resources.

Stenhouse died at the age of 56 in 1982. At that time he could not have known that the most exciting developments in educational theory at the beginning of the 21st century would be informed by sociocultural approaches. This has been influenced most obviously by the work of Vygotsky, as his work has become more readily accessible to Anglophone scholars. However, even as early as 1963 (see above), Stenhouse was thinking along similar lines. Perhaps this is not surprising because both he and Vygotsky acknowledged John Dewey as a source of inspiration.

It is impossible to know how Stenhouse would have developed his own thinking in this new intellectual environment. What is very likely however is that he would have continued to develop and test the practical applications of his ideas, as he did with HCP. At a time when, for various reasons, academic educational theory is not always tested rigorously in practice, and when policy initiatives are not always well–founded on theory and evidence, Stenhouse's process model, which strove to bring theory and practice together, has still much to contribute.

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