

■ *Research Paper*

A Conversational Framework for Individual Learning Applied to the 'Learning Organisation' and the 'Learning Society'

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The paper sets out to test whether our understanding of the individual learning can be used to help us understand better the concepts of 'the learning organisation' and 'the learning society'. It begins with a systems-oriented description of one model for the learning individual, the 'conversational framework', and extends Laurillard's earlier framework to one that makes explicit the learner's internal conversation. This extended framework is then reinterpreted for the university as a learning organisation. If the distinctive features of the conversational framework describe the minimal components and relations necessary for learning, to what extent can we find this structure mirrored in the way a university works? The application of the framework exposes the potential or missing links. The same argument is then extended to the higher education (HE) sector as a whole, and finally to 'the learning society'. In the context of the HE sector, the analysis demonstrates the need for an 'institute for learning and teaching in HE' such as that proposed by the Dearing Committee in the UK. In the context of the wider society, it shows how universities must play their role in enabling it to be a 'learning society'. Copyright © 1999 John Wiley & Sons, Ltd.

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INTRODUCTION

University teachers must be the most surprisingly unreflective of all professional practitioners. While happy to theorise about every last corner of the human and natural world, the core activity of our professional work — teaching — remains wonderfully unproblematised. It is difficult to find an academic who has a clearly

articulated theory of learning, or who would even believe it to be their business to have one.

To be fair, the experts have not helped. Theories of human learning, such as exist, have not obviously been targeted on supporting the university academic, being focused either on children, or on people engaged in non-educational learning activities. The university teacher needs an approach which captures the aims and values of higher education, and links these to the activities of teacher and student, and

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to the structure of the system within which they are working, i.e. a systems approach to adult learning in an instructional context.

THE LEARNING INDIVIDUAL

In attempting to develop such an approach in a recent book, *Rethinking University Teaching*, (Laurillard, 1993) I began with an analysis of academic aims and values, characterised in much the same way as William Perry defined the highest level of intellectual development that he recognised in his Harvard undergraduates — being able to take personal responsibility for what they know and how it comes to be known. His focus was on both their intellectual and ethical development (Perry, 1970). Thus teaching was not seen as an *action on* students: it was characterised rather as '*mediating learning*'.

What does this mean for students? Looking at studies of what students bring to learning, and of what happens when they attempt to learn, it became clear that there was some disparity between the happy ideal of our rhetoric, and the reality of students' experience of university teaching. From existing research studies, especially those building a rich understanding of student learning from closely observed empirical case studies, it was possible to build a framework describing what the internal structure of the learning process must be for academic learning to be possible. The 'Conversational Framework' drew on the ideas of Gordon Pask and Ference Marton in particular (Pask, 1976; Marton, 1988). The framework described the essential form of the academic teaching–learning process. It could then be used as an analytical tool by which to judge the contribution of each of the learning media and methods available to university teachers today — from lectures to multimedia simulation–tutorials. Each one could be matched against the requirements of the learning process; and inevitably, no one method could deliver them all. The remainder of the book then considered the system within which learning and teaching encounters occur, and how it must be structured if those encounters are to succeed.

Operating at the level of the individual learner, the conversational framework defines the essential structure of the learning process as an 'internal relation'. The phrase is borrowed from philosophy by Marton, to express the interdependence of content and process in learning. The world is not constructed by learners, nor is it imposed on them: 'it is *constituted* as an internal relation between them' (original italics). There is no such thing as learning in general: 'the verb to learn takes the accusative' (Entwistle, 1976). The same point is echoed in a different context by Capra: 'the properties of the parts are not intrinsic properties, but can be understood only within the context of the larger whole' (Capra, 1996, p. 37) — this interdependence of the different aspects of behaviour is characteristic of a phenomenological approach to psychology and helps us to counter the more mechanistic cause–effect models of learning. Pask gave expression to this internal relation in his description of machine learning, defining its structure as a construct of cybernetic theory, very similar to the 'double-loop' structure in systems theory. Working from the entirely different starting point of what happens when real students learn in a university course, I found that the same structure was inescapable.

Essentially, a learning process complex enough to achieve the aims of academic learning must involve at least two participants, operating iteratively and interactively on two levels — practice and discussion — and connecting those two levels by the activities of adaptation and reflection (see Figure 1). Every part of that structure is necessary. At the practical level students are interacting in the world via a 'goal–action–feedback–modified action' cycle, in a teacher-constructed environment — studio, field trip or laboratory, perhaps. Reflecting on that experience at the discursive level, in dialogue with the teacher, they can articulate the theoretical representation of that particular action, in order to generalise and thereby enhance their further actions. Another goal–action–feedback cycle is operating at that level as well, the goal now being to achieve congruence between teacher and student, wherein each may achieve a new or deeper understanding. If congruence is lacking,

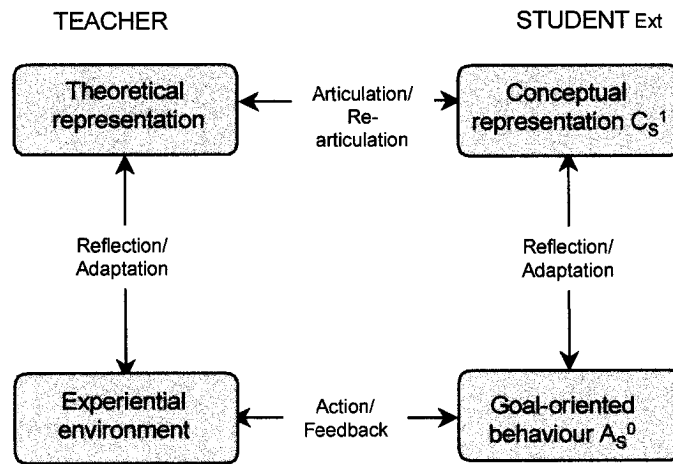


Figure 1. The conversational framework for the learning individual

each participant can use the representations at the discursive level to drive their actions in either setting up or operating on a model which allows each to represent their theory as action, and use an alternative context of justification for their theory, i.e. the extent to which it works in the world. Reflection on action is key to the process: without it the attempt to reach convergence of meaning will result in a 'learning bind' (Schön, 1987, p. 154). This meta-level construction defines the logical structure of the learning process — this is what enables the individual to change their action in the light of experience and articulate their perception of the interaction in a form that is communicable to the teacher. The teacher may observe the student's actions, attend to their articulation, and compare the two, and compare it with their own version — thereby enabling the iteration of process until agreement of some kind is achieved (or not) — i.e. the learning process has been successful (or not).

The framework presented in Figure 1 describes the conversation between teacher and learner. For the student's learning to go beyond that encounter, however, the same structure must be mirrored as an internal conversation for the individual. Figure 1 describes the structure of a learning conversation between two individuals, with the teacher acting as external agent, mediating what is to be learned. If that conversational form is essential for learning, it must take place also within the individual, as a conversation

between the externally situated individual, and the internally persistent individual who is common to all the experienced situations. Figure 2 represents the form of the internal structure enabling the individual to reflect at the conceptual level (C_S^1) on either the teacher's articulation of the theory, or on the specific interactions (A_S^0) with the environment, and to interpret the experience in more generalised form (A_G^0), and thereby learn from it. The student will have learned something beyond their situated response to the specific context if they have developed their generalised conceptual representation (C_G^1) from an articulation of the specific learning (C_S^1), or from reflection on the generalised action knowledge (A_G^0).

Figures 3 and 4 show how this scheme would represent the failure to learn. In Figure 3, the meta-level reflection and adaptation is absent, so learning is nothing more than conditioning to the particular environmental conditions.

In Figure 4 the internal conversation is absent, so although reflection is present its scope is restricted to the particular context. This would represent the common failure to transfer learning to alternative contexts.

The conversational framework represented in Figures 1 and 2 functions as a template against which to plan a suitable combination of learning media for a particular learning objective. It can be used at several different levels of description of the learning process, from a particular concept to an area of discourse. For example, if we were

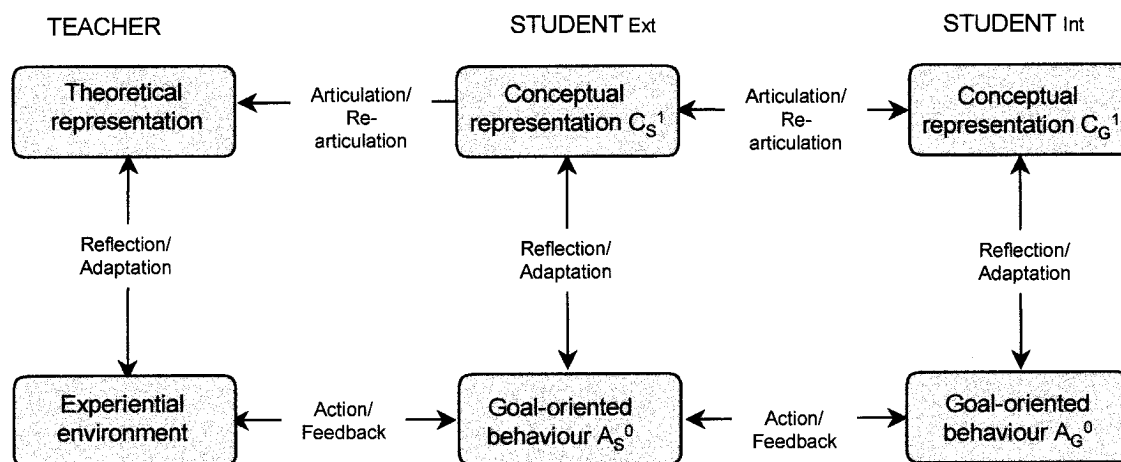


Figure 2. Internal structure for an individual to be capable of learning from experience

to unpack the learning conversation involved in a master class tutorial, there would be many micro-conversations concerning the concepts involved in the overall discourse, each one of which would have the identical internal structure to the tutorial conversation itself. It is an example of what Capra calls 'self-similarity in nature' (Capra, 1996, p. 137).

THE LEARNING ORGANISATION

What happens at the level above the individual? What kind of university institutional system is capable of being at least benign with respect to the learning conversations going on within it? What kind of system would do more than that — would afford productive conversations? — or even create them where they would otherwise not exist? If we think we know what it takes for an individual to learn, perhaps this is applicable to an analysis of what it takes for an organisation to learn.

The educational institution has to be responsive to change: able to absorb new ideas from a changing environment, able to adapt to the changing needs of the learners, able to reflect on the degree of convergence that is achieved in the learning conversations and construct an adapted environment within which the conversations are better able to achieve convergence. Its internal structure ought to be similar to the conversational framework for an individual

learning if it is to learn from experience, and its external interaction with its environment ought to be at least as complex as that of the individual if it is to be capable of progress with respect to its environment, i.e. the logical structure of a learning organisation should be congruent with the logical structure of a learning individual.

One test of whether this model of an institution is coherent or useful is to test the extent to which we can interpret each part, and use that interpretation constructively in the way we run our universities. Figure 5 suggests a way of interpreting how a university system should be designed to fit the conversational model.

In the context of a learning technology strategy, for example, the university must have a technical and pedagogical innovative environment for R&D projects, providing opportunities to trial and experiment with innovations in new media, and to collect feedback on these via the quality assurance processes (evaluation using developmental testing, student dialogues, student surveys, etc.). Many such pilot experiments in universities have been conducted in isolation from the institutional management process. It is clear from the analogy with the individual learning that this will result in no organisational learning — any success achieved in that context remains localised to that context, unreflected upon, and unable to effect any long-term reconceptualisation of the institution's learning strategy.

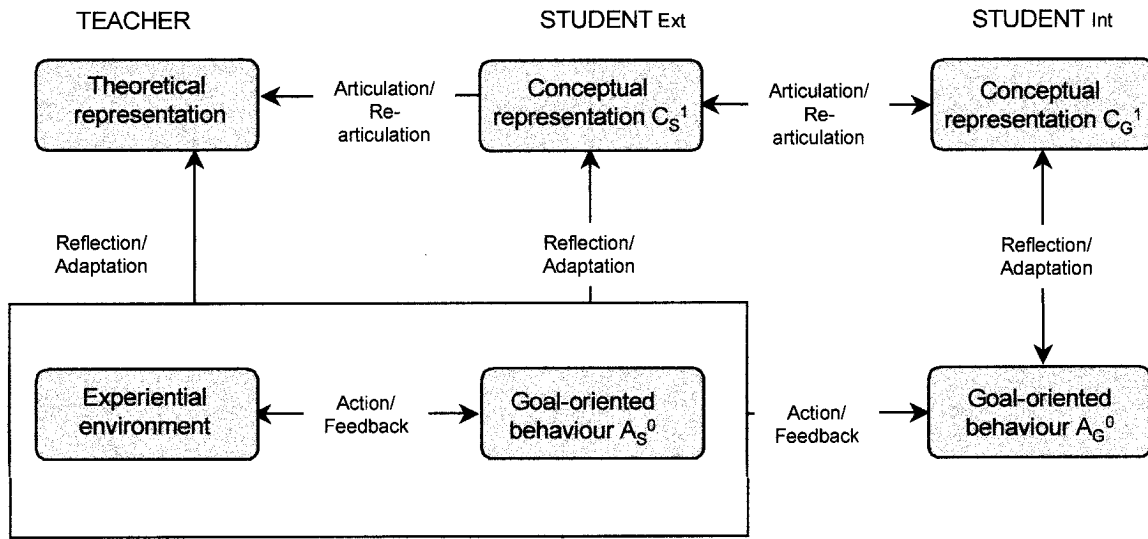


Figure 3. The process within the box represents no learning: only conditioning

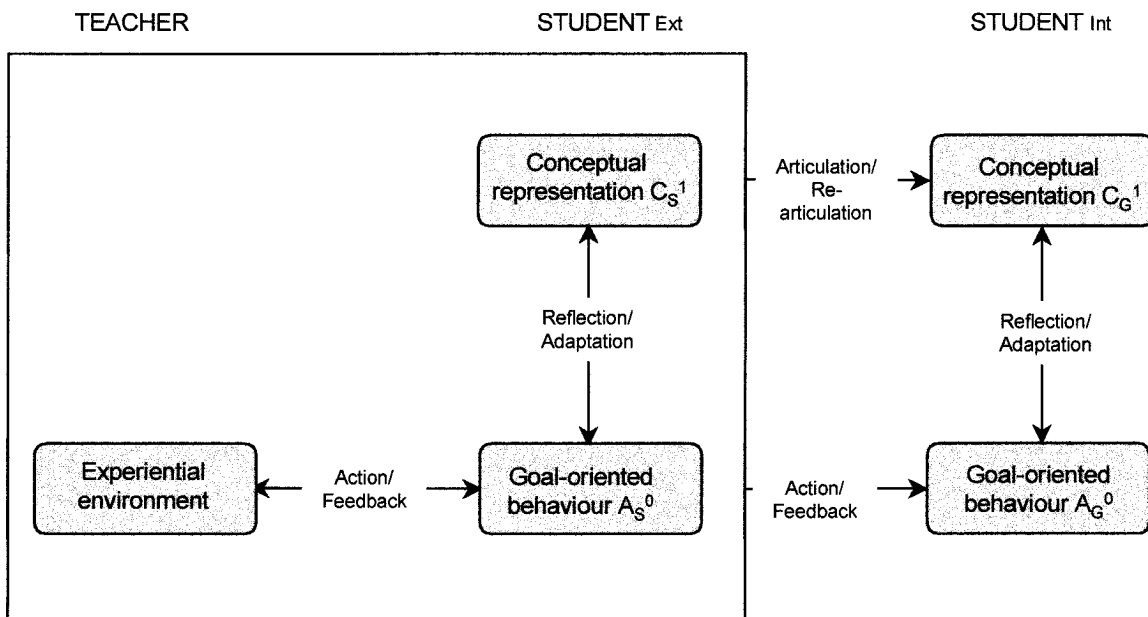


Figure 4. The process within the box represents learning in a specific context

Reference to the form of the model shows that the actions at course level must be generated from some meta-level strategy mediated by policy affecting the course, which in turn must be adjustable in the light of results from the educational experiment.

That model should work for the specific context of a learning technology strategy, but could also become embedded as part of the institutional knowledge if there is a mirroring internal structure for the system which enables it to generalise that learning, and transfer it to other

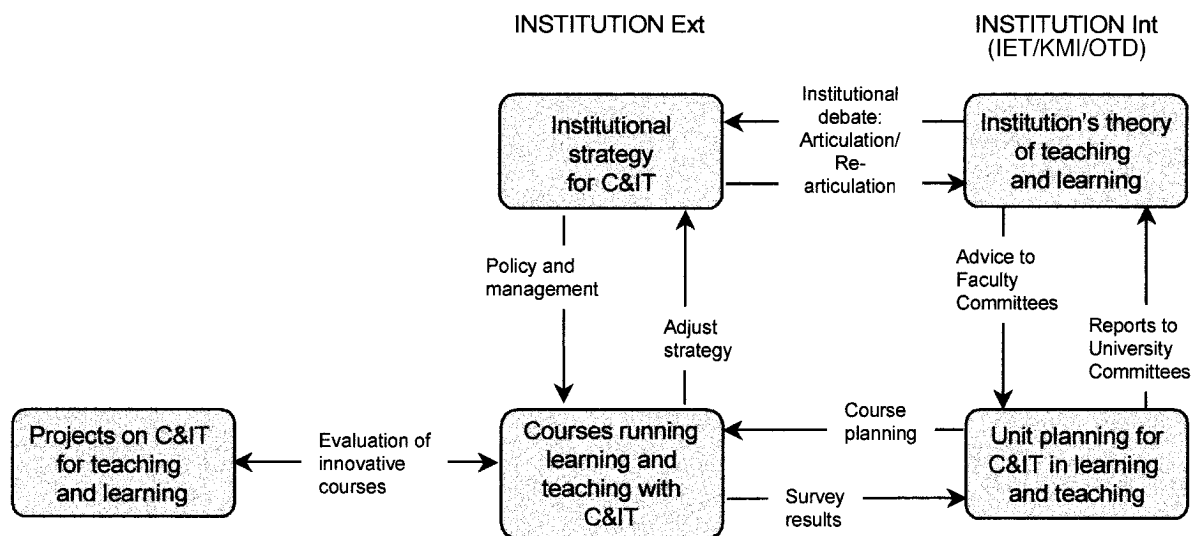


Figure 5. The conversational framework for the learning organisation based around a communications and information technology (C + IT) strategy

contexts. A powerful system for learning about new technologies would unbalance the teaching process if it were not integrated with the whole system. The internal structure, interpreted from the individual case, would suggest that the equivalent internal conceptualisation for a university would be its approach to learning and teaching as a whole — its *theory-in-use*, to use Schön's phrase. This will be articulated through internal debate, from which advice to Faculty Committees will be generated to direct the general planning for the form of learning carried out at departmental level. The Faculty Committees need feedback from course experiments in order to stabilise their long-term plans, and will report back to institutional level in turn, to advance the theory and enhance the debate.

Following the principle of 'self-similarity' of these learning systems, the same structure will necessarily be mirrored at each level of description of the organisation. When the focus is 'department', rather than 'institution', part of the system will describe the staff development process that will be part of a learning organisation. This recursive form was alluded to in Beer's description of a viable management system — like fractals, whichever level of the organisation you describe, the structure will be the same (Beer, 1985).

Looking at the organisation at different levels of description, we should be able to find the same structure at each level. If it is not there, the senior manager must create it. This kind of conversational framework has, for example, helped to define the proposal template used for new technology development projects at the Open University: similar to a research proposal, developers must show what existing knowledge and development they are building on, define the objectives to which their outcomes must converge, explain how they will evaluate their work, and describe how they will articulate and disseminate the results. The research project, after all, is a learning system, but without the role of the teacher as mediator. Science is taught by nature, but nature has no teleological role; it remains aloof. Applied to a university's development of learning technologies, there is no strong external agency playing the guiding and supporting role of the teacher. In the UK, the Funding Councils and their quality assurance review processes offer this to some degree for teaching and research, but neither is yet focused helpfully on the use of new technology. In some institutions there will be a strong internal agency that plays the role of enabling the organisation to learn — in the case of the Open University the Institute of Educational Technology, (IET) was created to play

this role, joined later by the Knowledge Media Institute (KMI), with respect to the new media specifically. Both academic agencies, together with their counterpart at senior management level in the Office for Technology Development (OTD), help to conceptualise what is being learned in order to generate future enhanced action (see Figure 5). A learning organisation is 'continually expanding its capacity to create its future ... *adaptive learning* must be joined by *generative learning* — learning that enhances our capacity to create' (Senge, 1990, p. 14).

The conversational framework also tells us that we must break down the distinction between teaching and research as essentially separate activities. The academic should be seen not just as researcher and teacher of their subject, but also as researcher *into the teaching of their subject*, providing the bridge between the two activities that effectively blurs their distinction. Ison goes further, and argues that a university cannot be a centre of learning while such a partition remains, and advocates instead 'action-research as a means of integrating research and learning, leaving "teaching" to wither from its place as the dominating paradigm' (Ison, 1994). The academic as learner, i.e. from the student in the context of research-on-the-teaching-of-their-subject, stands in an equal relationship with the student within the conversational framework. They do not have identical roles — the teacher takes responsibility for constructing the environment within which the interaction takes place, which both parties reflect upon — but they do have equal roles.

With the academic playing this kind of role, problematising their teaching, and agreeing to play their part in learning from the student, then universities can be learning organisations at the departmental level, as well.

THE LEARNING SECTOR

How far can we go with this analogy? Can the conversational framework do the same job again at the level of the higher education (HE) system?

Something has to. The university sector as a whole must learn, must adapt to the profound changes evident in the social, political and

economic environment the sector finds itself in at the end of the 20th century:

The existing systems of education were not designed for the 21st century, not even for the 20th. They are the creation of the 19th century industrial machine age ... Their basic organising principles are obsolete. They cannot be sustained in their present form in the face of the new realities of massive societal transformations. (Banathy, 1995, p. 260)

So Banathy argues that second-order change is necessary; first-order incremental change is insufficient. But we do not have a 'learning sector'. The university sector has put in place a research assessment exercise, a teaching quality assessment exercise, and a quality audit process ... but what proportion of its turnover does it spend on learning about its own operations? None of these new processes enable the HE sector to learn. They merely describe, and at a level of description that does nothing to help us understand whether we are actually serving our students better.

If the HE sector is to have the same internal structure as the learning institution and the learning society, then it needs an agency capable of enabling it to learn. Figure 6 posits an 'Agency' for the sector as a whole, whose function is to articulate the national debate through directing programme action at institution level, and reflecting on results from the sector as a whole.

In 1997, the National Committee for Inquiry into Higher Education in the UK, chaired by Sir Ron Dearing, concluded that the sector needed to establish just such an agency:

Placing higher education teaching on a more professional basis requires a strong foundation of theoretical and practical research into learning and teaching processes. There is no place, at present, where such a body of knowledge can develop. (NCIHE, 1997, p. 126)

Accordingly, one of the key recommendations of the report was that the sector should:

immediately establish a professional Institute of Learning and Teaching in Higher Education.

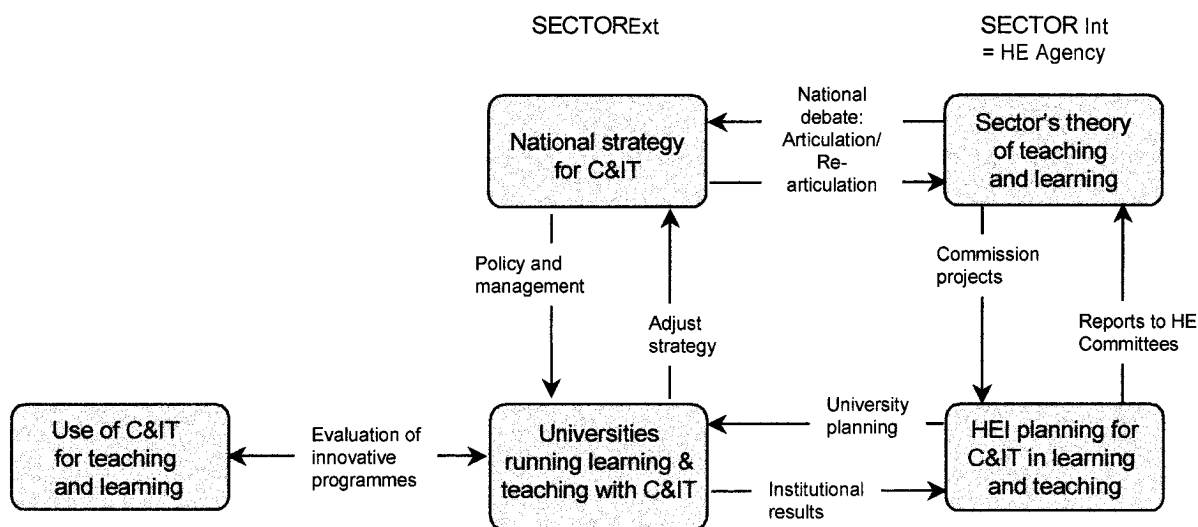


Figure 6. The HE sector as a learning organisation

The functions of the Institute would be to accredit programmes of training for higher education teachers; to commission research and development in learning and teaching practices; and to stimulate innovation. (NCIHE, 1997, p. 128)

From the analysis here we can see clearly the role the institute must play, as the collective conceptual representation of the sector's approach to learning and teaching. Without this, the sector as a whole will be in the position of the student who fails to transfer their learning, who does not 'learn to learn', and therefore has to learn again in each new encounter with the environment. We will not make progress in the volatile educational environment of the 21st century if we do not have a sector capable of learning from experience.

THE LEARNING SOCIETY

Interestingly, if we go to the even higher level of description of society as a whole, we could argue that the university's role in society is precisely to enable it to learn and understand itself and its environment. It does this via research to gain that understanding, and via teaching to disseminate it. The university sector has a vital role as the

engine of progress for the community. The more it addresses the concerns of society in its research, and the more it widens access to all members of society to benefit from the fruits of that research, the more it supports a genuine 'learning society'.

For the learning society, the process of reflection/adaptation of the society's behaviour can be interpreted as policy for the management of its agencies, as the society develops its policies and values, informed both by reports from those agencies and by the outputs of university teaching and research in the form of a national debate, as in Figure 7.

There is another important agency in society performing this role: the mass media. The media constitute the other principal means by which a society understands itself and its world. At this level the picture looks very similar. If we were to penetrate to lower levels of the fractal pattern, however, while the pattern would no doubt look similar, the instantiation of the relationships, the objectives, the content of the nodes, would look very different. The criterion of success is not agreement about conceptual understanding, but agreement about the value of the news commodity.

The application of the framework to the HE sector within its society suggests another kind of

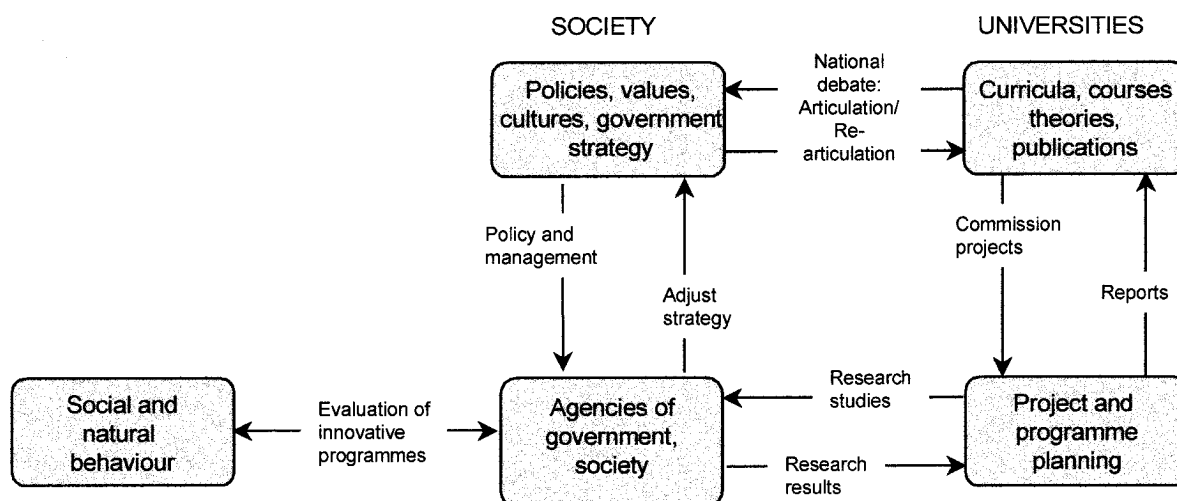


Figure 7. The learning society

relationship at the discursive level — of the universities being responsive to the needs and concerns of the society in the curriculum it offers, which in turn serves to adapt their research goals. There is a *quid pro quo* operating here, as the society will only learn from a university sector that addresses its concerns. We might also reflect that the same will be true of students in relation to teachers.

CONCLUSIONS

If we take seriously the idea of a learning society and a learning organisation, then it seems reasonable to expect both to exhibit the form and function of a system capable of learning. From the traditions of cybernetics and systems theory we have the formal descriptions of systems capable of learning, with Pask interpreting these for the individual learner, and Beer for the industrial organisation. In this paper I have revisited that exercise, reinterpreting Pask's conversational framework for academic learning, and applying the same structure to the university and to the HE sector. The exercise creates an alternative argument for a learning agency within the sector with an explicit description of the role it must play — elaborating on how an Institute for Learning and Teaching, as recom-

mended by Dearing, would operate. It also generated a description of the role of universities in general within our society. The Dearing Report envisaged a learning society as one within which all the members were stakeholders in the educational process. Applying systems thinking gives a structural form to the learning society. It establishes what agencies must do, and how they must relate to each other, and what would count as success. It is necessarily a sketchy analysis, which only hints at the full complexity of the system, but the essence of systems thinking is also to attenuate the variety. This simplified account can still be valuable, and does succeed in specifying with some precision what we must look for and create within our HE system.

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